

READ ONLY/NO DOWNLOAD

THE
CONSTRUCTION OF VALUE
IN THE
ANCIENT WORLD

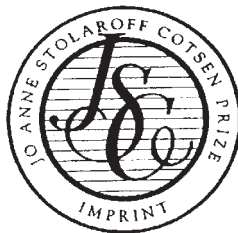


EDITED BY
JOHN K. PAPADOPOULOS
AND
GARY URTON

.....

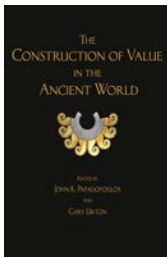
THE CONSTRUCTION OF VALUE
IN THE ANCIENT WORLD

.....

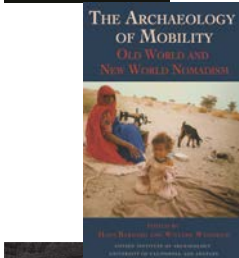


The Jo Anne Stolaroff Cotsen Prize Imprint
honors outstanding studies in archaeology
to commemorate a special person whose
appreciation for scholarship was recognized
by all whose lives she touched.

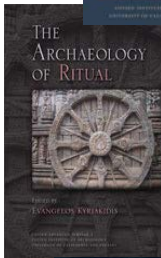
COTSEN ADVANCED SEMINAR



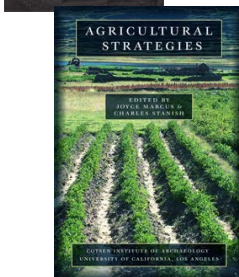
Volume 5 *The Construction of Value in the Ancient World*
Edited by John K. Papadopoulos and Gary Urton



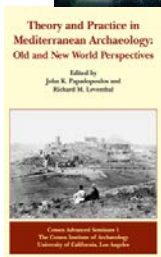
Volume 4 *The Archaeology of Mobility: Old World and New World Nomadism*
Edited by Hans Barnard and Willeke Wendrich



Volume 3 *The Archaeology of Ritual*
Edited by Evangelos Kyriakidis



Volume 2 *Agricultural Strategies*
Edited by Joyce Marcus & Charles Stanish



Volume 1 *Theory and Practice in Mediterranean Archaeology: Old World and New World Perspectives*
Edited by Martin Peilstöcker and Aaron A. Burke

For a complete list of our titles, please visit the [Cotsen Press website](https://www.cotsenpress.org/).

.....

THE CONSTRUCTION
OF VALUE IN THE
ANCIENT WORLD

.....

EDITED BY

JOHN K. PAPADOPOULOS

AND

GARY URTON

COTSEN INSTITUTE OF ARCHAEOLOGY

UNIVERSITY OF CALIFORNIA, LOS ANGELES

THE COTSEN INSTITUTE OF ARCHAEOLOGY PRESS is the publishing unit of the Cotsen Institute of Archaeology at UCLA. The Cotsen Institute is a premier research organization dedicated to the creation, dissemination, and conservation of archaeological knowledge and heritage. It is home to both the Interdepartmental Archaeology Graduate Program and the UCLA/Getty Master's Program in the Conservation of Archaeological and Ethnographic Materials. The Cotsen Institute provides a forum for innovative faculty research, graduate education, and public programs at UCLA in an effort to impact positively the academic, local and global communities. Established in 1973, the Cotsen Institute is at the forefront of archaeological research, education, conservation and publication and is an active contributor to interdisciplinary research at UCLA.

The Cotsen Institute Press specializes in producing high-quality academic volumes in several different series, including *Monographs*, *World Heritage and Monuments*, *Cotsen Advanced Seminars*, and *Ideas, Debates and Perspectives*. The Press is committed to making the fruits of archaeological research accessible to professionals, scholars, students, and the general public. We are able to do this through the generosity of Lloyd E. Cotsen, longtime Institute volunteer and benefactor, who has provided an endowment that allows us to subsidize our publishing program and produce superb volumes at an affordable price. Publishing in nine different series, our award-winning archaeological publications receive critical acclaim in both the academic and popular communities.

THE COTSEN INSTITUTE OF ARCHAEOLOGY AT UCLA

Charles Stanish, Director

Gregory Areshian, Assistant Director

Willeke Wendrich, Editorial Director

EDITORIAL BOARD OF THE COTSEN INSTITUTE OF ARCHAEOLOGY

Willeke Wendrich	Area Editor for Egypt, North, and East Africa
Christopher Donnan	Area Editor for South and Central America
Jeanne E. Arnold	Area Editor for North America
Jeffrey P. Brantingham	Area Editor for the Paleolithic and Environmental Archaeology
Aaron Burke	Area Editor for Southwestern Asia
Lothar Von Falkenhausen	Area Editor for East and South Asia and Archaeological Theory
Sarah Morris	Area Editor for the Classical World
John Papadopoulos	Area Editor for the Mediterranean Region
Ex-Officio Members:	Charles Stanish, Gregory E. Areshian, and Julie Nemer
External Members:	Chapurukha Kusimba, Joyce Marcus, Colin Renfrew, and John Yellen

This book is set in 10.5-point Janson Text, with titles in 28-point Bembo Book.

Designed by William Morosi

Edited by Peg Goldstein

Library of Congress Cataloging-in-Publication Data

The construction of value in the ancient world / edited by John K. Papadopoulos and Gary Urton. -- 1st ed.

p. cm. -- (Cotsen advanced seminar series)

ISBN 978-1-931745-90-1 (hardcover) ISBN 978-1-938770-47-0 (eBook)

1. Social archaeology. 2. Social values--History. 3. Civilization, Ancient. 4. Philosophy, Ancient. I. Papadopoulos, John K., 1958- II. Urton, Gary, 1946-

CC72.4.C74 2012

930--dc23

2012006301

Copyright © 2012 Regents of the University of California

All rights reserved. Printed in the USA.

.....

CONTENTS

.....

List of Illustrations and Tables vii

Contributors xvii

Foreword: Gary Urton and John K. Papadopoulos xxiii

Introduction: John K. Papadopoulos & Gary Urton 1

PART I: PLACE VALUE

.....

Chapter 1: Chris Scarre, *Significant stones, significant places: monumentality and landscapes in Neolithic western Europe* 51

Chapter 2: John Chapman, *The negotiation of place value in the landscape* 66

Chapter 3: Susan E. Alcock, *Spare values: the decision not to destroy*. 90

Chapter 4: Steve Kosiba, *Emplacing value, cultivating order: places of conversion and practices of subordination throughout early Inka state formation (Cusco, Peru)*. 97

Chapter 5: Charles Stanish, *The revaluation of landscapes in the Inca Empire as Peircean replication*. 128

PART II: BODY VALUE

.....

Chapter 6: Kathlyn M. Cooney, *Objectifying the body: the increased value of the ancient Egyptian mummy during the socioeconomic crisis of Dynasty 21* 139

Chapter 7: Sofia Voutsaki, *From value to meaning, from things to persons: the grave circles of Mycenae reconsidered*. 160

Chapter 8: Christopher B. Donnan, *Dressing the body in splendor: expression of value by the Moche of ancient Peru* 186

Chapter 9: Lisa DeLeonardis, *Interpreting the Paracas body and its value in ancient Peru* 197

Chapter 10: Leslie Kurke, *The value of chorality in ancient Greece*. 218

Chapter 11: Patrick J. Geary, *Bodies and their values in the early Medieval West*. 236

PART III: OBJECT VALUE

Chapter 12:	Colin Renfrew, <i>Systems of value among material things: the nexus of fungibility and measure</i>	249
Chapter 13:	John K. Papadopoulos, <i>Money, art, and the construction of value in the ancient Mediterranean</i>	261
Chapter 14:	Richard L. Burger, <i>The construction of values during the Peruvian Formative</i>	288
Chapter 15:	Rowan Flad, <i>Bronze, jade, gold, and ivory: valuable objects in ancient Sichuan</i>	306
Chapter 16:	James I. Porter, <i>The value of aesthetic value</i>	336
Chapter 17:	Ioli Kalavrezou, <i>Light and the precious object, or value in the eyes of the Byzantines</i>	354
Chapter 18:	Richard G. Lesure, <i>Figurine fashions in formative Mesoamerica</i>	370
Chapter 19:	Tamara L. Bray, <i>From rational to relational: re-configuring value in the Inca Empire</i>	392
Chapter 20:	Tom Cummins, <i>Competing and commensurate values in colonial conditions: how they are expressed and registered in the sixteenth-century Andes</i>	406

PART IV: NUMBER VALUE

Chapter 21:	Robert K. Englund, <i>Equivalency values and the command economy of the Ur III period in Mesopotamia</i>	427
Chapter 22:	Karine Chemla, <i>Constructing value with instruments versus constructing equivalence with mathematics: measuring grains according to early Chinese mathematical sources</i>	459
Chapter 23:	Gary Urton, <i>Recording values in the Inka Empire</i>	475
Chapter 24:	David Stuart, <i>The varieties of ancient Maya numeration and value</i>	497
Chapter 25:	Melissa A. Bailey, <i>Calculative objects: sustaining symbolic systems in the ancient Mediterranean</i>	516
Consolidated Bibliography		536
Index		596
Color plates		613

LIST OF ILLUSTRATIONS AND TABLES

-
- Figure 1.3.** Sources of stone for the megalithic tombs of the Vale de Rodrigo in southern Portugal (after Kalb 1996, 2002).
- Figure 1.5.** Symmetrical arrangement of red sandstone slabs in the chambered tombs of Les Mousseaux, Loire-Atlantique, France).
- Figure 1.7.** Megalithic tomb of Bachwen in northern Wales showing numerous cup-marks (from Simpson 1867).
- Figure 1.8.** A court cairn with two megalithic chambers opening onto a central space (court), Ballyglass (County Mayo, Ireland). The northern end of the cairn covers the remains of a rectangular Neolithic house, represented by postholes and bedding trenches for walls (from Ó Nualláin 1972). Adapted and redrawn by Kate Sharpe.
- Figure 2.1.** Plan of phase IV of the Copper Age tell of Polyanitsa, northeast Bulgaria (Sherratt 1980:figure 20.1).
- Figure 2.2.** Plan of the Copper Age Tripillye megasite of Glybochok, Ukraine (Videiko 2007).
- Figure 2.3.** Settlement distribution, multicommunity zone 9, Polgár block, northeastern Hungary; (a) Early Middle Neolithic and Middle Neolithic sites; (b) Late Neolithic sites (Chapman et al. 2003).
- Figure 2.4.** Stone sculpture, Lepenski Vir (© Mazbln / Wikimedia Commons, Creative Commons License).
- Figure 2.5.** The Late Neolithic Lengyel mass burial pit at Esztergályhorváti, western Hungary: (a) plan; (b) section (Makkay 2000).
- Figure 4.1.** The northern aspect of the Cuzco region in which the WAP survey was situated. The dashed line corresponds to the 200-km survey zone.
- Figure 4.2.** A view of Wat'a. The insets show Inka architectural and ceramic styles, including a niched building (left) and double jamb doorway (right).
- Figure 4.3.** This map illustrates the OP settlements (circles) and OP serving vessel densities (triangles) documented throughout the survey area. It depicts a clustered settlement pattern and shows how medium-high percentages (more than 25 percent) of decorated serving vessels are associated with only specific sites. The named sites correspond to OP towns. Settlement patterns are shown relative to potential maize production terrain (MPT).
- Figure 4.4.** This map depicts Inka-period settlement pattern in the Ollantaytambo area. Icons correspond to densities of decorated serving vessels, not site sizes. High densities of Inka polychrome serving vessels (white triangles) are often found in pre-Inka towns that contained high percentages of LIP (OP) serving vessels (black circles), suggesting continuity in the occupation and perhaps function of some places throughout Inka polity formation.
- Figure 4.5.** Plan of Wat'a illustrating how different sectors are spatially segregated by the site's massive wall.
- Figure 4.6.** Plan of Pumamarca showing the bifurcation of this site into distinct fortified/elite and everyday sectors. The walled precinct contains baths, a feasting hall (*kallanka*), and several plazas. Storage structures, a residential area, and agricultural fields are situated outside the wall.
- Figure 4.7.** The photo shows the dense conglomeration of dissembled pre-Inka residential structures situated beneath the Inka plaza. The graphs use data from the WAP excavation unit in the plaza. They indicate that very high densities of decorated pottery were associated with only specific 10-cm levels of the fill that covered these buildings (two other WAP units revealed an identical sequence; Kosiba 2010) (photo by Luis Cuba, used with permission; all other photos by the author).
- Figure 4.8.** The stratigraphy under the plaza clearly shows how a fire was lit atop the fill, right before the plaza floor was laid. The photos show examples of the Inka and pre-Inka serving vessels that were interred directly below the ash level. The graph on the lower right illustrates how higher percentages of burned fauna and pottery were associated with the ash and fill (lower left photo by Lis Cuba, used with permission; all other photos by the author).

- Figure 4.9.** Multiple views of the OP structures uncovered beneath Inka buildings at Wat'a. Layers of ash and broken pottery covered both structures (top). These structures were completely filled with pottery, often whole pots (middle). Intense fires were lit inside the structures, as evidenced by burn scars (bottom).
- Figure 4.10.** The top photo shows a human burial, a *cuy* offering (white circle in front of the house door), pre-Inka walls, and a row of cobbles—all directly associated with OP walls and situated 10 cm underneath the floor of an Inka house. The photo on the bottom left shows a layer of ash (circled) covering an OP ovoid structure that was buried under the Inka house, pictured on the bottom right.
- Figure 5.1.** The Inca Empire (drawing by Julia L. Meyerson, adapted from a similar map in Morris and von Hagen 2011:13).
- Figure 6.1.** Map of Egypt showing Tanis (San el-Hagar), the northern capital, and Thebes (Luxor), the center of the Amen priesthood (courtesy of Aidan Dodson).
- Figure 6.2.** Detail of the coffin of Tayu-hery in the Nationalmuseet, Copenhagen, accession number 3912, showing a Nineteenth Dynasty sculptural foot underneath Twenty-first Dynasty decoration (photo by the author).
- Figure 6.3.** Mummy board of a chantress of Amen in the British Museum, London, accession number EA 15659, Twenty-first Dynasty, with restoration inscription on the underside (photo courtesy of the British Museum).
- Figure 6.4.** Mummy board of the High Priest of Amen Masaharta in the Mummification Museum, Luxor, accession number 26195, Twenty-first Dynasty, with gilding removed (photo after Daressy 1909:plate XXXVIII).
- Figure 6.5.** Mummy of Nodjmet, in the Egyptian Museum, Cairo, accession number CG 61087, Twenty-first Dynasty (photo after Smith 1912).
- Figure 6.6.** Mummy of Maatkare in the Egyptian Museum, Cairo, accession number CG 61088, Twenty-first Dynasty (photo after Smith 1912).
- Figure 6.7.** Mummy of Hennatawy in the Egyptian Museum, Cairo, accession number CG 61090, Twenty-first Dynasty (photo after Smith 1912).
- Figure 6.8.** Mummy of Djedptahieufankh in the Egyptian Museum, Cairo, accession number CG 61097, Twenty-first Dynasty (photo after Smith 1912).
- Figure 6.9.** Coffin lid of Muthotep (a) and detail of reuse (b), British Museum, London, accession number 29579, Twentieth Dynasty (photos by the author).
- Figure 6.10.** Mummy of Nesikhonsu in the Egyptian Museum, Cairo, accession number CG 61095, Twenty-first Dynasty (photo after Smith 1912).
- Figure 7.1.** Map of the MH Argolid, with main sites mentioned in the text.
- Figure 7.2.** Grave circle B and grave circle A of Mycenae (from Mylonas 1972:plate 1 and Karo 1930–1933:figure 2, respectively).
- Figure 7.3.** Reconstruction of grave circle B (from Mylonas 1972:figure 29).
- Figure 7.4.** The positioning of ornaments (grave iota; based on Mylonas 1972:figure 13).
- Figure 7.5.** The positioning of weapons (grave iota; based on Mylonas 1972:figure 13).
- Figure 7.6.** The positioning of eating/drinking vases (grave iota; based on Mylonas 1972:figure 13).
- Figure 7.7.** The positioning of larger containers (grave iota; based on Mylonas 1972:figure 13).
- Figure 7.8.** Primary and secondary burials in grave gamma (based on Mylonas 1972:figure 5). (Skeletons 1 and 4 are primary burials; skeleton 3 is a secondary, only partly disarticulated burial; skeletons 2 and 5 are fully disarticulated secondary burials, pushed into a heap.)
- Figure 7.9.** Secondary burial in grave epsilon (based on Dietz 1991:figure 34).
- Figure 7.10.** Depictions of women on the grave circle assemblage: (a), (b), (c) cutout gold foil ornaments; (d) head of golden and silver pin; (e) detail from the Siege Rhyton (courtesy of the National Museum, Athens).
- Figure 7.11.** Selected depictions of men on the grave circle assemblage: (a) the Lion Hunt dagger; (b), (c), (d) engraved gold rings (courtesy of the National Museum, Athens).
- Figure 7.12.** Selected depictions of the male body on the grave circle assemblage: (a) detail of figure 11a; (b) detail of figure 11b; (c) detail of figure 11d (courtesy of the National Museum, Athens).

- Figure 8.11.** Rollout drawings depicting animated objects (drawings by Donna McClelland).
- Figure 9.2.** The Inka mummy was considered to be alive and capable of wielding considerable power. *Noviembre, Aia Marcai Quilla, la fiesta de los difuntos* (Guaman Poma de Ayala 1987:256 [1615–1616]).
- Figure 9.3.** South coastal Peru showing the geographical extent of Paracas sites mentioned in the text.
- Figure 9.4.** The leaves of the *pacae* tree (*Inga feuillei*) are found in association with the interment of the dead and with disembodied heads (Frézier 1717:plate 24; copyright © Dumbarton Oaks Research Library and Collection, Rare Book Collection, Washington, D.C.).
- Figure 9.7.** Graphs showing distribution of Paracas cranial deformations by sex and region (after Del Pozo 1988).
- Figure 9.11.** Bundle 91 from the Necropolis of Wari Kayan contained 12 kg of black beans (after Tello and Mejía 1979:490).
- Figure 12.1** The commodity nexus: the emergence of the conditions permitting a mercantile economy.
- Figure 13.1.** Obverse and reverse of a U.S. \$1 bill.
- Figure 13.2.** A Boggs “fun buck,” by J.S.G. (James Stephan George) Boggs, American, born 1955. Tampa Museum of Art. Museum Purchase with funds donated by Peggy & Jeffery Pearson.
- Figure 13.3.** The reverse of a silver *decadrachm* of Syracuse (ca. 480–479 B.C.). The coin shows the head of Arethousa wearing an olive wreath, a fillet, an earring, and a necklace. Around her are four dolphins and the inscription “ΣΥΠΑΚΟΣΙΩΝ” (Kraay and Hirmer 1966:Plate 27, number 80; photo courtesy of Hirmer Verlag GmbH).
- Figure 13.4.** A fourteenth-century B.C. Egyptian wall painting from a tomb at Thebes (after de Garis Davies 1925:58–59, plates XI–XII).
- Figure 13.5.** Some principal sites of southern Italy (drawing Robert Finnerty).
- Figure 13.6.** (a) Obverse of a silver stater of Sybaris (ca. 550–530 B.C.). The coin features a bull with its head reverted and “ΣΥ,” which stands for Sybaris (Kraay and Hirmer 1966:plate 75, number 212; photo courtesy of Hirmer Verlag GmbH). (b) Obverse of a silver stater of Sirinos and Pyxoe (ca. 550–530 B.C.). The coin features a bull with its head reverted and “ΣΙΠΙΝΟΣ” in retrograde (Kraay and Hirmer 1966:plate 76, number 214; photo courtesy of Hirmer Verlag GmbH).
- Figure 13.7.** Bulls and birds on a Late Helladic IIIB amphoroid krater from Enkomi (Cyprus), tomb 18 (after Sjöqvist 1940:figure 21:1).
- Figure 13.8.** Silver stater of Thourion (ca. 415–400 B.C.). The obverse shows Athena wearing a crested helmet with an olive wreath. To her right is a faint “Φ.” The reverse features a standing bull. Above it is written “ΘΟΥΡΙΩΝ.” The letter “Φ” is on the bull’s rump. Below the bull is a bird with open wings, and in exergue is a fish (Kraay and Hirmer 1966:plate 86, number 251; photo courtesy of Hirmer Verlag GmbH).
- Figure 13.9.** Silver staters of Metapontion. A coin from ca. 550–530 B.C. (a) features an ear of barley and “MET” on the obverse. A coin from ca. 520–510 B.C. (b) shows an ear of barley with a grasshopper and “META” on the obverse (Kraay and Hirmer 1966:plate 81, numbers 228, 229; photos courtesy of Hirmer Verlag GmbH).
- Figure 13.10.** The obverse of a silver stater of Kroton (ca. 550–530 B.C.). It shows a tripod with two snakes between its feet, plus the letters “QPO” (Kraay and Hirmer 1966:plate 92, number 264; courtesy of Hirmer Verlag GmbH).
- Figure 13.11.** Roman bronze bars called *aes signatum*. The bar at left has a bull on the obverse and reverse (after Grueber 1910:3, number 1, plates I–II). The bar at right shows an ear of barley on the obverse; the reverse shows a tripod (from the Mazin hoard; Crawford 1969:78–79, number 142; Haeblerlin 1910:16) (drawings by Patrick Finnerty).
- Figure 13.12.** A gold ear of barley of the sort that might have been dedicated at Delphi by Metapontion (after Simon 2000, drawing by Patrick Finnerty).
- Figure 13.13.** Statue of a silver bull from the *fosse de l’aire* at Delphi, perhaps dedicated by Sybaris (photo courtesy of École française d’Athènes; photo by H. P. Coulon [du cliché 44878]).
- Figure 13.14.** Detail of the scene on a red-figure amphora signed by Polygnotos, now in the British Museum (E 284 [755]; after Hoppin 1919:377).

- Figure 14.3.** Drawing of restored small unbaked clay figurine with biconical bead necklace; Huaca de los Idolos, Aspero, Supe Valley, Peru; Late Preceramic period (5000–3000 B.C.). Drawing Courtesy of Richard Burger.
- Figure 14.9.** Drawing of a Chavin stone sculpture of the main deity holding *Spondylus* and *Strombus* shells; New Temple, Chavín de Huántar, Ancash; Early Horizon (800–200 B.C.). Drawing Courtesy of Richard Burger.
- Figure 15.1.** Locations of sites mentioned in the text, including the nine known Baodun culture walled sites (*), Pi Xian Gucheng (1), Sanxingdui (2), and Jinsha (3) (map by the author).
- Figure 15.2a.** The Sanxingdui site showing locations for Yueliangwan (1), Cangbaobao (2), K1 and K2 (3), the Rensheng cemetery (4), and the enclosure wall (map redrawn after Xu 2001b:24).
- Figure 15.2b.** The Jinsha archaeological district showing locations for the Meiyuan locus (a) and the Modi River (map redrawn after Chengdu 2006a:6).
- Figure 15.3.** Attributes associated with production, use, and discard that can be used to study object value.
- Figure 15.4.** Bronze figure from Sanxingdui (K2[2]:149, 150) (photo after Xu 2001a:73).
- Figure 15.5.** Bronze collared disk (a); bronze hoe-shaped object with square hole from Jinsha (b) (photos by the author).
- Figure 15.6.** Small bronze figurine from Jinsha (photo by the author).
- Figure 15.7.** Bronze plates from Jinsha (a); head with missing bronze plate from Sanxingdui (b) (photos by the author).
- Figure 15.8.** Block of jade raw material found on the bank of the Yazi River, north of the Sanxingdui site (photo by the author).
- Figure 15.9.** *Zhang* blades made of rough stone (left) and tremolitic jade (right) from Sanxingdui (approximately one-quarter actual size) (a). Collared disks made of tremolitic jade (top) and bronze (bottom) from Jinsha (b) (photos by the author).
- Figure 15.10.** Stone figurines from Jinsha (a). Stone figurine at the Sanxingdui Museum (b) (photos by the author).
- Figure 15.11.** Gold mask from Sanxingdui (K1:282) (a); gold covering on a bronze head at Sanxingdui (K2[2]:45) (b); gold mask from Jinsha pit K8 (c); bird and arrow motifs on the Sanxingdui gold shaft sheath (top) and the Jinsha gold crown (bottom) (d) (photos by the author. Line drawings after Sichuan 1999:61 and Chengdu 2006a:29).
- Figure 15.12.** Tusk segments found at Jinsha (photo by the author).
- Figure 15.13.** Boar teeth and antlers deposited along the Modi River (photo by the author).
- Figure 16.1.** Aesthetic value as an index of cultural value and vice versa.
- Figure 16.2.** Base of the Antiphanes inscription (after Hansen 1983–1989:1:154). The numbers represent the two outer perimeters of the plinth, which has two levels (flanges). On each surface (totaling seven), a different portion of the verse inscription appears:
 1. πᾶσιν ἴσ' ἀνθρώποι 2. [ς] ἠπτοκ 3. ρίνομαι, ὅστις ἐ[ρ] 4. [ο]τᾶι :
 5. ὁς μ' ἀνέθεκ' ἀνδ 6. ρόν' Ἄντι 7. φάνες δεκάτεν
 The two Os mark two dowels, where the feet of the votive statue dedicated by Antiphanes would have stood (facing sides 1 and 5). Dimensions: 8.4 x 6 cm at the widest part of the base. Writing dimensions: .075 x .038 cm (upper flange) and .085 x .05 cm (lower flange).
- Figure 16.3.** Bronze Athena Promachos statuette dedicated by Meleso from the acropolis, ca. 470s–450s B.C. (NM Br. 6447) (E.-M. Czakó; copyright © DAI Athens, neg. NM 4742).
- Figure 16.4.** Stoichedon-style inscription fragment from Athens (*IG I* 19); *proxenia* decree, 426/425? B.C. (Copyright © Centre for the Study of Ancient Documents and Epigraphical Museum, Athens).
- Figure 16.5.** A monument bearing Athenian casualty lists, possibly for the Battle of Koroneia (447/446 B.C.) The monument contains five large *stelai*, or marble blocks, each with two columns of 40-plus names of Athenian casualties per column in orderly stoichedon lettering (some of these are preserved), totaling between 550 to 850 names. Height: ca. 1.30 m (after Bradeen 1964:26, figure 1; courtesy American School of Classical Studies at Athens).

- Figure 18.1.** Distinctive styles of figurines from central Tlaxcala, Mexico, 900–400 B.C.: (a, d) Cuatlapanga type; (b) Coaxomulco type; (c) Ehco type (Mesas variety); (e) Amomoloc type (drawings by Jeremy Bloom).
- Figure 18.2.** Distinctive head styles of figurines from Paso de la Amada, Chiapas, Mexico, 1500–1300 B.C. All are classified as the Nicotaca type, but they vary considerably in the form of the face.
- Figure 18.3.** Type D fired-clay figurines from burials at Tlatilco, Mexico (drawn by Alana Purcell, after photos in García Moll and Salas Cuesta 1998).
- Figure 18.4.** Olmec-style ceramic figurine heads. Top: Mazatán region, Soconusco. Bottom: San José Mogote, Valley of Oaxaca, Mexico (drawings by Richard Lesure, after Marcus 1998:figure 10.8:40, and collections of the New World Archaeological Foundation).
- Figure 18.5.** Distinct fired-clay figurine styles from San José Mogote, Valley of Oaxaca, Mexico, in use contemporaneously: (a–b) local style of San José phase; (c–d) Olmec style (drawn by Alana Purcell, after photos in Marcus 1998).
- Figure 18.6.** Figurines of the Cuatlapanga type, central Tlaxcala, Mexico. Top: three figurines. Bottom: the same image with some of the strong redundancies in features indicated.
- Figure 18.7.** Figurines of the Coaxomulco type, central Tlaxcala, Mexico.
- Figure 19.1.** Straight-sided drinking cups known as *kero* in the Quechua language: (a) carved wooden *kero* of Inca affiliation (height: 12.7 cm; Metropolitan Museum of Art, catalog number 1994.35.11); (b) ceramic *kero* associated with the Tiwanaku culture (Proyecto Rescate de Chen Chen, 1995; specimen number 307052; curated at the Museo Contisuyo, Moquegua, Peru; photo courtesy of Bruce Owen).
- Figure 19.2.** Inca plates produced in various media, including (a) clay (from Mount Llullaillaco, Argentina; east burial 6b; one of a pair; Museum of High Altitude Archaeology, Salta, Argentina); (b) wood (from Cuzco; catalog number 2830; Field Museum, Chicago); and (c) stone (unknown provenience; catalog number 1914-10-9-10; British Museum, London).
- Figure 19.3.** Oversize stone ax recovered in an Inca burial on La Plata Island, Ecuador, by George Dorsey in 1901 (height 50 cm; Field Museum, Chicago; photo courtesy of Colin McEwan).
- Figure 20.3.** “Pregunta El Autor” (“The Author Inquires”), ink on paper (Guaman Poma de Ayala, *El primer nueva coronica y buen gobierno* 1615:366 [368]; Royal Danish Library).
- Figure 20.4.** “Indio Capritan Aquila a otro indio por el yndio enfermo azogado porque no se acaue de murir” (“A mine labor captain ‘rents’ another Indian for an ill Indian who is at the point of dying from mercury poisoning”), ink on paper (Guaman Poma de Ayala, *El primer nueva coronica y buen gobierno* 1615:531 [535], Royal Danish Library).
- Figure 20.5.** “Regidores Tenga Libro Qvipo, Cv[en]ta” (“Native administrator has the book and knotted strings [quipu] he keeps accounts”) ink on paper (Guaman Poma de Ayala, *El primer nueva coronica y buen gobierno* 615:800 [814]; Royal Danish Library).
- Figure 20.7.** Inca *aquilla* (silver drinking vessel) (a); Inca *kero* (wooden drinking vessel) (b); both ca. 1500 (private collections).
- Figure 21.1.** An Ur III-period rations account from Girsu (HSS 4, 4). The “wages” of the managerial officers were in fact calculated based on the number of oxen managers and therefore ultimately on the number and size of fields in cultivation in each household listed in the full text. In the subsection describing the household of the tutelary divinity of Girsu, the basis was 20 oxen managers. Thus $20 \times 10 = 200$ *gur* assigned to the chief household administrator, 20×5 assigned to the chief bookkeeper, and so on. Maekawa 1987:37–41 speaks of 5–6 *bur*₃ domain land per ploughman, five of whom answered to each oxen manager in Umma. Transferred to Girsu, this relationship implies Ningirsu domain holdings of $(20 \times 5 \times 5 =) 500$ *bur*₃, which in turn translates into planned harvests of $(500 \times 30 =) 15,000$ *gur* for this household, dependent on fallow.
- Figure 21.2.** Subtotals in *TCL* 5, 6036.
- Figure 21.3.** A 60-basketsila container. The figure to the right represents the easiest way for the Ur III bookkeeper to imagine a cylinder constructed from a 1×1 m (in Babylonian lengths, 2×2 cubits) reed mat. A base of 50 cm (1 cubit) cut from a quarter of the mat would leave three sections, each 50×50 cm. Given the Babylonian approximation of π as 3, these three sections

in a strip would provide the cylinder's 50-cm-high wall. Such an idealized basket would hold slightly less than 100 liters and would therefore, given the uncertainties of Ur III basket construction, make a very credible fit with the underlying metrology of the notations in *TCL* 5, 6036, discussed here.

Figure 23.3. Schematic of the organization of values in *kipu* UR28.

Figure 24.1. The glyph for “payment” or “value” (*u tojool*, **U-to-jo-li**) from an inscription on a stela from Jonuta, Tabasco, Mexico (drawing by the author).

Figure 24.2. Numeration of cacao in Mesoamerica: (a) a cacao bundle from the Aztec *Mendoza Codex*. The small banners above each represent the number 20, marking a total of 200 *cargas*, or loads, of cacao. The unit for 8,000 (*xiquipilli*), represented by the bag sign at upper right, was used for counting cacao beans within loads; (b) the Maya hieroglyph *pik* or “8,000,” here prefixed with 3 for *ux pik* or “24,000”; (c) a bundle marked “40,000 cacao (beans)” from the murals of Bonampak, Mexico (drawings by the author).

Figure 24.3. Animated numbers in Maya writing: the deities for (a) 5 and (b) 15 (showing the mandible for 10) (drawings by Linda Schele).

Figure 24.4. The moon sign for 20 (a); “one score” from a tablet at Palenque (b); “22 [days]” from the *Dresden Codex* (c); “26 [days]” from the *Dresden Codex* (d).

Figure 24.5. Numbers representing visual groupings of 20s from pages 42 to 45 of the *Dresden Codex*. The numbers total 500, probably in reference to food offerings such as turkey and fish.

Figure 24.6. The number 65 (left) in a royal title from stela 2, Arroyo de Piedra, Guatemala (drawing by Stephen Houston).

Figure 24.7. “5 score” (**5-k’a-la**) on stela 32 from Naranjo, Guatemala.

Figure 24.8. The numeral classifier **-TE’** (a); the place-name 24,000-Scorpion? Hill (b) (written as 3 x 8,000), from Tonina monument 150 (drawing by Ian Graham from Graham et al. 2006:84).

Figure 24.9. A Long Count date from a lintel at Oxkintok, Yucatán, showing the use of the term *pik* for the *bak’tun* period (drawing by the author).

Figure 24.10. Grand Long Count date on stela 5 at Coba, Mexico (drawing by Ian Graham, with slight corrections, from Graham 1997).

Figure 25.1. Restored plan of the bath-gymnasium complex and synagogue, with excavated areas to the south (Crawford 1990:figure 4. Reprinted by permission of the publisher from *The Byzantine shops at Sardis* by J.S. Crawford, Archaeological Explorations of Sardis M9, Cambridge, Mass.: Harvard University Press, Copyright © 1990 by the President and Fellows of Harvard College).

Figure 25.2. *A follis*, large numbers of which were found in the shops (Bates 1971:plate 2, number 246. Reprinted by permission of the publisher from *Byzantine Coins* by George E. Bates, Archaeological Explorations of Sardis M1, Cambridge, Mass.: Harvard University Press, Copyright © 1971 by the President and Fellows of Harvard College).

Figure 25.3. Steelyard with hooks and chains, found in the shops (Crawford 1990:figure 476; M62.14:4204. Reprinted by permission of the publisher) from *The Byzantine shops at Sardis* by J.S. Crawford, Archaeological Explorations of Sardis M9, Cambridge, Mass.: Harvard University Press, Copyright © 1990 by the President and Fellows of Harvard College).

LIST OF COLOR PLATES

.....

- Figure 1.1.** Uluru (Ayers Rock) in central Australia (Photo used by permission of Uluru-Kata Tjuta National Park).
- Figure 1.2.** Stonehenge, an iconic prehistoric “place” in central southern England (photo by Chris Scarre).
- Figure 1.4.** The Carn Meini outcrops in the Preseli Hills of southwestern Wales, probable source of some of the Stonehenge bluestones (photo by Chris Scarre).
- Figure 1.6.** Contrasting monoliths of schist and quartz in the stone settings of Le Moulin in central Brittany (photo by Chris Scarre).
- Figure 1.9.** Megalithic tomb of Carreg Samson in southwestern Wales. The massive capstone is believed to have been an earth-fast boulder dug out from the site on which the chamber was built (photo by Chris Scarre).
- Figure 3.1.** The Column of Trajan, inaugurated A.D. 113. The almost 40-m column was originally capped by the image of a bird, but after Trajan’s death, a statue of the emperor was placed atop it. At some point this statue was lost, being replaced in turn (in 1587) with the now appropriate figure of Saint Peter (Courtesy Matthias Kabel).
- Figure 3.2.** Visible on the north slope of the Athenian acropolis, just below the Erechtheion, is a row of column drums. These were originally intended for use in the “older Parthenon,” which was not yet finished at the time of the Persian sack in 480 B.C. Only later were its remains built into the defensive curtain wall of the acropolis (Courtesy Eusebius [GuillaumePiolle]).
- Figure 5.2.** A *huaca* in the form of a carved boulder near a spring in Huanacané, Peru.
- Figure 5.3.** The carved boulder *huaca* in Figure 5.2 from a distance.
- Figure 5.4.** An *apacheta*, or cairn, used as a modern *huaca* near Huanacané, Peru.
- Figure 5.5.** The Sacred Rock, or Titikala, on the Island of the Sun in Bolivia.
- Figure 8.1.** Ceramic vessels depicting high-status individuals (a. private collection; b. Museo Nacional de Antropología, Arqueología, y Historia, Lima; c. private collection; drawing by Donna McClelland).
- Figure 8.2.** Nose ornaments (a. Proyecto Arqueológico Dos Cabezas; b. Proyecto Arqueológico Dos Cabezas; c. private collection; d. Proyecto Arqueológico Dos Cabezas; e. private collection; f. private collection).
- Figure 8.3.** Beads (a. Museo Tumbas Royales de Sipán; b. private collection; c. Private collection, photograph by Justin Kerr; d. private collection, photograph by Justin Kerr; e. private collection; f. Museo Tumbas Royales de Sipán).
- Figure 8.4.** Front and back of a spider bead (a, b); peanut necklace (c) (Museo Tumbas Royales de Sipán).
- Figure 8.5.** Backflaps (a–d); bells (e–f) (a. drawing by Donna McClelland; b. Museo Tumbas Royales de Sipán; c. drawing by Donna McClelland; d. Museo Tumbas Royales de Sipán; e. drawing by Donna McClelland; f. Museo Tumbas Royales de Sipán).
- Figure 8.6.** Figure wearing beaded bracelets and a beaded pectoral (a); beaded bracelets (b–c); beaded pectoral (d) (a. private collection; b. Museo Tumbas Royales de Sipán; c. Museo Tumbas Royales de Sipán, photograph courtesy of Walter Alva; d. Museo Tumbas Royales de Sipán).
- Figure 8.7.** Octopus pectoral (Museo Tumbas Royales de Sipán; painting by Alberto Gutiérrez).
- Figure 8.8.** Seated figure wearing a headdress frontlet (a); headdress frontlets (b–f) (a. Proyecto Arqueológico Dos Cabezas; b. Museo Tumbas Royales de Sipán; c. private collection; d. private collection; e. private collection; f. private collection).
- Figure 8.9.** Ear ornaments (a, c–e); figure wearing ear ornaments (b); figure wearing a tunic covered with metal platelets (f). (a. Museo Tumbas Royales de Sipán; b. private collection; c. The Metropolitan Museum of Art, Gift and Bequest of Alice K. Bache, 1966, 1977 (66.196.40–41). Image © The Metropolitan Museum of Art; d. Museo Tumbas Royales de Sipán; e. Museo Tumbas Royales de Sipán; f. Staatliches Museen zu Berlin).
- Figure 8.10.** Mannequin wearing a full ensemble of clothing and ornaments (Museo Tumbas Royales de Sipán, photograph by Susan Einstein).

- Figure 9.1.** The mummies of Ancón are one example of the ancient Andean custom of bundling the body to ensure its preservation and bodily form. False heads and human hair wigs are characteristic of bundles at Ancón and elsewhere (left: Reiss and Stübel 1880–1887:plate 11; right: Reiss and Stübel 1880–1887:plate 16; Special Collections, Sheridan Libraries, Johns Hopkins University).
- Figure 9.5.** Cranial deformation resulted in a number of head shapes. This example is an adult female from tomb 90 at Chongos, Pisco Valley (Museo Regional de Ica, MRI 00274-12).
- Figure 9.6.** This late Nasca ceramic sculpture portrays a corpulent woman with extensive skin designs and long hair extending down the shoulders and back. The ideal Nasca head contrasts with the elongated shape favored by Paracas (Museo Regional de Ica, MRI 00143-01).
- Figure 9.8.** The Paracas body is idealized in ceramic sculpture. Emphasis is placed on attire, facial markings, and head shape (Museo Regional de Ica, MRI 00021-01).
- Figure 9.9.** A Nasca gold nose ornament and hummingbird “whiskers” with cut and embossed designs. Gold ornaments such as these were also common to high-status men and women in Paracas society (courtesy National Museum of the American Indian, Smithsonian Institution number 178879.000. Photo by NMAI Photo Services staff).
- Figure 9.10.** Bundle 310 from the Necropolis of Wari Kayan (left). The body is seated in a deerskin-lined basket (right). Before the body was interred, it was wrapped and covered in embroidered textiles (Archivo Julio C. Tello, Museo de Arqueología y Antropología de la UNMSM).
- Figure 9.12.** Beans are frequent design elements in the iconography of Paracas Necropolis textiles. In this detail, from bundle 378, the body assumes the shape of a bean (© 1990 University of Oklahoma Press).
- Figure 9.13.** A Paracas mummified head from Ocucaje showing cloth wrapping and stuffed eye sockets (Museo Regional de Ica, Peru, MRI 00898-12). Images from *Paracas Ritual Attire* by Anne Paul. Copyright ©1990 by the University of Oklahoma Press, Norman. Reprinted by permission of the publisher. All Rights Reserved.
- Figure 9.14.** Disembodied head imagery is prevalent for the Paracas and Nasca. This pair of diminutive gold heads is constructed from hammered sheet metal and mimics the mummified head (Museum of Fine Arts, Houston. Gift of Alfred C. Glassell Jr.).
- Figure 14.1.** Cut shell ornaments frequently associated with infants at the village of Paloma, Chilca Valley, Peru; Middle Preceramic period (5000–3000 B.C.). Photograph Courtesy of Jeffrey Quilter.
- Figure 14.2.** Biconical bead with dual drilling; El Paraíso, Chillón Valley, Peru; Late Preceramic period (3000–1800 B.C.). Photograph Courtesy of Jeffrey Quilter.
- Figure 14.5.** Ear ornaments carved from whalebone worn by an adult male leader; Cardal, Lurin Valley; Initial period (1800–800 B.C.). Photograph Courtesy of Richard Burger.
- Figure 14.4.** Drilled sea lion canines from a necklace worn by an adult male leader; Cardal, Lurin Valley; Initial period (1800–800 B.C.). Photograph Courtesy of Richard Burger.
- Figure 14.6.** Small copper and gold plates made of hammered sheet metal; Mina Perdida, Lurin Valley; Initial period (1800–800 B.C.). Photograph Courtesy of Richard Burger.
- Figure 14.7.** Chavin-style crown showing the Staff God from Chonogoyape, Lambayeque Drainage, Peru; Early Horizon (800–200 B.C.) (Museum of the American Indian, Smithsonian Institution).
- Figure 14.8.** Gold and silver snuff spoon believed to have been found at Chavín de Huántar, Ancash; Early Horizon (800–200 B.C.). (Photograph Courtesy of Dumbarton Oaks Research Library and Collection).
- Figure 14.10.** Beads of sodalite, Spondylus, turquoise, and other precious materials found by in the tomb of a female leader at Kuntur Wasi, Jequetepeque Valley; Early Horizon (800–200 B.C.). Photograph Courtesy of Yoshio Onuki.
- Figure 17.1.** Cut-glass bowl with precious stones and pearls, tenth/eleventh century (San Marco Treasury, Venice).
- Figure 17.2.** Purple and gold embroidered *peplos*, 1261 (Museo di Sant’Agostino, Genoa).
- Figure 17.3.** Marble revetment in Hagia Sophia, Constantinople, sixth century.
- Figure 17.4.** Book-matched pattern on a revetment in the naos of the church of the Chora, Constantinople, 12th/14th century.

- Figure 17.5.** Gold medallion with Virgin enthroned and Baptism, seventh century (Dumbarton Oaks, Washington, D.C.).
- Figure 17.6.** Marriage belt, gold seventh century (Dumbarton Oaks, Washington, D.C.).
- Figure 17.7.** Reliquary cross of Justin II (565–578), restored front view (Vatican collection, Vatican City).
- Figure 17.8.** Ivory panel of Empress Ariadne/Sophia, fifth century (Bargello, Florence).
- Figure 17.9.** Medallion of Leo VI, detail of votive crown, late ninth century (San Marco Treasury, Venice).
- Figure 17.10.** Silver gilt book cover with enamels, precious stones and pearls, tenth/eleventh century (Marciana Library, Venice).
- Figure 17.11.** Chalice of Romanos I, tenth century (San Marco Treasury, Venice).
- Figure 20.1.** “Huitzolpichitli Otro Hercules, Tetzcalipoca Otro Jupiter,” color wash on paper (Sahagún 1577:folio 10r; Biblioteca Medicea Laurenziana, Florence).
- Figure 20.2.** “Allegorical Image of Potosí,” color washes and silver (Murúa 1590–1600:folio 141v; private collection, Ireland).
- Figure 20.6.** “Offering coca and alpaca to the Andean gods of Collasuyu,” color washes and silver (Murúa 1590–1615:folio 103v).
- Figure 23.1.** *Khipu* showing tiered knot arrangement (American Museum of Natural History, New York, 41.2/6994; photo by Gary Urton).
- Figure 23.2.** *Khipu* UR28 from Atarco (Museum für Völkerkunde, München, Germany, s/n C; photo by Gary Urton).
- Figure 23.4.** Inka copper “ax money.” (Photo courtesy of Museo Inka, Universidad Nacional de San Antonio Abad del Cusco).
- Figure 23.5.** The *ceque* system of Cuzco compared to a pair of *khipus*.
- Figure 23.6.** Image of a Khipukamayuc, called “the Secretary of the Inca,” from Guaman Poma de Ayala (1980:359–360 [1615]).
- Figure 25.4.** Portion of the Madaba mosaic map depicting Jerusalem and surrounding towns (from Avi-Yonah 1954. Reprinted by permission of Israel Antiquities Authority).

LIST OF TABLES

Table 2.1. Types of Cucuteni–Tripolye defenses by period.

Table 4.1. The Cuzco region chronology relative to the periodization used throughout the Inka provinces.

Table 7.1. The MH and LH periods in the Argolid.

Table 7.2. Demographic composition in the Mycenae cemeteries.

Table 7.3. Gender composition in the Mycenae cemeteries.

Table 9.1. Paracas burial patterns: river valleys.^a

Table 15.1. Contents of the ritual deposits at Sanxingdui (K1 and K2) and Jinsha (Meiyuan) discussed in this paper.

Table 22.1. The data and answers for problems 5.23 to 5.25 in *The Nine Chapters*.

Table 22.2. The relationship between the Hu and the units of volume.

Table 23.1. Moiety organization and ayllu rankings among a group of six ayllus in Atarco, Nazca, as interpreted from a local Khipu (UR28).

Table 24.1. The sequence of *Bak'tun* within the current *Piktun*.

.....

CONTRIBUTORS

.....

SUSAN E. ALCOCK is director of the Joukowsky Institute for Archaeology and the Ancient World and is the Joukowsky Family Professor of Archaeology at Brown University. Her current research interests include the Hellenistic and Roman eastern Mediterranean, landscape archaeology, and the archaeology of memory and of imperialism. Having previously worked in Greece and Armenia, Dr. Alcock is presently involved in fieldwork in Jordan, at and near the site of Petra. She is a 2001 recipient of a MacArthur Fellowship from the John D. and Catherine T. MacArthur Foundation.

MELISSA BAILEY is a graduate student in classics and archaeology at Stanford University. Her dissertation examines the grounding of economic knowledge in cognitive and material practice in the Roman and Late Roman empires, in particular how economic tools—writing, coins, and measures—were used to generate knowledge in specific contexts. She has excavated widely in Italy and Jordan and has a particular regional interest in the development of economies of the eastern Mediterranean into the Byzantine and Islamic periods.

TAMARA L. BRAY is a theoretically oriented archaeologist specializing in the study of pre-Columbian societies of the northern Andes and the Inca Empire. Her research focuses on strategies of ancient imperialism through analyses of craft production, foodways, and iconography; interregional interaction; and the politics and place of archaeology in the modern world. She is the author of several books and edited volumes. Her articles have appeared in such publications as the *Journal of Field Archaeology*, *Latin American Antiquity*, *World Archaeology*, and the *Journal of Anthropological Archaeology*. She has also received grants and awards from the National Science Foundation, the School of American Research, the American Philosophical Society, Dumbarton Oaks, Wenner-Gren, and the National Endowment for the Humanities.

RICHARD BURGER received his B.A. in archaeology from Yale College and his Ph.D. in anthropology from the University of California, Berkeley. After several years excavating in highland Peru, he returned to Yale in 1981 as a faculty member. He is currently the Charles J. MacCurdy Professor of Anthropology at Yale and curator of South American archaeology at the Yale Peabody Museum. Burger has directed excavations at Chavín de Huántar and Huaricoto in the highlands and at Initial Period sites along the central coast of Peru. He has also pioneered the study of obsidian sourcing and exchange in the central Andes.

JOHN CHAPMAN is a reader in archaeology at Durham University and has spent more than 30 years researching the social archaeology of the Balkans in the Mesolithic, Neolithic, and Chalcolithic. He has pioneered the subfield of deliberate artifact fragmentation, including the publication of two monographs, *Fragmentation in Archaeology* (2000) and *Parts and Wholes* (with B. Gaydarska, 2006). He has codirected major international field projects in Croatia (the Neothermal Dalmatia Project) and Hungary (the Upper Tisza Project). He has also written extensively about landscape archaeology, time-marks in the landscape, and the value of place.

KARINE CHEMLA is currently a senior researcher at CNRS, France. Her interest is in the history of mathematics in ancient China within the context of a world history. She also researches modern European mathematics, focusing on the relationship between mathematics and the culture in which it is embedded from a historical anthropology viewpoint. Chemla and Guo Shuchun recently published *Les neuf chapitres* (2004), which was granted the 2006 Hirayama Prize from the Académie des Inscriptions et Belles-Lettres. Chemla also received the Prize Binoux from the Académie des Sciences in 2006 and the silver medal from CNRS in 2008. She serves on editorial boards of several scholarly journals.

KATHLYN M. COONEY is an assistant professor of Egyptian art and architecture in the Department of Near Eastern Languages and Cultures at the University of California, Los Angeles. Her research focuses on ancient Egyptian funerary arts, in particular coffins of the New Kingdom and the Twenty-first Dynasty and issues of craft specialization, socioeconomic value, reception history and taste change. She is currently working on how Egyptian funerary behaviors changed during times of economic recession and social upheaval. Her book *The Cost of Death: The Social and Economic Value of Ancient Egyptian Funerary Art in the Ramesside Period* appeared in 2007.

THOMAS CUMMINS is the Dumbarton Oaks Professor of the History of Pre-Columbian and Colonial Art and is chairman of the Department of the History of Art and Architecture, Harvard University. His research focuses on the pre-Columbian arts of Peru and Ecuador and the colonial arts of Latin America, especially sixteenth-century Peru, Ecuador, and Colombia. Most recently, he collaborated with a team of scholars at the Getty Research Institute to study two illustrated manuscripts from seventeenth-century Peru. His book *Beyond the Lettered City: Native Literacies in the Northern Andes*, coauthored with Joanne Rappaport, was published by Duke University Press in 2012.

LISA DELEONARDIS is the Austen-Stokes Professor in Art of the Ancient Americas in the Department of the History of Art at Johns Hopkins University. Her research interests lie at the interstices of art history and archaeology, with recent work addressing sacred space and its appropriations, the body as ancestor, and social organization of the visual arts. Since 1989 she has conducted a number of archaeological

projects in south coastal Peru centering on questions about the Paracas. This work has been synthesized in several articles and forms the basis of a forthcoming book. She is concurrently completing a manuscript on the architectural history of Santa Cruz de Lanchas.

CHRISTOPHER B. DONNAN is emeritus professor of anthropology at the University of California, Los Angeles. His research focuses on the Moche, a civilization that flourished on the north coast of Peru. He has studied Moche civilization for more than four decades, combining systematic analysis of Moche art with archaeological excavations in Peru. He is the author of numerous articles and books, including *Moche Fineline Painting: Its Evolution and Its Artists*, *Moche Portraits from Ancient Peru*, *Royal Tombs of Sipan*, *Moche Tombs at Dos Cabezas*, *Ceramics of Ancient Peru*, and *Moche Art of Peru: Pre-Columbian Symbolic Communication*.

ROBERT K. ENGLUND teaches Assyriology at the University of California, Los Angeles. He has conducted his major research on fourth- and third-millennium B.C. Mesopotamia and, as director of the Cuneiform Digital Library Initiative (<http://cdli.ucla.edu>), on the electronic documentation and edition of cuneiform generally. A native of the Pacific Northwest, Englund attended high school in Yakima, Washington. He finished his B.A. at UC Berkeley in 1977 and, following a year of graduate work at the University of Chicago, received his Ph.D. in Munich in 1987. He conducted postdoctoral research and taught at the Free University of Berlin in the 1980s and 1990s and moved to Los Angeles in 1996.

ROWAN FLAD is associate professor of anthropology at Harvard University. His research concerns the emergence and development of complex society during the late Neolithic and Bronze Age periods in China, with particular focus on production processes, ritual activity, human–animal interactions, and the processes involved in social change in general. Most of his fieldwork in China has been conducted in Sichuan and the Three Gorges of the Yangzi River region. In addition to many journal publications, he is coeditor of *Rethinking Craft Specialization in Complex Societies* (2007) and author of *Salt Production and Social Hierarchy in Ancient China* (Cambridge University Press, 2011).

PATRICK GEARY, until recently Distinguished Professor of History at the University of California, Los Angeles, is now Professor of Medieval History at the Institute for Advanced Study, Princeton. He received his Ph.D. from Yale University; has held professorships at Princeton University, the University of Florida, and Notre Dame University; and has taught as a visiting professor at the University of Vienna, the École des Hautes Études en Sciences Sociales, the University of Iceland, and the Central European University. Among his books are *Furta Sacra: Thefts of Relics in the Central Middle Ages*, *Living with the Dead in the Middle Ages*, *Phantoms of Remembrance*, and *The Myth of Nations: The Medieval Origins of Europe*.

IOLI KALAVREZOU is the Dumbarton Oaks Professor of Early Christian and Byzantine Art History at Harvard University. She has held professorships at UCLA and the University of Munich. Her research and publications focus on the arts of the empire of Byzantium with a special interest on such topics as ivory carving, imperial art and self-presentation, manuscript illumination, and the use of symbols and relics in the hands of the empire. Several of her studies concern the cult of the Virgin Mary and the everyday world of the Byzantines, especially women. Her book *Byzantine Women and their World* published in 2003 accompanied an exhibition with the same title.

STEVEN KOSIBA is assistant professor of anthropology at the University of Alabama. He specializes in the politics of ancient states, with emphasis on the formation of the Inka polity in the Peruvian Andes. His research investigates how the Inkas first claimed their absolute authority and cast autonomous peoples as political subjects by transforming select places and objects significantly associated with a non-Inka past, such as shrines and local seats of power. He is interested in how imperial projects are manifested through the production of landscapes that both embed and engender a particular vision of social difference, order, and history.

LESLIE KURKE is a specialist in ancient Greek literature and cultural history, with special emphasis on Archaic Greek poetry in its sociopolitical context, Herodotus and early prose, and the constitution of ideology through material practices. She has taught in the departments of classics and comparative literature at the University of California, Berkeley, since 1990. She is the author of *The Traffic in Praise: Pindar and the Poetics of Social Economy* (1991); *Coins, Bodies, Games, and Gold: The Politics of Meaning in Archaic Greece* (1999); and *Aesopic Conversations: Popular Tradition, Cultural Dialogue, and the Invention of Greek Prose* (2011). She was the recipient of a 1999 MacArthur Fellowship.

RICHARD LESURE, an associate professor of anthropology at the University of California, Los Angeles, specializes in the origins of ancient Mesoamerican civilizations. He has conducted archaeological excavations in both lowland and highland regions of Mexico and has written about agency, social inequality, prestige goods, and ceramic figurines. His recent publications include a monograph on the Mexican site of El Varal (*Settlement and Subsistence in Early Formative Soconusco*) and a book on the interpretation of prehistoric figurines (*Interpreting Ancient Figurines: Context, Comparison, and Prehistoric Art*).

JOHN K. PAPADOPOULOS is a professor of archaeology and classics at the University of California, Los Angeles; former chair of the classics department; and current chair of the archaeology program. His research and teaching interests include the Aegean and the eastern and central Mediterranean in the Late Bronze Age and Early Iron Age into the Classical and later periods, Greek colonization, the topography of Athens, and the integration of literary evidence with the material record in the study

of the past. He has excavated or conducted fieldwork widely in Greece, Albania, Italy, and Australia. He is the author or editor of eight books, more than 70 articles, and some 30 reviews.

JAMES I. PORTER is a professor of classics at the University of California, Irvine. He is the author, most recently, of *The Origins of Aesthetic Thought in Ancient Greece: Matter, Sensation, and Experience* (Cambridge, 2010). He has also written articles on philosophy, literature, aesthetics, and cultural criticism in antiquity and post-Enlightenment modernity. His current projects include two books—a study on the sublime before Longinus and another on the invention and reception of Homer.

COLIN RENFREW (Lord Renfrew of Kaimsthorn) was founding director of the McDonald Institute for Archaeological Research (1990–2004) and is the Emeritus Disney Professor of Archaeology at the University of Cambridge (1981–2004). He is a fellow or member of various learned societies, including the British Academy, Academia Europea, the Royal Society of Edinburgh, and the U.S. National Academy of Sciences. He is the author of numerous books on European archaeology, including *The Emergence of Civilisation: The Cyclades and the Aegean in the Third Millennium BC* (1972), *Approaches to Social Archaeology* (1984), and his most recent, *Prehistory: The Making of the Human Mind* (2007).

CHRIS SCARRE is a specialist in the prehistory of western Europe, with special interest in materiality, landscape, and the origins of prehistoric monuments. He has excavated at Neolithic sites in France, Portugal, and the Channel Islands and recently completed *Landscapes of Neolithic Brittany* (Oxford University Press 2011). Chris was founder-editor of the *Cambridge Archaeological Journal* from 1991 to 2005, before moving to Durham in 2006 as a professor of archaeology. He has a broad interest in human cultural and cognitive evolution and is the editor of the leading textbook of world prehistory, *The Human Past* (second edition, 2009).

CHARLES STANISH is the director of the Cotsen Institute of Archaeology and a professor of anthropology at the University of California, Los Angeles. He specializes in the development of complex political and economic systems in the premodern world. He has worked extensively throughout the Andes conducting research on prehistoric societies of the region. His theoretical work focuses on the roles that trade, war, and labor play in the evolution of human cooperation. He holds the Lloyd Cotsen Chair at UCLA, is a fellow of the American Academy of Arts and Sciences, and is a member of the National Academy of Sciences.

DAVID STUART is the Linda and David Schele Professor of Mesoamerican Art and Writing at the University of Texas, Austin. His research focuses on the archaeology and epigraphy of ancient Maya civilization. His early work on the decipherment of Maya hieroglyphs led to a MacArthur Fellowship in 1984. Stuart has conducted field research at sites in Mexico, Guatemala, and Honduras. His publications include many articles in professional journals, as well as *Ten Phonetic Syllables* (1987) and a

volume in the *Corpus of Maya Hieroglyphic Inscriptions* (2003). Stuart is director of the Mesoamerica Center at the University of Texas, Austin, which fosters multidisciplinary studies and produces publications on ancient American art and culture.

GARY URTON is the Dumbarton Oaks Professor of Pre-Columbian Studies in the archaeology program of the Department of Anthropology at Harvard University. His research focuses on pre-Hispanic and early colonial intellectual and cultural history in the Andes. He is the author of numerous books on Andean/Quechua cultures and Inka civilization, including *At the Crossroads of the Earth and the Sky* (1981), *The History of a Myth* (1990), *The Social Life of Numbers* (1997), *Inca Myths* (1999), and *Signs of the Inka Khipu* (2003). He is founder-director of the Harvard Khipu Database Project and a recipient of a 2002 MacArthur Fellowship.

SOFIA VOUTSAKI, a professor of Greek archaeology at the University of Groningen, the Netherlands, is an Aegean prehistorian with special interests in Helladic prehistory, archaeological theory, and the history of the discipline. She took her first degree in Athens and her M.Phil. and Ph.D. degrees in Cambridge. Between 1993 and 2003, she was a lecturer in the Faculty of Classics, Cambridge, and a senior fellow in Newnham College. She is the director of two large interdisciplinary projects, the Middle Helladic Argolid Project and the Argos Tumuli Project, and is responsible for excavation of the Middle Helladic III – Late Helladic I cemetery near the Mycenaean palatial complex at Ayios Vasilios, Sparta.

.....

FOREWORD

.....

GARY URTON AND JOHN K. PAPADOPOULOS

This volume traces its origins to January 2007, at the time of the annual meeting of the Institute of Andean Studies, held on the campus of the University of California, Berkeley. Urton, an Andeanist, attended the meeting and happened to have breakfast one morning with Charles (Chip) Stanish. Since assuming the directorship of the Cotsen Institute of Archaeology at UCLA, Stanish had let it be known that he was open to proposals for conferences that focused on important, stimulating, and (ideally) comparative issues that could be hosted in the Cotsen Advanced Seminar series. Urton had long had an interest in the nature of value and of how we today might construct an understanding of what peoples of the past considered to be particularly prized, precious, or esteemed—"valuable"—as evidenced by the archaeological record. The focus of this interest at that time was on concepts of value in pre-Columbian Andean civilizations. Stanish, also an Andeanist, was immediately receptive to the idea of such a conference and invited a proposal on the topic, which Urton submitted a month or so later.

In response to that initial proposal, Stanish did two things that gave clear evidence of his decisiveness and breadth of vision. First, he replied immediately in the affirmative on the general question of entertaining a proposal for a conference on value. Secondly, and far more importantly, he asked to open up the conference to a wider comparative perspective. Specifically, Stanish suggested that there might be broad interest in a conference that addressed the question of constructions of value in ancient Old *and* New World societies. Stanish and Urton quickly agreed on the broad outlines of such a conference. As for finding someone who was familiar with a broad range of research being carried out on this topic by Old World specialists and was at the same time sympathetic with and interested in New World approaches to the study of value, Stanish recommended John Papadopoulos, a colleague at the Cotsen Institute.

Having been brought together, we were both intrigued by and very interested in such a conference. We both felt the project could make a major contribution to research in our respective areas of work. The result is this volume.

We saw from the very outset two aspects that needed to be confronted. The first was the very definition of value. Our immediate, individual responses were happily in sync with one another: neither of us wished to impose a straitjacket on the meaning of value. At the same time, as we elaborate in our introduction, we did not

want to settle on a meaning of value that was so diffuse and nebulous that it would encompass virtually anything even remotely associated with worth, esteem, desire, pleasure, aesthetics, and a myriad other terms commonly associated with value. Consequently, we felt a need to define value—or what we mean by the term—in the introduction. We settled on a meaning that was more inclusive than exclusive.

The second aspect was very much predicated on the first. What we originally thought of as a separate problem—namely, what sort of structure the conference and volume might take—was in fact intimately related to the issue of definition. In thinking through value, we originally came up with five ways of conceiving the topic. As we explain in the introduction, these (original) five categories were never meant as distinct or separate subject matter, readily distinguishable from one another. Rather, they were conceived of collectively as a backbone or framework onto which we could mold a broader set of investigations and conversations.

As planning the conference and organization of the submitted contributions proceeded, we ended up retaining only four of the original five categories. We dispensed with one category—what we had termed art value—for various reasons after the conference. First of all, Colin Renfrew—who had been assigned to the section on art value given his work on the parallel visions of artists and archaeologists in his book *Figuring It Out* (Renfrew 2003)—wished in hindsight to be moved from the art value section to that dealing with object value; this was easy enough. Secondly, once the final versions of the papers were in hand, it was clearly apparent that art value as a category did not have the cogency of the others. Even the most philosophical discussion of “art” was, in one sense or another, firmly linked to the materiality of objects. In reorganizing the table of contents from the original slate of papers, we moved five that had originally been assigned to art value (the chapters by Cummins, Lesure, Renfrew, Papadopoulos, and Porter) to object value—since all five ultimately dealt with object value. We also moved Voutsaki’s chapter from object value to body value. The sections on place value and number value remain as they were originally conceived.

This said, vestiges of art value remain in several papers, not least that by Renfrew. Since the discussions on art value contain issues that we believe are worth airing, it seemed unnecessary to recast the relevant sections of these contributions after the fact, as it were. Despite some objections—some more spirited than others—we have kept to the four remaining categories as useful ways of thinking about, and structuring, value, as we explain in our introduction. Although such a division has clear benefits, the structure has potential drawbacks in that some possibly more interesting juxtapositions that would crosscut our formal categories are not realized. For example, the division between bodies and things is especially fluid, and the two sections could easily have been merged into one. Similarly, a case could be made to have ordered certain papers according to more specialized themes. For instance, chapter 13, on the symbols on early coinage, could have been closer to chapter 25 on the nature of coin assemblages. However, we were intent not to marginalize

papers under too narrow or less intellectually productive categories, such as Old World and New World sections. With so many contributions, any number of possibilities for organization could be entertained, and it was quite challenging to come up with an order that would be most productive and stimulating for thinking about the problems we focus on here. We hope the order we finally gave this volume achieves our goals and at the same time provokes further research and investigation.

The decision to publish the papers as soon as possible after the conference was inspired by two contributors—one working in the Old World, the other in the New World; both coincidentally sharing the same first name. This decision left a good many contributors, and at least one editor, in a state of shock, if not dismay. The initial statement “strike while the iron is hot” was issued without much fanfare, yet forcefully, by Chris Scarre over a glass of wine at a reception held during the conference. The die was cast. Since then, beginning only a few weeks after the conclusion of the conference, every time Papadopoulos chanced upon Chris Donnan in the corridors of the Cotsen Institute of Archaeology, the latter would without fail issue the exhortation, “Publish while it is still fresh; do not let it get stale.” Thus there was no going back from the deadline we had established for receipt of the papers, mid-February 2010. Of course, that deadline slipped from February to March to April. Finally, a “drop-dead” deadline was issued for the end of May. The final paper trickled in mid-June 2010.

As the papers were assembled, Urton was responsible for editing the New World contributions, while Papadopoulos was in charge of those dealing with the Old World. Happily, all the papers required only the most straightforward and light editing, primarily for formatting. Both editors read all the papers and contributed to casting the second half of the introduction, entitled “Four Ways of Thinking about Value.” The opening of the introduction represents a slightly elaborated version of what the coeditors had drafted at the end of their first meeting. Papadopoulos was responsible for drafting the sections dealing with *Homo economicus* and *Homo anthropologicus*, though Urton contributed a great deal to both sections. The introduction is therefore very much the work of both coeditors.

In the end, only one of the original invitees to the seminar, Stephen Houston, was unable to meet the publication deadline, for reasons beyond his control. Houston’s presentation at the seminar was thought provoking, and we have taken the liberty of referring to the abstract of his presentation in our introduction. Another invitee, Ioli Kalavrezou, although unable to attend the seminar, was able to contribute a paper, and we are grateful to her for doing so without the benefit of attending the meeting in Los Angeles. Two other scholars who were invited, David Graeber and Irene Winter, were unable to attend or contribute a paper, which is especially to be regretted given the importance of their work on value—the former on crafting an anthropological theory of value; the latter for her many contributions on items of value in ancient Mesopotamia. We can only speculate as to how much finer this volume would have been with their contributions.

From the very outset, the project was intended to be cross-cultural, yet not in an uncritical way. This general desideratum notwithstanding, the earlier brief history of the origin of this volume helps explain why it contains many more papers on the Andes than one might expect in a more typical comparative volume. Whether this peculiar focus adds anything unique and of particular interest to perspectives on value in the ancient world is touched upon in the introduction, but this is a determination that only the reader can make. The Andean region has always been understood to represent the site of a succession of unusual civilizations in comparative world historical terms, due partially to the fact that no Andean society invented the wheel or a system of writing, and there is only minimal evidence of the existence of markets. These factors, plus the geographical peculiarity that Andean civilizations emerged and evolved within the southern hemisphere (unlike all the other civilizations discussed in this volume), mean that the decidedly heavy Andean perspective represented herein sets this volume apart from most other edited volumes. We are interested in the potential impact of this aspect of the comparison on the reception of our volume in the scholarly community. This is a feature of the destiny of this project that is beyond the editors' control.

At the same time, Europe and the ancient Near East—both in prehistory and the historic era—were crucibles of social, political, and economic experimentation that gave rise, for better or worse, to much that is taken for granted today. (China represents no less a fascinating case study, both independent from developments farther west and on a parallel trajectory.) This explains the inclusion of so many papers by prehistorians of Europe, classical archaeologists, and even classicists. Much of the thrust of the papers in this volume are in fields that the two organizers know best. In hindsight, contributions from the Indian subcontinent, Oceania, Australia, and sub-Saharan Africa would have nicely rounded off the global coverage, though we do touch upon many of these areas, not least Oceania, in our introduction.

The papers assembled in this volume cover, in terms of time, Mesolithic Europe to the post-Spanish conquest of the Americas. And although the Andes and Europe loom large, China, Egypt, the Near East, and Mesoamerica are all well represented. We would like to believe that the papers that made their way into this volume demonstrate the broad range of approaches possible when considering the construction of value in the ancient world. And we hope that readers will find something of value not only in the individual contributions but in the diversity of papers presented in this volume as a whole.

ACKNOWLEDGMENTS

.....

As co-organizers of the Cotsen Advanced Seminar “The Construction of Value in the Ancient World,” we would like to thank, first and foremost, the many contributors who have made this volume what it is. Without them, this project would not have been possible; nor would it have been as enjoyable and enlightening an undertaking. It has been a great honor and privilege for us to work with scholars of such standing, and our task, both as organizers and editors, was made all the easier on account of the hard work and enthusiasm of the contributors. The co-editors express their deep appreciation to two anonymous reviewers, whose many insightful comments, critiques, and suggestions were of enormous help in improving the final volume.

Special thanks are due to Charles Stanish, not only as a contributor to this volume. From start to finish, Chip was the driving force behind the seminar. It was Chip who urged one of us to submit a proposal for a seminar; it was Chip who brought us together; and it was Chip, as director of the Cotsen Institute of Archaeology at UCLA, who not only sponsored the seminar and the publication of this volume but, mercifully, never batted an eyelid at its length.

As assistant director of the Cotsen Institute of Archaeology at the time, and as its director of publications, Shauna Mecartea bore the brunt of much of the logistics involved in putting together such an intensive event over the course of a few days, with 25 contributors and invitees flying in from various parts of the country and from around the world. Shauna was ably assisted by Helle Girey, Jill Silton, Evgenia Grigorova, Laura Llinguin, and Eric Gardner. The latter also prepared the poster for the seminar and, as publications coordinator of the Cotsen Institute at the time, shepherded this volume through the early stages of its publication. To Julie Nemer, the current publications manager of the Cotsen Institute of Archaeology press, we are grateful for seeing the volume through its completion. The staff of the Cotsen Institute were assisted by a troop of UCLA graduate students who manned the conference desks and took care of the audio-visual requirements, especially Karl La Favre, Joseph (Seppi) Lehner, John (Mac) Marston, and Eric Fries. Our thanks, too, to the various session moderators at the seminar: Sarah Morris, Jim Sackett, and Lothar von Falkenhausen. To the many colleagues, friends, research associates, and students from the greater Los Angeles area and beyond who attended the seminar and contributed to the questions and discussion, we are most grateful.

A NOTE ON ORTHOGRAPHY
.....

While the spelling and orthography of native terms in the various Mesoamerican languages have become reasonably standardized over time, the same is not true of the orthography of terms in the Andean languages (especially Quechua and Aymara). Two major orthographic traditions are in use in Andean studies today. One orthography is inherited from the tradition that emerged early in the colonial period, when Spanish writers developed a Hispanic-based orthography to deal with the sounds of Quechua and Aymara terms (such as *Inca*, *quipu*, *Pachacuti*, and *Manco Capac*). The second tradition follows a Peruvian Ministry of Education standardization of orthography (Cusihuamán 1976:13–17) that employs certain graphophonemic conventions developed at the time (such as *Inka*, *kipu*, *Pachakuti*, and *Manqo Qhapaq*). The editors believe that readers can easily accommodate themselves to the spelling of terms in the two different traditions. This approach is preferable to a forced standardization of orthography across sources—colonial-era chronicles and documents and a host of modern studies—and it respects the different preferences of authors whose works are included in this volume.

.....

INTRODUCTION:

THE CONSTRUCTION OF VALUE IN THE ANCIENT WORLD

.....

JOHN K. PAPADOPOULOS AND GARY URTON

The starting point for this volume is the basic premise that the concept of value is a social construct and is thus defined by the cultural context in which it is created. The questions we raise are not new. They have been asked often: How was value created, defined, and expressed in any given ancient or modern society? How can students of the past understand the value that might have been accorded to materials, objects, people, places, patterns of action, and so on by those who produced or used the things that compose the human material record? How was value articulated? (How many of these in exchange for how many of those? Why this word and not another?) What do we know about how objects were valued in the past, whether in the preindustrial market or premarket economies of the Mediterranean or in the “nonmarket” contexts of Oceania and pre-Columbian Andean societies? Why were certain materials (gold, silver, feathers, *Spondylus* shell, cattle, grain, and others) valued over other materials by people in many different parts of the world—Africa, Asia, Europe, the Americas, Oceania? What qualities of physical substances—for instance, translucence, scarcity, durability, age—were at the heart of how cultures determined, negotiated, and on occasion sanctioned value? How were different quantities or numbers of objects, or their negotiated positions within ordinal sequences, related to judgments of value? What was the significance, in relation to questions of value, of how, how many, and where objects and human bodies were deposited?

Although cross-cultural comparison is a key aspect of this volume, ours is not an uncritical celebration of cross-cultural analysis. Indeed, several papers in this volume stress that the specifics of the particular cultural context of the determination of value within any given society are of paramount importance. Consequently, comprehensive models that attempt to explain the construction of value across different cultures may in some cases obscure as much as they reveal. Accordingly, context is here highlighted, for what happens in the Mediterranean—whether in prehistory or in the historic era—is not the same as in the Andes, China, Africa, or Oceania. In their discussion of money and the morality of exchange, Jonathan Parry and Maurice Bloch (1989:1) state the issue well:

It becomes clear that in order to understand the way in which money is viewed it is vitally important to understand the cultural matrix into which it is incorporated. This may seem a bland enough lesson, but it is one which has often been forgotten by anthropologists writing about money—and less culpably also by historians and sociologists. As a result they have commonly fallen into the trap of attributing to money in general what is in fact a specific set of meanings which derive from our own culture.

This said, cross-cultural generalizations can be important, particularly in the study of vanished social systems. As Bruce Trigger notes: “My own studies of similarities and differences among early civilizations indicates that, although every early civilization was unique in its totality, some aspects were shaped by factors that were culturally specific, whereas others can be understood only in terms of cross-cultural generalizations” (Trigger 2006:519; cf. Trigger 2003).

One goal of a cross-cultural, comparative perspective would be to refocus the discussion of the meaning of material culture beyond established analytical categories and explanatory paradigms—such as scarcity, labor-based theories of value, notions that economic exchange creates value—to broader and more nuanced conceptions of value informed by anthropological, art historical, linguistic, and semiotic perspectives. Such a project, comparing and contrasting Old World and New World experiences and contexts, potentially opens new avenues of interpretation of material culture and the relationships between people, places, objects, language, and how meanings are made and transformed in different social, political, economic, and ritual settings.

Our aim in this volume is to bring together an interdisciplinary group of scholars in the humanities and social sciences (anthropologists, archaeologists, art historians, economic historians, historians, linguists, philologists, sociologists), working in various parts of the world, to investigate the meaning and construction of value in the ancient world. The concept of value lies at the intersection of individual and collective tastes, desires, sentiments, and attitudes that inform the ways people select or give priority to one thing over another. How did past societies, and how do we in the present, place value on anything? What is it that we value in particular places or monuments, objects, materials, human bodies, or art? To what extent are taste, trade, and desire regulated by social and political mechanisms, however complex or specific?

The structure of this volume is loosely based on four overarching but closely interrelated themes, which serve as a focus for discussion: place value, body value, object value, and what we have termed number value. These are not monolithic, distinct categories; nor are they static. Above all, the categories we interrogate here are not juxtaposed. Rather, they are interrelated and often collapse into one another in the analyses offered herein. Running through the conceptions of each of these categories of value are issues of memory, nostalgia, identity, biography, ideology, style, symbolism, and exchange. This book is therefore about values, broadly defined, not just systems of value among material things (which is itself a

large topic). Mensuration and fungibility, or equivalence, and are critical elements in any discussion of value (e.g., Renfrew, this volume), but they are only components of a much larger analytical subject.¹ This is not a book about the archaeology of measurement (for which, see the excellent volume edited by Morley and Renfrew 2010) but about the construction of value in the ancient world. Value can be economic, social, and cultural. One can even speak of ritual or symbolic value, as the work of Bernhard Laum (1924; see also Papadopoulos, this volume) established long ago.

In putting together the papers that make up this volume, there was never any intention of promoting a particular agenda or orthodoxy. Our intent was to demonstrate the broad range of approaches possible when considering the importance of value when it emerges in projects of studying and interpreting the past. In addition, our investigation is not an end in itself, as if “value” could be conceived of in isolation or as an all-encompassing entity. Rather, our interest is in how value derives from, gives rise to, and interacts with other equally complex social concepts, such as power, authority, wealth, and equality/inequality.

The study of the past is more than just the study of ancient people, artifacts, events, and processes. At a broader, behavioral level, it is more about the relationship between people, material objects, processes, and space or place (cf. Reid et al. 1975:864). Consequently the blatancy of “place,” together with the physical corporeality of the “body,” cannot be taken out of the equation. Bodies, places, and things are all active agents in the construction of value, as are the range of terms and semiotic constructions that take shape in the language of numbers and quantification within any given society. These are all integral components in the ways people interact with their environment and with each other. Before we discuss why place, body, object, and number are important contexts of the formulation and expression of value, it is useful first to lay out what we mean by value and thereafter to contextualize, albeit briefly, our discussion within the broader history of the study of value.

THE MEANING OF VALUE

Several chapters in this volume offer various specific meanings, as well as etymologies, of value and of related words and concepts. We do not wish to reiterate these here, since specific meanings are applied to specific contexts and case studies. Instead, we offer a more general meaning of value, one that shaped the trajectory of the seminar that inspired this volume. Our effort to define value—and we hasten to add *in its usage in English*—takes into account a cautionary note enunciated by Barbara Herrnstein Smith:

Like certain other terms, such as “meaning,” “truth,” and “reality,” that have strong currency in everyday speech and also long histories as the focus of philosophical analysis, the term “value” seems to name an aspect of the world so fundamental to our thinking—so elementary and at the same time so general—as to be both irreducible and irreplaceable:

it defies attempts to analyze it into simpler concepts, and efforts to explain, define or even paraphrase it seem obliged sooner or later to return to the term itself.

As can be seen from the following extracts, the *Oxford English Dictionary* [1961, 12:29-30, 326] solves the problem of recursive definition by defining “value” in terms of “worth” and vice versa:

VALUE.

1. The equivalent (in material worth) of a specified sum or amount . . .
2. Worth or worthiness (of persons) in respect of rank or personal qualities. *Obs[olete]* b. Worth or efficacy in combat or warfare; manliness, valor.
3. The relative status of a thing, or the estimate in which it is held, according to its supposed worth, usefulness or importance . . .

WORTH.

4. Pecuniary value; price, money. B. The equivalent of a specified sum or amount.
5. The relative value of a thing in respect of its qualities or of the estimation in which it is held” [Smith 1995:178].

Smith goes on to distinguish that in English, value has always maintained two related but nevertheless distinct meanings. These two senses of the word involve two key ideas that are not the same: *amount* on the one hand, and *comparison* on the other (Smith 1995:178–179). The first of these is the material or monetary *equivalence in exchange*. This is the classic, economic sense, as in the price of an object in any market, sometimes referred to as exchange value (Smith 1995:178). The second broad sense of value is not monetary. Moreover, it is “not obviously or necessarily material, but a more abstract matter of relative quantity or measure. Examples of the value of something (or someone) in this second and rather more elusive sense include its relative effectiveness in performing some function or meeting some need, the relative degree of satisfaction it gives someone, its comparative handiness or suitability for advancing some purpose, and the object’s (or person’s) rank in scale” (Smith 1995:178). Although straightforwardly defined, it is this second sense of value that gave rise to notions of desire and fetishism, as we shall see. Consequently, it would be wrong to impose a straitjacket on the meaning of value, for the concepts of *amount* and *comparison* relate to an exceptionally broad range of practices and domains of human life (Smith 1995:179; see also Bourdieu 1984; Mukařovský 1970; Smith 1988). “Value”—not only as it is used in English—is polyvalent. At the same time, it is important not to go too far in the opposite direction—that is, to water down the meaning of value to such an extent that the term becomes nebulous and diffuse. An example may be the concept of pure aesthetic value—or beauty—as developed by Immanuel Kant (1724–1804) (see Kant 2007 [1790]; Porter, this volume; Smith 1995:180).

This said, that the terms “value” and “values” are linked is not a freak of English. It is striking that in Greek, *timē* means both honor *and* price. Moreover, as Gary Urton (chapter 23) argues, a variety of terms in Quechua collectively echo forms

of value described in English. These include groups of terms related to barter, sale, and exchange; comparative and serial value; and intrinsic value.

As Smith (1995:180) goes on to note: “Although the term ‘value’ is characteristically produced in singular and genitive constructions (that is, as ‘*the value of*’ something), it does not seem possible to reduce the value of anything, including an artwork or work of literature, to a single, simple property or possession. It is sometimes useful, therefore, to think of ‘value’ as a general name given to a variety of different positive *effects*.”

The key terms “amount” and “comparison” are closely related to two theories of value in economics. The first, what may be termed the intrinsic theory of value, posits that the value of an object (or of any commodity or service) is intrinsic and is thus contained in the item itself. Most such theories, going back to the work of Adam Smith (1723–1790), are essentially based on the costs, not least the labor, involved in the process of producing an item (or service). In contrast, the subjective theory of value posits that value is quite distinct from price as arrived at through exchange. Consequently, the value of an item, commodity, or service can be ascertained only by a “value judgment,” which is to say that individuals choose for themselves what price they are willing to pay for any given object or service. Inherent in the subjective theory of value is the ability of an item (any object or service) to satisfy the desires of a given individual. The great champion of subjective value was Carl Menger (1840–1921), founder of the Austrian School of Economics, to whom we shall return. But the story of the articulation of theories of value does not begin in the eighteenth or nineteenth centuries A.D. Rather, it spirals back to a more distant past.

HOMO ECONOMICUS: FROM ARISTOTLE TO KARL MARX AND BEYOND

Although the term *Homo economicus*—or *Homo oeconomicus*²—first appeared in the early twentieth century (Persky 1995 traces the term to Pareto 1971 [1906]), the concept of the “economic man,” at least in the modern era, can be traced back to critics of John Stuart Mill (1806–1873) (see Persky 1995). Mill (1874) believed that an arbitrary, though useful, definition of humans was that they inevitably sought to obtain the greatest amount of necessities, conveniences, and luxuries with the smallest quantity of labor and self-denial. For Mill, humans are essentially rational and broadly self-interested actors, able to make cogent judgments toward their own subjectively defined ends. Mill’s ideas subsequently gave rise to all sorts of related ones, not least “the principle of least effort” (Shackleton and Prins 1992). But ideas of humans as economic animals have an older history. Although earlier scholars, such as Plato, provided sketchy descriptions of market creation, economic analysis proper begins, at least in the Western world, with Aristotle’s *Politics*. For Aristotle

(384–322 B.C.), the fundamental idea is that material goods are tools of human functioning, but with clearly prescribed limits that float between the “natural” on the one hand, and the “unnatural” and immoral on the other. The relevant passage in Aristotle (*Politics* 1.10; trans. T. A. Sinclair) is worth quoting:

The answer also is clear to the question raised at the beginning whether or not it is the business of one engaged in household economy or in political economy to make money and add to property. The answer is that it is not: these should be at hand for his use from the start. Household management ought not to need to make money, any more than political science needs to make men, who are the material which nature provides and which political science takes and uses. Similarly nature can be expected to provide food, whether from land or sea or in some other way. It is only as a result of that that the economist can perform his duty of distributing these supplies. So weaving is not the art of producing wool but of using it, though it is also the art of knowing good yarns from bad and the most suitable types for different purposes. . . . Money-making then . . . is of two kinds; one which is necessary and acceptable, which we may call administrative; the other, the commercial, which depends on exchange, is justly regarded with disapproval, since it arises not from nature but from men’s dealings with each other. Very much disliked also is the practice of charging interest; and the dislike is fully justified, for interest is a yield arising out of money itself, not a product of that for which money was provided. Money was intended to be a means of exchange, interest represents an increase in the money itself. We speak of it as a yield, as a crop or a litter; for each animal produces its like and interest is money produced out of money. Hence of all ways of getting wealth this is most contrary to nature.

In this passage, Aristotle contrasts two different aspects of what may be termed value.³ In dealing with weaving, Aristotle clearly states that it is not the art of producing wool that is important but the process of *using* it. Here it is *use value* that is critical. In the same section, Aristotle points to commercial *exchange*, which he disdained, and highlights the reality, already in the fifth and fourth centuries B.C., of *exchange value*. These two aspects of the meaning of value have recurred throughout the history of the Western world. They are perhaps nowhere more clearly stated than in the work of Adam Smith (1994:31 [1776]):

The word value, it is to be observed, has two different meanings, and sometimes expresses the utility of some particular object, and sometimes the power of purchasing other goods which the possession of that object conveys. The one may be called “value in use”; the other “value in exchange.” The things that have greatest value in use have frequently little or no value in exchange; and on the contrary, those which have the greatest value in exchange have frequently little or no value in use.

Aristotle’s economic and political ideas did not go unnoticed, and they entered the canon of Western thought in part because they, not least his moralizing about material acquisition, appealed to church fathers. Aristotle’s work resurfaced in the thirteenth century A.D. in the writings of Thomas Aquinas (ca. 1225–1274), whose influence on the economic thought of the Middle Ages was well mapped out by Karl Polanyi (1971:79). Aristotle’s ideas segued well with various aspects of concern to the church. Among other issues, value loomed large. For example, where

is value when the merchant evidently creates nothing and the usurer earns money as he sleeps?³ As Parry and Bloch (1989:3) note, the “laborer is worthy of hire, but it was not clear that the merchant and the money-lender labored. It was essentially this idea of material production as the source of value (Le Goff 1980:61) which prompted Tawney (1972:48) to remark that ‘the true descendant of the doctrines of Aquinas is the labor theory of value.’”

The fundamental tenet of classical economics, that labor is the source of all value, has had a remarkably good run. Smith (1994:33 [1776]) encapsulated the concept succinctly: “The value of any commodity . . . is equal to the quantity of labour which it enables him to purchase or command. Labour, therefore, is the real measure of the exchangeable value of all commodities.” This, in turn, gave rise to all sorts of simplistic equations; one of the most cited is Smith’s statement, “If among a nation of hunters, for example, it usually costs twice the labour to kill a beaver which it does to kill a deer, one beaver should naturally exchange for or be worth two deer. It is natural that what is usually the produce of two days or two hours labour, should be worth double of what is usually the produce of one day’s or hour’s labour” (Smith 1994:53 [1776]).⁴ Smith tempers this by conceding that allowance should be made for superior “hardship” in the labor required to produce a particular object or commodity, as well as for uncommon dexterity and ingenuity.

Smith was a great believer in “Do ut des” (I give so that you may give), or “Give me what I want, and you shall have that which you want.” This idea is nowhere more elegantly stated than in his classic passage about the butcher, brewer, and baker: “It is not from the benevolence of the butcher, the brewer, or the baker, that we expect our dinner, but from their regard to their own interest. We address ourselves, not to their humanity but to their self-love, and never talk to them of our own necessities but of their advantages” (Smith 1994:15 [1776]). Smith also believed that the free market (to which we shall return), while appearing chaotic and unrestrained, is actually guided by an “invisible hand” to produce not only the right amount but also a variety of goods. In his discussion of restraints on particular imports from foreign countries, Smith (1994:484–485 [1776]) writes:

By preferring the support of domestic to that of foreign industry, he intends only his own security; and by directing that industry in such a manner as its produce may be of the greatest value, he intends only his own gain, and he is in this, as in many other cases, led by an invisible hand to promote an end which was no part of his intention. Nor is it always the worse for the society that it was no part of it. By pursuing his own interest he frequently promotes that of the society more effectually than when he really intends to promote it.

Adam Smith’s labor theory of value was much refined by David Ricardo (1772–1823). In addition to labor, Ricardo (1817:2) stressed scarcity: “Possessing utility, commodities derive their exchangeable value from two sources: from their scarcity, and from their quantity of labour required to obtain them.” In his *On the Principles of Political Economy and Taxation*, Ricardo (1817:11) refined Smith’s labor theory by stating, “It is the comparative quantity of commodities which labour will produce

that determines their present or past relative value, and not the comparative commodities, which are given to the labourer in exchange for his labour.”

Perhaps Ricardo’s greatest contribution to classical economics was his explanation of economic rent, which was consistent with a labor theory of value, the cornerstone of which was his explanation of prices. For Ricardo, the quantity of labor used by the least efficient producer of a good set the market price of that commodity: “The exchangeable value of all commodities . . . is always regulated . . . by those who continue to produce them under the most unfavorable circumstances” (Ricardo 1817:59). Ricardo was among the first to describe the interaction between demand and the quality of a natural resource. He also attempted to explain the origin of profit as a return to capital based on a labor theory of value. Building on Smith’s example of the value of a hunter’s catch relative to the time used to catch the animal, Ricardo (1817:17) stated: “The value of these animals would be regulated, not solely by the time necessary for their destruction, but also by the time and labor necessary for providing the hunter’s capital [tools].” Thus Ricardo also recognized the reality and importance of indirect labor costs (see Ricardo 1823).

Moreover, in his discussion of value, Ricardo (1817:2–3) drew attention to the importance of scarcity for determining the value of anything, though noting that such commodities formed only a very small part of the many goods and services exchanged at any given time. But “scarcity” alone is not what Ricardo actually describes. The relevant passage is worth citing in full:

There are some commodities, the value of which is determined by their scarcity alone. No labour can increase the quantity of such goods, and therefore their value cannot be lowered by an increased supply. Some rare statues and pictures, scarce books and coins, wines of a peculiar quality, which can be made from grapes grown on a particular soil, of which there is a very limited quantity, are all of this description. Their value is wholly independent of the quantity of labour originally necessary to produce them, and varies with the varying wealth and inclinations of those who are desirous to possess them [Ricardo 1817:2–3].

Not only does Ricardo articulate a form of art value by enumerating “rare statues and pictures,” he also throws desire into the mix. In a similar vein, Igor Kopytoff (1986) argues that there are two types of value: that of objects that can be valued as commodities, which can be compared to other objects, and that of unique objects, ones that defy comparison (cf. Bloch and Parry 1989:12–16). A natural extension of this line of reasoning is Lucien Karpik’s recent study (2010), in which he discusses the theoretical underpinnings and methodological tools needed to analyze markets for “singularities.” Examples of singularities include Ricardo’s fine wines and art-work, but Karpik also adds movies, novels, music, and the professional services of certain doctors and lawyers. Hence singularities can be both goods and services, but ones that are multidimensional, incommensurable, and of unclear quality.

Following in the footsteps of Smith and Ricardo, Karl Marx (1818–1883) also believed that labor was the source of all true value. This is clearly articulated early on in *Das Kapital*:

We see then that that which determines the magnitude of the value of any article is the amount of labour socially necessary, or the labour-time socially necessary for its production. Each individual commodity, in this connexion, is to be considered as an average sample of its class. Commodities, therefore, in which equal quantities of labour are embodied, or which can be produced in the same time, have the same value” [Marx 1906:46 (1867)].

Like many of his predecessors, Marx (1906:42–43 [1867]) stressed the difference between use value and exchange value, but he went on to apply this same twofold character—use and exchange value—to labor (Marx 1906:48 [1867]). Indeed, his explanation for profit consistent with a labor theory of value was one of his many important contributions. Marx noted that the value of labor was determined and defined by the same rules that applied to all commodities. The value of labor was therefore set by the quantity of labor required to produce, which entailed the time needed to work to earn wages sufficient to purchase all the commodities needed by the laborer and his or her family. The wage rate was the subsistence wage rate. “The minimum limit of the value of labour-power is determined by the value of the commodities, without the daily supply of which the labourer cannot renew his vital energy, consequently by the value of those means of subsistence that are physically indispensable” (Marx 1906:192 [1867]). However, laborers often worked longer than the time needed to produce subsistence commodities but were paid only the equivalent of subsistence commodities. This was because of the superior position of the employer (capitalist) and the fact that laborers had only their labor to sell. Marx (1906:342–353 [1867]) used the term “surplus value” to refer to commodities produced above subsistence, and this surplus value was profit.

Two other aspects of Marx’s contribution to value studies need to be addressed here. The first is the circulation of value to produce capital: “Value . . . now becomes value in process, money in process, and, as such, capital. It comes out of circulation, enters into it again, preserves and multiplies itself within its circuit, comes back out of it with expanded bulk, and begins the same round ever afresh” (Marx 1906:173 [1867]). We shall return to the circulation (and deposition) of commodities of value within the context of the ancient world. The second important aspect is what Marx (1906:81–96 [1867]) calls the fetishism of commodities, an influential term subsequently used by Arjun Appadurai (1986a) and exploited to dizzying heights by David Graeber (2001:229–261). As Marx notes:

A commodity appears, at first sight, a very trivial thing, and easily understood. Its analysis shows that it is, in reality, a very queer thing, abounding in metaphysical subtleties and theological niceties. So far as it is a value in use, there is nothing mysterious about it, whether we consider it from the point of view that by its properties it is capable of satisfying human wants, or from the point that those properties are the product of human labour. . . . A commodity is therefore a mysterious thing, simply because in it the social character of men’s labour appears to them as an objective character stamped upon the product of that labour; because the relation of the producers to the sum total of their labour is presented to them as a social relation, existing not between themselves, but between the products of their labour. This is the reason why the products of labour become commodities, social

things whose qualities are at the same time perceptible and imperceptible by the senses. . . . This I call Fetishism which attaches itself to the products of labour, so soon as they are produced as commodities, and which is therefore inseparable from the production of commodities [Marx 1906:81, 83 (1867)].

Marx's "metaphysical subtleties and theological niceties" open all sorts of new avenues of interpretation, many of which have been pursued by economic historians and anthropologists. At a higher level, Marx contributed a further insight by ascribing historical importance to cultural traditions. In the 1852 edition of *The Eighteenth Brumaire of Louis Bonaparte*, he stated: "Men make their own history, but they do not make it just as they please; they do not make it under circumstances chosen by themselves, but under circumstances directly encountered, given and transmitted from the past. The tradition of all the dead generations weighs like a nightmare on the brain of the living" (Marx 1951:247 [1852]). Trigger (2006:519) elaborates, "Marx made a major contribution to understanding how change occurred in human societies when he observed that human beings make their own history not on their own but within the context of institutions, beliefs, values, and patterns of behavior inherited from the past." This is a central precept of a historical and comparative understanding of value, one that is pursued to considerable depth and complexity in this volume.

The first volume of the first German edition of *Das Kapital* appeared in 1867. Menger's *Principles of Economics* was published four years later. In his study, Menger (1950 [1871]) brought to the fore the subjective character of the measure of value. By looking at the economic underpinnings of the value of the services of land, capital, and labor, Menger sought to define laws governing the value of goods of a "higher order." In so doing, he drew a somewhat more nuanced distinction between use value and exchange value (Menger 1950:chapter 6 [1871]) and in the process came up with the subjective theory of value, which is distinct from exchange value or price. Consequently, the value of an item, commodity, or service can be ascertained only by "value judgment," which is to say that individuals choose for themselves what price they are willing to pay for any given object or service. Inherent in the subjective theory of value is the ability of an item (any object or service) to satisfy the desires of a given individual. Menger's subjective evaluations of the usefulness of various goods and services are sometimes referred to as marginal utility, a term coined by Friedrich von Wieser (1851–1926), who succeeded Menger at the University of Vienna in 1903. For Menger, trade is the result of people's deliberate attempts to improve their well-being, not an innate "disposition to truck, barter, and exchange," as suggested by Smith (1994:18 [1776]). The exact quantities of goods exchanged (their prices) are determined by the values individuals attach to marginal units of these goods. A similar notion of value was articulated by Georg Simmel (1990 [1907]), who saw exchange and desire as the critical components; thus the value of an object is measured by how much the person desiring it is willing to pay.

It is important here to mention the work of Karl Polanyi (1886–1964), particularly his book *The Great Transformation* (Polanyi 1944), as it follows squarely in the tradition of Smith and Ricardo but with interesting twists. Polanyi classified both Smith and Ricardo as exponents of formalism. In addition to coming up with the term “formalism,” Polanyi coined the term “substantivism,” an empirical approach that focuses on processes through which a society provides itself with material goods, including food and shelter. For Polanyi, human nature lies behind economic theory, and here Graeber’s assessment of Polanyi’s contribution is worth citing, as it draws attention to the rift between traditional economics and alternative approaches. For Polanyi:

Human beings are driven by desires: these desires are unlimited. Human beings are also rational, insofar as they will always tend to calculate the most efficient way of getting what they want. Hence, if they are left to their own devices, something like a “free market” will inevitably develop. Of course, for 99% of human history none ever did, but that’s just because of the interference of one or another state or feudal elite. . . . The beauty of Polanyi’s book is that it demonstrates just how completely wrong that common wisdom is [Graeber 2001:10].

The theories of value of Aristotle, Adam Smith, David Ricardo, John Stuart Mill, Karl Marx, Carl Menger, and Karl Polanyi discussed above form the underpinnings of traditional theories of value in classical economics. All are overarching theories, veritable blueprints that attempt to describe any and all contexts, or theories that could be forced onto any context. It is as if the value of goods and services is somehow divorced from social realities and relations; “society” itself is taken out of the equation.

Modern economics as a discipline has veered into several different directions, which are beyond the scope of this study, but one of the most notable is the use of game theory, which clearly derives from classic economics. Boiled to its essence, game theory mathematically attempts to capture human behavior in strategic situations—“games”—in which the success of an individual in making choices depends on the choices of others (see, among others, Myerson 1991). Various scholars working with game theory have built onto the foundational earlier contributions of John von Neumann (1928) and von Neumann and Oskar Morgenstern (2004 [1944]) in interesting ways, extending the application of game theory in many fields, not least to biology (e.g., Harsanyi 1974; Harsanyi and Selten 1988; Maynard Smith 1982; Maynard Smith and Price 1973; Nash 1950; Selten 1970). Most recently, Brian Skyrms has focused on the evolution of social norms using evolutionary game theory (e.g., Skyrms 1996, 2004). In so doing he has contributed important insights into political philosophy, as well as the philosophy of language, biology, and the social sciences (see also Skyrms 2010). But like the traditional economic theories of value discussed above, modern economic theories strive to be overarching in that they describe, and can thus be applied to, any social context.

If value is socially constructed and thus defined by the culture that produced it—or, as Marx put it, within the context of institutions, beliefs, values, and patterns of behavior inherited from the past—it follows that the study of past societies can provide significant insights into modern patterns of exchange, value, and wealth. Added to this is the fact that no single factor, such as labor, utility, or energy, is by itself both a necessary and sufficient condition for the construction of value. Moreover, the stranglehold of Western notions, beliefs, and ideas fails to do justice to the wide range of human experience across time and space.

The field was thus ripe for a new and more vigorous approach, one that looked beyond the concerns of economists. This is where anthropological and sociological theories of value come to the fore, by attempting to expand on traditional theories of value employed by economists. The key difference between economics and anthropology is neatly stated by Graeber (2001:8): “Economics . . . is about predicting individual behavior; anthropology is about understanding collective differences.”

HOMO ANTHROPOLOGICUS TO THE RESCUE

Many of the founding fathers of classical economics looked to a wide range of contemporary cultural contexts, as well as Classical (Greco-Roman) literature, to account for some aspect of their work. For example, Adam Smith, in trying to explain the origin and use of money, cast his net far and wide in time and place:

Many different commodities, it is probable, were successively both thought of and employed for this purpose. In the rude ages of society, cattle are said to have been the common instrument of commerce; and, although they must have been a most inconvenient one, yet in old times we find things were frequently valued according to the number of cattle which had been given in exchange for them. The armour of Diomedes, says Homer, cost only nine oxen; but that of Glaucus cost an hundred oxen [*Iliad* 6.236; cf. Pliny, *Historia Naturalis* 33.1]. Salt is said to be the common instrument of commerce and exchanges in Abyssinia; a species of shells in some parts of the coast of India; dried cod in Newfoundland; tobacco in Virginia; sugar in some of our West India colonies; hides or dressed leather in some other countries; and there is at this day a village in Scotland where it is not uncommon, I am told, for a workman to carry nails instead of money to the baker's shop or the ale-house” [Smith 1994:25 (1776)].

Despite all these different commodities, Smith went on to stress the ascent and importance of metals, which were eventually preferred on account of their durability and easy divisibility. The problem remained one of a definition of value that made sense only in the modern world of universal fungibility. The time had obviously come for a new approach that looked beyond traditional economics.

In the late nineteenth and early twentieth century there was a reaction to the universalizing tendencies of classical economics. The first salvoes came from a predictable quarter: anthropology and sociology. Here was the rise of *Homo*

anthropologicus, a knight in shining armor who was ready to put “society” back into economics. In many ways, the place from which the reaction came, though ultimately understandable, was initially unpredictable: the Pacific. Among the first voices was Franz Boas (1858–1942). In a series of studies, ranging from 1897 to 1966, on the Kwakwaka’wakw (Kwakiutl) of the Northwest Coast of North America, Boas (1897, 1966, the latter with reference to earlier works) focused on the potlatch—which in local jargon means “to give away” or “a gift”—a festival where a family, leading man, or chief hosts a feast in the family house, the primary purpose being the redistribution of wealth (see, among others, Jonaitis 1991). In the words of Mary Douglas (1990:viii), “The potlatch is an example of a total system of giving.” By engaging the honor of both giver and recipient, each gift is part of a system of reciprocity, involving items of material or spiritual value. The fact that every gift has to be returned in a specified manner establishes a perpetual cycle of exchange that can transcend generations (Douglas 1990:viii). What Boas brought to the fore was a system of exchange very different from those of classic Western economics.

A few decades later, Bronisław Malinowski (1884–1942), in his *Argonauts of the Western Pacific*, among the earliest sustained, field-based studies of economic anthropology, took aim at the rationality of Mill’s “economic man.” Malinowski saw a similarly different (from Boas’s case study) form of economic behavior on the Trobriand Islands on the other side of the Pacific:

Another notion which must be exploded, once and for ever, is that of the Primitive Economic Man of some current economic textbooks . . . prompted in all his actions by a rationalistic conception of self-interest, and achieving his aims directly and with the minimum of effort. Even *one* well established instance should show how preposterous is this assumption. The primitive Trobriander furnishes us with such an instance, contradicting this fallacious theory. In the first place . . . work is not carried out on the principle of the least effort. On the contrary, much time and energy is spent on wholly unnecessary effort, that is, from a utilitarian point of view. . . . The most important point about this is, however, that all, or almost all the fruits of his work, and certainly any surplus which he can achieve by extra effort, goes not to the man himself, but to his relatives-in-law . . . it may be said that about three quarters of a man’s crops go partly as tribute to the chief, partly as his due to his sister’s (or mother’s) husband and family” [Malinowski 1922:60–61].

Here were cultures on both sides of the Pacific where the leading individuals, rather than “rationally” accumulating wealth, as any good *Homo economicus* would do, actually vied with one another to see who could give away the most. What is particularly interesting about Malinowski is that he appears to have taken to his fieldwork, as Douglas (1990:vii) explains, “the idea that commerce and gift are two separate kinds of activity, the first based on exact recompense, the second spontaneous, pure of ulterior motive.”

Although scholars such as Boas got the ball rolling, the one who elevated the concept of the gift and put it all together was Marcel Mauss (1872–1950), the quintessential *Homo anthropologicus* and one of the most influential anthropologists of the twentieth century. For Mauss, there was no such thing as a pure gift; the very

idea was a contradiction, nonsense. Building on earlier work with Henri Hubert on “sacrifice” (Hubert and Mauss 1964 [1899])—that is, a gift that compels a deity to give in return—Mauss’s *Essai sur le don. Forme et raison de l’échange dans les sociétés archaïques* (*The Gift*) (Mauss 1990 [1925]) went further by comparing the north-western American potlatch with the comprehensive competitive giving system of Melanesia, together with a variant in Polynesia. These systems derived their energy from individuals who faced discredit and disgrace from default and from beliefs that spirits would punish them. “The system would not be total if it did not include personal emotions and religion” (Douglas 1990:ix). As Mauss (1990:42 [1925]) put it, “The obligation to reciprocate worthily is imperative. One loses face for ever if one does not reciprocate, or if one does not carry out destruction of equivalent value. . . . The punishment for failure to reciprocate is slavery for debt.”

But this was only the starting point. Mauss also looked at functioning systems in other parts of the world where individuals vied with one another in generosity, including those of the Inuit (Mauss 1990:14–16 [1925]) and Australian Aborigines (Mauss 1990:76 [1925]). But beyond looking at living societies, Mauss (1990:47–64 [1925]) sought precedents (what he viewed as “survivals”) for his principles in ancient economies and ancient systems of law, including personal and real law in ancient Rome, the theory of the gift in classical Hindu law, the pledge and gift in Germanic law, and similar principles in Celtic and Chinese law. As Mauss (1990:75 [1925]) stated succinctly:

If some equivalent reason animates the Trobriand or American Indian chiefs, the Andaman clans, etc., or once motivated generous Hindus, and Germanic or Celtic nobles, as regards their gifts and expenditure, it is not the cold reasoning of the merchant, the banker, and the capitalist.

Mauss’s *The Gift* is a perfect example of a total social phenomenon, one that involves legal, economic, moral, religious, aesthetic, and other dimensions and that has had considerable influence in each of these areas in subsequent comparative analyses. For Mauss, gift exchange was related as much to individuals and groups as to the objects themselves. His analysis thus called into question social conventions and economic systems that had been taken for granted for generations. But *The Gift* did more, by introducing a realistic idea of individuals in a premarket social system, thereby breathing fresh life into the study of not only anthropology but also economics. As Douglas (1990:xiii–xiv) elaborates, Mauss also managed to incorporate individuals acting in their own interests, and in this he discovered a mechanism by which individual interests combine to make a social system without engaging in market exchange: “The gift cycle echoes Adam Smith’s invisible hand: gift complements market in so far as it operates where the latter is absent” (Douglas 1990:xiv).

A primary influence on Mauss was his uncle Emile Durkheim (1858–1917), with whom he founded *Année sociologique*. (They also coauthored *Primitive Classification*, Durkheim and Mauss 1963 [1903].) By employing positivist methods, Durkheim (cf.

1893, 1912) sought to establish sociology as a science. From this perspective, *The Gift* segued well into Durkheim's central project by producing a theory that could be validated by observation (see Douglas 1990:xii). Despite its scientific pretensions, the search for objectivity remains one of the great contributions of Durkheim and Mauss and a cornerstone for anthropology, sociology, and related disciplines.

The influence of Mauss was profound; his work provided the backbone for numerous seminal studies, from those of Edward Evans-Pritchard (1902–1973) and Claude Lévi-Strauss (1908–2009) (see Evans-Pritchard 1940, 1951; Lévi-Strauss 1949) to those of Douglas and Isherwood (1996 [1979]) and Graeber (2001). But perhaps the scholars who took up and ran with the challenge of *The Gift* the most were Christopher Gregory (1980, 1982, cf. 1998), Marilyn Strathern (especially 1984a, 1984b, 1988, 1992, 1997 [1991]), Nancy Munn (especially 1983, 1986), and Annette Weiner (1985, 1992). What all four scholars share in common is their focus on Melanesia. Gregory effectively showed that gift economies personify objects whereas commodity economies do not. In the former, objects given take on the qualities of the people involved; the latter establishes an equivalence of value between objects. These are two very different concepts.

Here, Marshall Sahlins's discussion of how value has worked in traditional ethnographic contexts is important. For example, in his discussion of whale teeth as the highest of Fijian valuables, Sahlins (1993:22–23) states:

In Radcliffe-Brown's terms, they were goods of supreme social value, with the power of constituting greater social relationships and totalities. Ritually presented in the appropriate way, as transactions of chiefs, they arranged wars, assassinations, and noble marriages, made and unmade political alliances, saved villages and kingdoms from extermination, supplicated benefits from the god. In respect of their capacity to create society and to give life and death, whale teeth were like the god . . . the more whale teeth in circulation, the more power in existence in the Fiji Islands.

Strathern's great contribution was elegantly simple: she threw women into the mix (Strathern 1988; see also Weiner 1992). By demonstrating how Eurocentric dualities of nature and culture, female and male, subject and object distorted rather than clarified interpretations of society in Melanesia, Strathern (1988) developed an original approach to gender as something fluid. She came up with the notion of "permeable and partible" persons and things, which developed into highly influential analytical concepts.

Munn (1986) added that value lies in action—more particularly in the manner in which people represent the importance of their actions to *themselves*. What comes to the fore, therefore, is fame—which we see as a form of intrinsic value. This idea is not limited to the island of Gawa, where she carried out her fieldwork. When Achilles, the quintessential Greek hero, is given the choice between a long and happy life lived in obscurity and immortal fame (*kleos aphthiton*) but death on the battlefield at Troy, he chooses the latter, and his fame remains to this day undying.

The best-known and most often cited concept that Weiner (1985, 1992) brought to the fore was that of “inalienable objects,” a term deriving from Mauss’s *immeuble*. For Mauss, the term “inalienable” applied to certain gifts that, even after being given away, were still felt in some sense to belong to the giver. Moreover, the significance of the gift cannot be alienated or disengaged from the relationships of those who own the object. As Weiner (1992:33) states: “What makes a possession inalienable is its exclusive and cumulative identity with a particular series of owners through time. Its history is authenticated by fictive or true genealogies, origin myths, sacred ancestors, and gods. In this way, inalienable possessions are transcendent treasures to be guarded against all the exigencies that might force their loss.” Weiner’s work, building on Mauss, provided the grounding and the terminology for conceiving of value as constructed over time in cumulative processes, such as the movement of objects from one individual to the next in a network of prestige.

The stage was thus set for a new type of value that did not rely on Western economics. This is not to say there were no Maussian detractors. One of the most influential was Pierre Bourdieu (1977:171–172; cf. 1997), who adopted something of a formalist stance by returning to gift exchange as more or less an act of generosity and by seeing all economies as based on self-interested calculation, always involving “rational” decisions. What Bourdieu did, however, was to articulate the notion of cultural capital—*le capital culturel*—which refers to nonfinancial assets, especially educational or intellectual assets that might promote social mobility beyond economic means. Bourdieu, together with Jean-Claude Passeron (1979:14 [1964]), argued that cultural habits and inherited dispositions were fundamentally important because culture shares many properties that are characteristic of economic capital. Consequently, cultural habits and dispositions were a resource that could not only generate profits but could also be monopolized by individuals and groups and could even be transmitted from one generation to the next (Bourdieu and Passeron 1979 [1964]; see also Lareau and Weininger 2003).

As influential as it was, Mauss’s attempt to apply his insights and, more specifically, the theory of the gift to the contemporary world of industrial society, as he sought to do in the final chapter of *Essai sur le don* (1990:65–83 [1925]), in the words of Douglas (1990:xv) was “very weak. . . . Taking the theory straight from its context in full-blown gift economies to a modern political issue was really jumping the gun.” We shall return to Mauss, but if we as archaeologists look for a moment beyond the people in any living social system to the object, then what Mauss (1990 [1925]) established—together with others such as Boas (1897) and Malinowski (1922)—was that certain objects circulated without necessarily being consumed. The essence of this idea continued in the work of later scholars, including Georges Bataille (1933; see also 1967; Stoekl 1997), who focused on objects that were intentionally destroyed, and others who pointed to a whole slew of items of value that did not circulate and were not consumed (cf. Owens 1999).

The circulation, deposition, and destruction of objects and the fact that they could function as active agents was a theme effectively explored by many scholars, among whom the work of Arjun Appadurai (1986b) and Alfred Gell (1998) stands out. Their contributions, together with those of Viviana Zelizer (1997), have proved highly influential to the understanding of value.

In a single essay, Appadurai (1986a) brought into being terms that have reverberated throughout anthropology and archaeology, not least in this volume: “the politics of value”; “regimes of value”; “tournaments of value.” In the opening paragraph of the essay, he writes:

Economic exchange creates value. Value is embodied in commodities that are exchanged. Focusing on the things that are exchanged, rather than simply on the forms or functions of exchange, makes it possible to argue that what creates the link between exchange and value is *politics*, construed broadly. This argument . . . justifies the conceit that commodities, like persons, have social lives [Appadurai 1986a:3].

By focusing on the use and circulation of objects in various contexts, Appadurai (1986a, 1986b), together with Kopytoff (1986) and others, highlights human transactions and motivations as key to understanding the meaning that humans attribute to things. For Appadurai, at the core of any given social context lie specific social and political mechanisms that structure and regulate taste, exchange, and desire, however complex these may be. By focusing on these socially regulated processes of circulation and by looking at “things” as leading social lives, it is possible to uncover various ways in which people find value in things and things give value to social relations (see Hoskins 1998). For archaeologists working with the material record, it is easy to see the lure of the social life of things. Despite detractors (e.g. Graeber 2001:30–33), Appadurai’s “politics of value,” together with his “regimes of value” and “tournaments of value,” remain useful ways of thinking about value and its forms of construction. These ideas deserve to be developed and tweaked, not dismissed outright.

In so many ways, Alfred Gell took the notion of the agency of objects to a higher theoretical level by positing a theory that departed radically from all previous interpretations of art, including Jean Baudrillard’s (1968) discussion of authenticity in the evaluation of art and even Walter Benjamin’s (1968 [1936]) discussion of art in the age of mechanical reproduction. By pointing to the shortcomings of aesthetic theories, Gell emphasized art as a form of action and the making of things as a means of influencing the thoughts and actions of others. For Gell (1998:3), aesthetic judgments “are only interior mental acts; art objects, on the other hand, are produced and circulated in the external physical and social world,” and this “production and circulation has to be sustained by certain social processes of an objective kind, which are connected to other social processes (exchange, politics, religion, kinship, etc.).” Gell also argued that it was doubtful whether every “culture” had a notion that was comparable to what we call aesthetics: “I think that the desire to see the art of other cultures aesthetically tells us more about our own ideology and its quasi-religious

reverence of art objects as aesthetic talismans, than it does about these other cultures” (Gell 1995; 1998:3). In his theory, art objects and people merge into one another: “Art objects . . . have to be considered as ‘persons’” (Gell 1998:9). Thus Gell cogently saw art objects as embodying complex intentionalities. Indeed, objects and art mediate social agency. Gell’s dense study, which explores psychology, philosophy, linguistics, and even religious practices, cannot be easily summarized, but he came close to the gist of his argument in the following statement:

The art object is whatever is inserted into the “slot” provided for art objects in the system of terms and relations envisaged in the theory. . . . Nothing is decidable in advance about the nature of this object, because the theory is premised on the idea that the nature of the art object is a function of the social-relational matrix in which it is embedded. It has no “intrinsic” nature [here we may well add “value”], independent of the relational context [Gell 1998:7].

Gell’s work adds all sorts of significant elements onto that of Appadurai and has the potential to contribute to the study of material culture in innovative ways, beyond the discussions of agency in archaeology (well summarized in Trigger 2006:468–470 [with references]; cf. Dobres and Robb 2000).

Although often overlooked by anthropologists studying value, the contribution of Viviana Zelizer (1997) is singular inasmuch as it shows that, in the very heart of the modern industrial Western world, there is much more to the meaning of money—and indeed commodities—than economic theory can ever uncover or even imply. In her lucid study, Zelizer questions, if not overturns, beliefs in the power of money to corrupt, standardize, and depersonalize social networks and ties. By looking at pin money, paychecks, poor relief, and other currencies, she turns on its head the “powerful ideology of our time that money is a single, interchangeable, absolutely impersonal instrument—the very essence of our rationalizing modern civilization” (Zelizer 1997:1). She effectively shows how people have invented their own forms of currency in ways that baffle market theorists, incorporating funds into webs of friendship and familial relations and otherwise varying the process by which spending and saving take place. As Zelizer states in her opening paragraph:

Money multiplies. Despite the commonsense idea that “a dollar is a dollar is a dollar,” everywhere we look people are constantly creating different kinds of money. This book explains the remarkably various ways in which people identify, classify, organize, use, segregate, manufacture, design, store, and even decorate monies as they cope with their multiple social relations.

The recent work of another scholar is important to note here. In his *The Sense of Dissonance: Accounts of Worth in Economic Life* (2009), David Stark’s starting point is in trying to understand how industrial organization differed in capitalist and socialist economies (Stark 2009:xi). His initial target is the “peasant-workers” of socialist eastern Europe because their workdays spanned the world of socialist industry and privately held agricultural plots—with entrepreneurship at the overlap (Stark

2009:13). From this base, Stark's comparative sociology embarks on a heady ethnography, beginning with a machine tool company in late and postcommunist Hungary (Stark 2009:35–80) and moving on to a new media start-up in New York during and after the collapse of the Internet bubble (Stark 2009:81–117) and to a Wall Street investment bank whose trading room—together with many of its employees—was destroyed on 9/11 (Stark 2009:118–162). Following in the footsteps of Bruno Latour (e.g. 1987; Latour and Woolgar 1979), Stark (2009:163–203) moves from “field research” to “the field of research.” Stark brings to the fore “the dichotomy of value and values and the perennial ‘structure versus agency’” (Stark 2009:13–14). He argues that in many cases, multiple orders of worth are unavoidable and that there is much to be gained in harnessing the benefits of such “heterarchy.”

We have already referred in passing to Graeber's *Toward an Anthropological Theory of Value: The False Coin of Our Own Dreams*, and his influence is clearly manifest: his name appears in many essays in this volume. Graeber's is certainly the most recent and most sustained attempt at offering a broadly synthetic theory of value, and his provocative study will remain standard reading for years to come. But how successful is Graeber's theory of value? More to the point, how usable is it, especially for those, such as archaeologists, who cannot directly observe living social systems? Although this is not the place to review Graeber's study, it is important to look at the underpinnings of his theory of value. Graeber begins with three large streams of thought that converge in the word “value”:

1. “values” in the sociological sense: conceptions of what is ultimately good, proper, or desirable in human life
2. “value” in the economic sense: the degree to which objects are desired, particularly as measured by how much others are willing to give up to get them
3. “value” in the linguistic sense, which goes back to the structural linguistics of Ferdinand de Saussure (1966 [1907–1911]), and might be most simply glossed as “meaningful difference” [Graeber 2001:1–2].

Desire is key to Graeber's first two streams. He then launches into a discussion of “values” as opposed to “value.” As Graeber (2001:2) notes, anthropologists rarely make an effort to define values, let alone to make analysis of values part of anthropological theory, even though they often speak of them. For Graeber (2001:2), the “one great exception was during the late 1940s and early '50s, when Clyde Kluckhohn and a team of allied scholars at Harvard embarked on a major effort to place the issue of values at the center of anthropology. Kluckhohn's project, in fact, was to redefine anthropology itself as the comparative study of values” (see Kluckhohn 1951a, 1951b, 1956, 1961). The central issues in Kluckhohn's (1951b:395) definition of values are “conceptions of the desirable” and that these play some role in influencing people's choices between different courses of action (Graeber 2001:3). The intellectual trajectory of Kluckhohn's project, and the fact that it had no real successors, is well mapped out by Graeber (2001:2–5), who

concludes: “For all its sterility in practice, there is something appealing about Kluckhohn’s key idea: that what makes cultures different is not simply what they believe the world to [be] like, but what they feel one can justifiably demand from it. That anthropology . . . should be a comparative study of practical philosophies of life” (Graeber 2001:5).

For both Kluckhohn and Graeber, the crucial term is “desire,” or rather “desirable.” But in many ways, the term itself is a charged one, which many scholars use but few, including Graeber, clarify. As Michel Foucault (1990) has shown, although desire has been a preoccupation of modern discourse, it is not always clear what a discourse on desire might be (Butler 1995:369). As Judith Butler puts it, “If we consider the discourse on desire since Plato, it seems that language is bound up with desire in such a way that no exposition of desire can escape becoming implicated in that which it seeks to clarify” (Butler 1995:369).

What Graeber does provide is a solid overview of various economic, sociological, and anthropological theories of value that have made their way into the literature, from the influential (Mauss) to the obscure (Kluckhohn). His treatment of earlier work is not always evenhanded, however. Thus the work of Simmel, Polanyi, and Appadurai, to name only a few, is summarily dispatched to the waste bin of ideas that went nowhere. For Graeber there is no shortage of intellectual dead ends. On structuralism, he writes (Graeber 2001:16), “The results are by now more or less in . . . the consensus is that its greatest weak point is evaluation.”⁵

To move beyond this morass, Graeber synthesizes by picking and choosing insights from two intellectual giants—who may at first seem strange bedfellows—Marx and Mauss. Graeber (2001:152) explains: “In many ways I think his [Mauss’s] work and Marx’s form a perfect complement. Marx was a socialist with an ongoing interest in anthropology; Mauss, an anthropologist who, throughout his life, remained an active participant in socialist politics.” Thus Graeber not only presents his own idiosyncratic, highly personal vision of the possible shape a theory of value might take, but he highlights the relationship of anthropology as a discipline—his particular brand of anthropology—to social activism. But what follows—namely, his discussion of wampum beads and the Iroquois (Graeber 2001:117–149), as well as his revisiting of Mauss and the gift in the Pacific (Graeber 2001:151–228)—does not take us particularly far; nor does it ultimately clarify much concerning the broader concept of value. In fact, we return to a remarkably familiar place. On the one hand is the Western world and the power of market theory, the world of *Homo economicus*. On the other is the vanishing world of the potlatch and its cognates, the world of *Homo anthropologicus*. They may well represent the “two sides of the same false coin” (Graeber 2001:257), but they appear more like two parallel monoliths quite distinct from one another. Although Graeber (2001:259–261) points to a possible alternative theory of value, albeit a very elusive one, we move from desire to pleasure, while all along the form of the alternative remains just that: elusive.

We wish to move beyond Graeber’s “two sides of the same false coin,” for value is a culturally assigned attribute, suffused with paradox. To paraphrase from Stephen Houston’s abstract submitted for our conference, which he was unable to complete as a paper due to circumstances beyond his control, value can be absolute or fluid; sometimes intrinsic, sometimes negotiable; subject to quantitative formulas yet disobedient to them. The paradox, in part, results from the complexities and vicissitudes of positive and negative valuation. Positive value centers on elements that induce contentment when present, discontent when absent. Negative value displeases and repels. Defined by contrast, positive and negative exist in relation to each other and arise from an ongoing transaction, conditioned by setting, that relates the abstract to the particular and back again. What they do not do, at least not necessarily, is hinge on whether an element is plentiful or scarce, possessed or dispossessed, quantifiable or unnumbered, although these very properties loom large in many cases. For archaeologists, relational systems of value prompt a consideration of the judgments by which people assign value, whether negative or positive, to that which is seen, felt, smelled, tasted, or heard—that is, to various ways that what is deemed valuable and desirable is constituted in material form. The emphasis on sensory input is only part of the story, however. Intangible properties or essences known to be present may also affect value. In all this, context is critical.

In the sketch summaries of both economic and anthropological theories of value presented above, there is a broad array of perspectives—a veritable arsenal—from which the past may be approached. In so many ways, the study of the past, particularly the archaeological past, can contribute to the discussion of value in significant ways precisely because of the importance archaeologists place on context. *All* our material—not just art objects—is a function of the social-relational matrix in which it is embedded, as Gell (1998:7) so nicely puts it.

FOUR WAYS OF THINKING ABOUT VALUE

The structure of this volume is organized around four overarching but closely interrelated themes: place value, body value, object value, and number value. We have never conceived of the four themes as immutable categories; rather they were chosen to serve as a focus for discussion and as a structure for exploring a variety of interrelated subject matter, particularly given the breadth of time and space this volume subsumes. As we have stressed, the categories are neither monolithic nor static; rather they are dynamic and intimately interrelated. At a very basic level, valuable objects or commodities are circulated by people, whether commercially exchanged in a market economy or as part of gifting in a nonmarket context, and are often deposited—or even destroyed—with the dead. Moreover, the dead are not consigned to empty, meaningless spaces; instead they are laid to rest in particular, usually highly sacralized places. As John Chapman (this volume; cf. Chapman 2000a)

reminds us, the four common resources used to build an ontological model are the persons, objects, and landscapes enchaind to the place in question, as well as the history of the place itself as contained in cultural memory. Running through each of the categories of value into which the contributions in this volume are organized are issues of identity, biography, memory, and nostalgia. These qualities become entangled in complicated ways with ideology, style, symbolism, and exchange.

In what follows, we provide overviews of the central issues, problems, and empirical data discussed in the various contributions in each thematic section. It is our hope that these overviews will not only provide the reader with a clear sense of the contents of the volume but will also aid in charting a desired path through this collection of articles.

Place Value

.....

As Susan Alcock (this volume) forcefully states in her opening paragraph, there is nowhere that cannot be “place” to someone. Here it is important to distinguish between two related but different terms: “space” and “place.” In his seminal articulation of “space” and “place,” Yi-Fu Tuan (1977:3) notes that these “are familiar words denoting common experiences. We live in space. There is no space for another building on the lot. The Great Plains look spacious. Place is security, space is freedom: we are attached to the one and long for the other.” For Tuan (1977:7), the key term is “experience”—not only the nature of the experience but the experiential perspective of space and place. “Human beings, like other animals, feel at home on earth” (Tuan 1977:199). Tuan argues that places are defined in contrast to spaces that separate them and that place and space are inextricably linked to movement. As Tuan (1977:6) further notes, “What begins as undifferentiated space becomes place as we get to know it better and endow it with *value* . . . if we think of space as that which allows movement, then place is pause” [emphasis ours].

In anthropology, the concept of place, together with the related notion of landscape, has long had something of a submerged presence. This long-standing interest may be related to the heightened consciousness of an individual’s experience of different places—home and elsewhere—which is most poignantly felt in the anthropologist’s fieldwork in some “other” place. Such an awareness of place served on the one hand as a framing device, informing the way anthropologists bring their study into “view.” On the other hand, it served as the meaning that local people impute to their cultural and physical surroundings (see Hirsch and O’Hanlon 1995; cf. Bender 1993). In a similar vein, many archaeologists treat places as passive, inert backdrops, against which social and political ideologies are staged. As Steven Kosiba (this volume) brings to the fore, the objects that circulate through places, together with the discourses that circulate about them, invest places with accumulative social value. In chapter 4, Kosiba argues that the political construction of value occurs *through* and not *over* place. That is, places, like objects and people,

are active agents. By focusing on Cuzco, Peru, the capital city and sacred center of the Inka Empire, Kosiba demonstrates how a general regime of value—borrowing the term from Appadurai (1986a)—is constituted at specific places by highly localized collective practices of destruction, commemoration, and conversion. As Kosiba stresses, instead of defining value as a quantifiable “category,” it is more useful to examine “valuation” as an ongoing and situated process of categorization through which people, places, and things are defined and objectified (with reference to Ollman 1976).

There are various ways that place can be valued. At its most basic level, at various times and in specific cultural contexts, place (as in land or real estate) can be expressed in terms of equivalency for weights or other measures of grain (e.g., Papadopoulos, this volume). In such contexts, place can be a perfectly fungible commodity. Other perspectives look to the creation of value through the inhabitation of a place (Ingold 1993; see also Urton, this volume).

In chapter 2, Chapman tackles the question of how places are valued. His starting point is all encompassing in that everything that we do takes place somewhere. For Chapman (this volume) “place value may be defined as the combined significance of available affordances, both physical and symbolic.” Chapman combines two forms of value first brought to the fore by eighteenth- and nineteenth-century economists: use value—that is, the “affordances” given by a place to a specific project, whether hunting-gathering, agriculture, or settled habitation—and labor value, or the amount of labor invested in actualizing projects carried out in a place. For Chapman, place value is a generic form of symbolic value, summarizing the significance of people, buildings, and objects associated with any given place. An attack on place is therefore an assault on all aspects of place identity. Chapman points to the fact that the construction of place value, which rests on the ontological character of sites, monuments, and their landscapes, is the endless “(re)negotiated” result of disputes between different interest groups—the proverbial stakeholders—particularly the powerful and the weak, insiders and outsiders. Chapman’s cultural examples come from the Balkan Mesolithic, Neolithic, and Chalcolithic, including the emergence of tells (*toumbes* or *magoules*)—settlement mounds—and the abandonment of flat sites. He also looks at the reuse of Minoan monumental sites in the Cretan Early Iron Age, as well as the different place myths found among forager and farmer groups in the Iron Gates Gorge of the Danube. This discussion has important ramifications for the broader debate over a pacified or a warlike prehistory for place value. Chapman follows Rob Shields’s (1991) model for the emergence of place identity, which is closely related to the way place value is created. Chapman envisions an inhabitation of place that is dynamic and gendered, a suite of past social practices incorporating both peaceful interactions and violent opposition. Chapman’s paper builds on an earlier contribution (Chapman 1998b) that attempts to relate the concepts of objectification and valuation by means of a consideration of places as objectified and embodied spaces. Thus Chapman (1998b:106–107)

locates the study of place value within Bourdieu's framework and particularly the concept of *habitus*.

Spiraling back to an even more distant past, Christopher Scarre, in chapter 1, notes that European hunter-gatherer societies appear to have built very few visible monuments. In contrast, early farmers, in building their monuments, may have drawn upon landscape beliefs of considerable antiquity. (Such an articulation between preexisting and later agendas is found in many other parts of the world, including the Andes [Kosiba, this volume].) Consequently, the construction of megalithic monuments reconfigured an existing pattern of landscape beliefs, thereby appropriating the power of established place to create new places. Scarre draws on influential work on the phenomenology of landscape developed by Christopher Tilley (1994), whereby landscapes are conceptualized not from a universalizing map-based perspective but rather as a network of paths and places, interpreted as they would have been experienced by embodied individuals. As Scarre notes, specific locales became repositories of wisdom by means of the traditional stories with which they are associated. Such significant places in the prehistoric world of western Europe were marked on the landscape in permanent form through carvings on rock and through the creation of funerary monuments of earth, timber, and stone. The places thus chosen may have been significant in and of themselves—in a kind of instantiation of intrinsic value—but they also referenced significant other places through their incorporation of materials, sometimes brought from a distance. Consequently, Scarre turns to the nature of the premegalithic landscapes in which early monuments were built and from which they obtained their materials to understand the relationship between monuments and significant places. In this western European context, a key question concerns how values and the significance of places may have changed with the adoption of agriculture.

Both Scarre and Chapman point to the reality of “archaeological sites” already in prehistoric landscapes. The way these sites were perceived and whether or not they were preserved (cf. Alcock, this volume) or intentionally destroyed is not only part of the archaeological record but points to the importance of (pre)historical and cultural heritage. The importance of sites is well outlined in Alois Riegl's (1982 [1903]) discourse on monuments and their value(s),⁶ and this discussion is taken further in chapter 3 by Sue Alcock, who raises an important issue: that one very basic measure of place value is the decision to *preserve* places, whether from accidental damage, natural weathering, or the endless passage of time, as well as the decision by hostile forces to spare a place while choosing to destroy others. Echoing Riegl, Alcock focuses on the priorities established not only by place selection but by place preservation. By exploring the phenomenon of “sparing” places (in particular cultic and commemorative sites), mainly in the context of the Roman imperial expansion (200 B.C.–A.D. 200), Alcock adds more nuanced explanations to acts of preservation, not least by considering the intersecting, potentially competing values at work in each case. The decision not to destroy a place, whether an

entire settlement or a particular monument, has traditionally been assigned to the desires and sentiments of the conquering and annexing power. Yet local investment in and esteem for certain places inevitably shaped those desires and sentiments in ways that sometimes saved places and sometimes doomed them. Alcock poses an important question: How does the decision to spare a place reflect its value and, perhaps more importantly, affect its value? As Alcock (this volume) notes: “If you want to undercut the institutions and values represented by a nation or a city, don’t just defeat it. Punish it, mark it, wound it—all time-honored strategies, as any readings in the sorry litany of imperial systems, from China to Peru, will make clear.” For Alcock, sparing is itself a form of violence, perhaps best characterized as soft violence, but violence nevertheless. Alcock’s comments on the decision to destroy (or not) certain places reflect in interesting ways on Kosiba’s (this volume) detailed discussion of archaeological evidence pointing to the destruction and rebuilding of an outlier site near Cuzco, as the latter began its program of imperial expansion.

Imperial strategies are at the core of chapter 5, in which Charles Stanish addresses the concept of managing ideological power in imperial systems. By focusing on the construction of solstice observation places in the Inka Empire of the central Andes, Stanish uncovers a process by which the Inka valued and revalued physical space and place. As a means of reordering the ideological landscape, the Inka revalued physical places. Stanish borrows from semiotic anthropology, arguing that the concept of Peircean replication—first introduced into archaeological interpretation by Lawrence Coben (2006)—can lead to a better understanding of the transformation of place in the Inka Empire as a manifestation of an ideological ideal created among Inka intellectuals as part of an expansion strategy (see further Kosiba, this volume). Following Coben, Stanish posits that in their construction of new provincial capitals, the Inka reordered their worldview not by creating new Cuzcos but by establishing in architecture cultural ideals that embodied Inka concepts of proper political structures and social organization. Stanish applies this concept to Inka construction at the site of the Island of the Sun in Lake Titicaca, birthplace of the sun in Inka cosmology, where the complexities of social status, political tactics, religion, and imperial realities were played out in the context of elaborate ceremonies focused on place.

Body Value

.....

In so many ways, body value and object value merge into one inseparable entity. When gazing upon the remarkable display of sheer material wealth in the shaft graves of Bronze Age Mycenae (Voutsaki, this volume), like those of elite tombs in ancient Egypt (Cooney, this volume) or the Moche of Peru (Donnan, this volume), it is unclear where body value stops and object value begins. Part of this fusion of the two lies in the fact that in many cultures, what may be termed personhood is intimately linked with the display and use of valuable objects and commodities

(whatever those objects and commodities may be), particularly as they are displayed in burials. But part of the fusion is very much entwined with the broader issue of circulation and deposition of such objects and commodities, to which we shall return under object value.

In the humanities and social sciences, interest in the human body as a category, even as “material culture,” has come into its own (Hamilakis et al. 2002b [with references]; Meskell 1996; see also the important contribution by Mauss 1979 [1935]). An important aspect of this interest is that representations of the body create and define social ideologies relating to gender and agency; the body “has moved from being a universal and biological basis of subsequent experience, to being itself a culturally variable entity, demanding philosophical and critical attention” (Hamilakis et al. 2002a:4).

Various types of body adornment (Cooney, DeLeonardis, Donnan, this volume; cf. Camphausen 1997; DeMello 2007; Joyce 2000; Pitts-Taylor 2003), including tattooing (Gell 1993; Rainbird 2002), scarification (Clajot 2008), and piercing (Camphausen 1997), together with body modification (Pitts-Taylor 2003) such as skull deformation (DeLeonardis, this volume), foot binding (Levy 1966; Wang 2002), even tooth evulsion (Robb 1997), make living bodies, whether individually or collectively, not just vehicles for identity and expression but sites for the construction and enhancement of value. Moreover, in various languages the concepts of body and worth are closely interrelated (e.g., Bazelmans 2002:78–81).

As archaeologists, we can rarely observe in any direct manner forms of decoration of the body, such as tattooing, scarification, or hairstyles, though these are often clearly represented in iconography or burial remains. Notable exceptions include remarkable discoveries, such as Ötzi the Iceman, found in 1991 in the Schnalstal Glacier in the Ötztal Alps near Hauslabjoch, with approximately 57 carbon tattoos on his lower spine, behind his left knee, and on his right ankle (Fowler 2000); the bog bodies of northwestern Europe (e.g., Bahn 1997; Turner and Scaife 1995); and the mummies of Ürümchi (Barber 1999), ancient Egypt (Cooney, this volume) and Peru (DeLeonardis, this volume; Donnan, this volume). Therefore, the fusion of body value and object value is in part the result of the material record and our heavy reliance on the evidence of tombs.

Body value, however, is not solely defined by associated objects and commodities, for in many societies the body itself is an object of desire, something that can be possessed and owned, something with a fungible value—an exchange value—all its own. In certain times and places, the exchange and use of human slaves was every bit as real as the exchange and use of gold, jade, silver, feathers, shells, or whatever else was valued. But the commodification of the body is not limited to its fungibility. As Yannis Hamilakis et al. (2002a:11) note:

We have to be aware of the ways in which bodies may be considered as “material culture.” People’s living bodies may be commodified and objectified as labor, material or art, or for sexual pleasure. Whole or partial bodies may have meanings which are more artefactual

than individual; they may be fetishized, whether as preserved bodies in museums (Turner and Scaife 1995), as saints' relics [Geary 1986], or otherwise conserved and displayed (Rosaldo 1980). Bodily products and parts may be segregated, tabooed, used in magic, exchanged, consumed and even applied as beauty treatments (Bahn 1984, Loudon 1977, Scheper-Hughes 2000).

Just as body value and object value merge into one another, body value and place value are also inextricably connected. Places, particularly places of commemoration and death, can be "inalienable" in the sense that in many societies they become foci of special significance as the physical and spiritual attributes of the living pass into "intensely localized and personified places and landscapes as bodily powers are diffused and reconstituted" (Hamilakis et al. 2002a:11; cf. Chapman 2000a, 2000b). In his study of Oceanic art, Paul Rainbird (2002) notes that history was being physically marked on both living bodies and the land, in terms of tattoos on the former, petroglyphs on the latter. What is important is that in this particular case, as in many other prehistoric societies (cf. Scarre, this volume), the land had once been conceived of in bodily form in local mythology. As Rainbird (2002:244) elaborates, "Now petrified and potentially dangerous, both male and female ancestors are identified in the landscape, and parts of them have been adorned with images." Tattoos on bodies are here compared to rock engravings on the landscape.

Body value may also, in certain contexts, be closely linked with measurement and thus number value. One of the most basic forms of measurement beyond standard weights involves the articulation of units of measure, especially in architecture, based on body parts. A good case in point is a metrological relief from Salamis of the Greek Classical period, which depicts various body parts as standard units of length, in much the same way as an inch equals a thumb, a foot a foot, and so on in the imperial British standard, and is conceptually close to Leonardo da Vinci's adaptation of Vitruvian Man (Wilson Jones 2000).

Of the six papers assembled under body value in this volume, it may be useful to begin with that by Leslie Kurke, chapter 10, in which she examines the value of chorality in ancient Greece. The importance of this paper lies in the simple fact that it deals with philological evidence, the literary texts of Classical Greece. Kurke considers Greek *choreia*—choral song and dance—as a particular domain of body value. As evidence for special, transcendent choral value in Greek antiquity, Kurke cites three important pieces of evidence. First of all, she points to the analogy between a human chorus offered to a god and a sacrificial animal or dedicatory offering, as evidenced in inscriptions and literary texts (cf. Laum 1924; Svenbro 1984). Secondly, there is the assimilation of a perfectly ordered and synchronized chorus to a top-ranked precious object or a set of moving statues (*agalmata* or *daidala* in Greek), which are the products of divine or uncanny crafting. Finally, there is the assimilation of individual dancers to such highly valued materials as gold and silver and the assimilation of choral aesthetics to such highly valued qualities as translucence, scarcity, durability, age, shine, scintillation, and twinkle. In considering this

evidence, Kurke thinks of choral dance in Archaic and Classical Greece as a means of fusing or merging body value, object value, and place value and perhaps also as a privileged site for the beginnings of a model of art value. As Kurke elaborates, the Greeks themselves seem to have understood choral song and dance as an activity or process that conferred high sacral value and thereby forged social bonds or constituted society itself. Following Graeber's notion of the construction of value through action, Kurke sees the Greek *choreia* as an activity or process that conferred high sacral value, thereby forging social bonds. As Kurke (this volume) states: "the potent effects of *choreia* derive from a single source: the heightened aesthetic value or superlative beauty it conferred on bodies, whose impact on the audience the Greeks conceived as a heady fusion of *eros* (desire) and *thauma* (wonder). Indeed, to capture the aesthetic impact of *choreia*, Greek texts resort to a remarkable synesthetic fusion of the highest forms of body value and object value in descriptions of dance and its reception."

Although the Moche civilization that flourished on the north coast of Peru between about A.D. 100 and 800 had no writing system, the Moche left a vivid iconographic record of their beliefs and activities in metal objects, textiles, wall murals, and modeled and painted ceramic vessels. Moche art frequently portrays high-status individuals dressed in elaborate clothing and ornaments, with recent excavations providing actual examples of such objects—made of gold, silver, shell, and semiprecious stone—worn by the elite, who are understood to be costumed as certain commonly depicted deities (Alva and Donnan 1993; Donnan 2007). In chapter 8, Christopher Donnan enumerates nine forms of value represented in Moche ornamentation and ensemble construction, namely: precious materials, extraordinary craftsmanship, color, shining surfaces, shimmering light, a link to nature, sound, animation, and enhanced surfaces. What is particularly remarkable about these nine forms of value is that in the Moche material record, many of them mirror what is known about the Greek *choreia* in written form. The extraordinary overlap between Kurke's philological analysis and Donnan's study of the archaeological record shows how important certain elements—not least animation, sound, color, shiny surfaces, and translucence—are in constructions of value in societies quite far apart in time and place.

In chapter 9, Lisa DeLeonardis looks at how body value is understood and represented in the ancient Andean world through the analysis of two culturally linked societies that inhabited south coastal Peru in sequence, beginning in the first millennium B.C.: the Paracas and the Nasca. As DeLeonardis states: "The valued body, as understood by the Paracas, was a living organism that was modified and embellished, shaped and attired, and referenced in works of art. . . . Its parts were valued and made whole through surrogates and substitutes. It was the medium in which identity and personhood were shaped and expressed and was the carrier of a cultural-visual aesthetic." Both societies purposefully intervened in the appearance of the corporeal body through cranial deformation, ornamentation,

and attire, signaling a cultural concern for the identity of the living, visible body. The mummified, disembodied heads that both societies created, displayed, and carefully interred acknowledge the partial body—particularly the head—as a valued source of life essence. Burial processes and practices attest to the intentional effort devoted to body preservation at death. As DeLeonardis explains, the enveloped body, itself the object of veneration; the surrogate body or head; and the partial body all receive due attention in formal burial grounds. Yet cemeteries may be considered less “resting places” than active social arenas where the living and the dead interacted (cf. Chapman 2000b). DeLeonardis uncovers the complex role of Paracas and Nasca cemeteries, where tombs were revisited, mummy bundles reembellished, bodies stolen or destroyed, and space appropriated by others. Here, too, place value enters the discussion, since dedicatory burials indicate movement beyond the group setting, where bodies became portable, commemorative markers of sacred space or territorial claims.

Mummification is at the core of Kathlyn Cooney’s essay, as it is for much of Egyptian history (Cooney 2007). Her focus is on funerary arts from Thebes during the Egyptian Twentieth and Twenty-first dynasties (1190–945 B.C.). As Cooney explains, the Twenty-first Dynasty Egyptian mummy provides a useful case study of changing funerary values among Theban elites. Such mummies are particularly illustrative of a new kind of body value—that within elite social contexts—in which an idealized preserved human body was objectified, commodified, and ultimately transformed into a viable, unique, and defensive container for the soul. When necessary, mummified bodies could replace the coffin in case of theft or damage. The economic value of a Twenty-first Dynasty mummy was most likely high, but the embalmed corpse also held meaningful religious value, as well as the social value of prestigious display. In the troubled period of social unrest in the Mediterranean Late Bronze Age, Theban funerary preparations were challenged with limited burial space, increasingly scarce material resources, tomb robbery, and tomb reuse. Consequently, surviving funerary materials reflect a variety of defensive innovations while at the same time preserving the ability of elite families to shore up social power by means of funerary displays. Despite these constraints, funerary strategies still followed accepted norms, but the mummy itself provides the best evidence for defensive burial adaptations.

As Cooney elaborates, embalming techniques reached an apex in the early Third Intermediate Period; the mummy became the only part of the Egyptian burial that could not be reused by someone else and returned to the sphere of the commodity. Indeed, for the bulk of Egyptian history, the main focus of economic and material funerary investment was *not* the human body but the more visible and displayable funerary arts. The increased investments in mummification probably provided psychological security for Theban elites, with the heightened intent of perfectly preserving the flesh and bone of the deceased for eternity. Following Graeber (2001:76), Cooney notes that the mummy can be understood as the

result of a variety of human actions in pursuit of value—social, religious, and economic—which are displayed in a ritualized but at the same time competitive arena of comparative prestige.

The merging of body value and object value is perhaps nowhere more stark than in Sofia Voutsaki's chapter 7, which focuses on the burials of grave circle B at Mycenae. Her starting point is Marcel Mauss's famous dictum, "To give something is to give part of oneself. To give away is to give part of one's nature and substance, to receive something is to receive a part of someone's spiritual essence." Building on her earlier research (Voutsaki 1997), in which she argued that the conspicuous consumption of objects establishes a different relation between persons and things, Voutsaki, following in the footsteps of Weiner (1992), argues that consumption allows one to absorb and appropriate transitory gifts with all their associations of distant places, famous previous owners, and exotic value systems. In her current contribution, she elaborates this point further by discussing the (re)definition of personhood in mortuary ritual by examining the use of valuable objects in bodily practices, such as body modification, adornment, grooming, arraying, disarticulating, and so on.

While conspicuous consumption at death is often discussed as a purely social strategy of display and aggrandizement, or at best as symbolic exchange with the ancestors, Voutsaki argues that it has a much deeper cultural significance—that it is an attempt to contain the drift of meaning and value and to counteract the disintegration of personal identities during the very process that dissolves and transforms persons into ancestors. Voutsaki distinguishes between total destruction of objects and commodities, on the one hand, and deposition of goods in graves, on the other. She also distinguishes between subject and object. For her, objects are valued by being positioned and ordered around the body, while facets of personal identity are constructed through the selection, combination, or omission of funerary offerings. Voutsaki's argument is that the creation of value should not be discussed only in connection with status but with other aspects of personhood, especially age and gender. By exploring the meaning and not only the social function of mortuary practices, Voutsaki argues that value is created from within a set of cultural values by means of ritual performance.

Building on his seminal contribution on sacred commodities and the circulation of medieval relics in Appadurai's *The Social Life of Things* (Appadurai 1986b), Geary presents, in chapter 11, a brief "state of the question" concerning practices involving saints' bodies and corporeal relics in the West in late antiquity and the early Middle Ages. Such relics, as Geary effectively shows, were some of the most valued commodities of the time, circulating by means of three processes: gift, sale, and theft. Moreover, the transfer of a relic broke the cultural context that provided the relic with its identity and value, and the details of this very transfer became a prime occasion to reconstruct its value. Relics, whether portions of human bodies or bits of cloth, wood, or other material that had come into contact with these bodies, are

a category of high-value and high-prestige objects. One might insist that relics are examples of object value, but their value lies precisely in the fact that they are parts of bodies. Without the body there would be no value. The whole issue is put into high relief with a description of the funeral of Ayatollah Ruholla Khomeini in Iran in June 1989, at which time a crowd of millions surged the coffin, desperate to touch the corpse or to take a scrap of the Ayatollah's shroud. Geary's focus is on explicit claims and statements concerning the significance of saints' bodies in specific cult sites, as well as their implicit value as demonstrated by pilgrim itineraries, efforts to obtain relics from various sources—with or without formal permission—and efforts to control their dismemberment and distribution. Geary emphasizes the tension between saints' bodies as objects and saints' bodies as living persons and their roles in gift exchange mechanisms, commodity exchange, political networks, and competition for prestige.

Object Value

.....

In the history of the term “value,” one of its most central meanings or senses is the extent to which something, anything, is “held in esteem.” But value is often conceived as something residing or embodied in *objects*: “some essential quality or inherent property of a thing . . . that is independent not only of what amount of money (or anything else) it might fetch in some market but also independent of its performing any functions, or giving satisfaction to anyone, or being esteemed (or, in effect, ‘valued’ or found valuable) in any of these or other ways by anyone” (Smith 1995:179). Although common, this sense of value as *intrinsic* value remains problematic, as we have seen, precisely because there is no absolute value that is separate from cultural context.

For archaeologists, objects, or more correctly artifacts, have added significance as they represent the very stuff of the material record. As Renfrew (2003:208) has enumerated, there are various ways or standpoints by which artifacts have been studied, many of them ultimately deriving from Mauss's work on the gift. Quite apart from the “life histories” of artifacts (Appadurai 1986b), some scholars have focused on the use of artifacts as social instruments (Douglas and Isherwood 1996 [1979]) and as symbolic instruments (Lubar and Kingery 1993; Robb 1999). Some have considered their place in the construction of categories (Miller 1985), others have discussed interactions between social and technological aspects (Dobres and Hoffman 1999; Lemonnier 1993), and still others have considered their role in communication from a semiotic perspective (Schiffer 1999). Such notions of the active, constitutive force of objects in social and ideological constructions often appear under the rubric “materiality,” a perspective that emphasizes the agency of objects in constructions of meaning and—directly to the point here—value (see Gell 1998; Gosden 2005; Keane 2003).

The nine essays assembled in this volume under object value range from the Archaic, Classical, and Byzantine Mediterranean (Papadopoulos, Porter, Kalavrezou) to China (Flad), the Andes (Burger, Bray, Cummins), and Mesoamerica (Lesure). They begin with chapter 12, in which Colin Renfrew discusses systems of value among material things, laying heavy emphasis on the nexus of fungibility and measure. Renfrew focuses on the problematic term “intrinsic value,” eliding it with Appadurai’s term “prime value.” For Renfrew, the central issue is value; in contrast, *values* are quite apart, and he lays blame for the confusion he sees between value and values squarely at Graeber’s (2001) doorstep: “The word ‘value’ rapidly becomes meaningless when used in a thousand different ways to mask an illusory fungibility that is primarily the product of the rise of Western capitalism” (Renfrew, this volume).

For Renfrew, fungibility and exchange are critical elements in what we term object value. In adopting this position, Renfrew returns to a very economic mode of analysis. His argument is straightforward: a system of value among material things—that is, valuables and commodities—developed in eastern Europe and western Asia from the fifth millennium B.C. In contrast, places and bodies have nothing to do with the construction of value in this perspective. It is, rather, objects that came to play a unique role in world history, becoming active agents of distribution for technologies that have achieved the true globalization of communications and economies. These developments involved a critical nexus of exchange relationships relying upon both fungibility and mensuration. Out of this system, in the first millennium B.C., emerged coinage, a form of money that permitted a new degree of refinement in the expression of measurement of value and indeed in the development of a concept of monetary value.

For Renfrew (this volume; cf. Renfrew 2003:142) the story begins around 4500 B.C. in Bulgaria, at the Copper Age cemetery at Varna, where he traces the earliest evidence in the world for the energetic and systematic use of gold. In a series of graves, we see special objects of flint, shell, copper, and gold being used to enhance and reflect the prestige of those buried; the position and nature of the gold artifacts indicate that they were highly valued. Renfrew notes that similar arguments can be developed for the occurrence of gold in the treasures at Troy around 2500 B.C., in the royal tombs at Ur around 2300, and indeed in the shaft graves of Mycenae around 1600 B.C. So the notion that gold was highly valued in these contexts does not derive from our own, almost universal assessment of the high value of gold but from specific, contextual considerations. In virtually all the contexts enumerated by Renfrew, the valuables are buried with bodies in highly charged locales (the only exception may be Troy, but the circumstances of the find are far from clear) that may well be referred to as places of value or, at very least, places of power. Indeed, the argument could be made that it is the bodies and places with which the gold is associated that give added value to the commodities deposited with them. Like the proverbial chicken and the egg, which comes first? Here we return to the issue

of the circulation and deposition of commodities. We would argue that all three elements: place value, body value, and object value contribute to the construction of value in all these contexts.

Limiting the definition of value to fungibility and measurement, as Renfrew does, has a certain appeal, as it does away with all sorts of complex issues, and certainly the twentieth and twenty-first centuries bear elegant testimony to the success of the system that evolved in a part of eastern Europe and western Asia. But there remains the reality that in many other places and times, such a system of fungibility did not emerge, and this did not mean there were no commodities or objects of value. On the contrary, in numerous other contexts at various times and in many different places, a variety of materials was valued, with different commodities even serving as money: olive shells in Zaire, wampum beads in North America, copper axes in Mexico and the northern Andes, *tambu* shells in New Britain, “feather money” in the Santa Cruz Islands, raffia cloth in Angola, and *kina* pearl shell used to make payments in the highlands of Papua New Guinea, to mention only some (see Williams 1997). The circulation and deposition of such commodities, although serving as “money,” does not follow the eastern European and western Asian example.

As a region in which marketing and money—key components of the commodification of objects—generally did *not* develop (at least not widely in the case of marketing), the Andes offers an important perspective in thinking about how and why humans have used objects in constructions of value, particularly in ways that did not center on fungibility and market exchange. (Measurement was clearly highly developed in a variety of Andean production processes.) In chapter 14, Richard Burger takes us to the beginnings of the production, circulation (or lack thereof), and manipulation of objects in the construction of value in the Andes. From his survey of the archaeological record on the central coast of Peru during the long Preceramic period (5000–1800 B.C.), Burger finds virtually no evidence for systems of production and stratification based around exclusive access to and/or use of objects of value. Remarkably, these findings include periods such as the Late Preceramic (3000–1800 B.C.), when there is clear evidence of monumental construction of ceremonial centers, such as the site of Caral, a large complex of mounds that shows no evidence of craft specialization.

Convincing evidence of objects having been used as markers of special status and therefore constituting what we might commonly term objects of value does not appear until the Initial Period (1800–800 B.C.). This evidence appears in the form of items interred with an elderly male at the site of Cardal, including a necklace of sea lion canines and an ear-spool of whalebone. Burger notes that it is probably not coincidental that these materials, which he and coexcavator Lucy Salazar interpret as signs of political authority, were taken from the largest and most powerful marine animals on the Pacific coast of Peru. What is critical here is the apparent exclusive access to and display of such items by an individual who, because of the location of

his burial (atop the main mound at Cardal), Burger and Salazar interpret as having been a high political authority at the site.

The florescence of social valuables in the Andes occurred during the period termed the Early Horizon (800–200 B.C.), which is associated generally with manifestations of the Chavin culture on the coast and in the highlands of the central Andes. Our most spectacular evidence comes from the central highland site of Chavín de Huántar, which was excavated by Burger during the 1980s and remains the focus of much of his research. Here, three-dimensional objects were produced from a wide range of materials (stone, metal, ceramics, shell), all covered with a distinctive religious iconography. Most notably, objects of gold were produced by a variety of techniques. Shimmering objects made of beaten gold sheets appear to have been worn exclusively by the leaders of Chavin society, thereby distinguishing these individuals from the general populace. As Burger notes, “Precious metal objects of the Early Horizon are found almost exclusively in burials, so it seems likely that the objects were indeed the inalienable possessions of the deceased, crucial for authenticating and reinforcing their authority.”

Burger notes several features of these objects of value, including color, shininess, and the capacity to produce sound, that seem to have been particularly notable for the Chavin people (cf., Donnan, this volume). Less tangibly, these objects were generally made of exotic materials not available to commoners. Burger concludes that these social valuables “were used to construct and legitimize the authority . . . of the religious elite, who for the first time succeeded in establishing a pattern of profound inequality in the central Andes.” This pattern, Burger notes, continued through Andean prehistory, reemerging in such later cultural contexts as Moche (see Donnan, this volume) and Inka (see Bray, this volume) societies. Such values continued to inform processes of status and rank differentiation in the Andes during the colonial period (see Cummins, this volume).

What is critical about Burger’s study for the issues in this volume is that Chavín de Huántar evidences a process of the emergence and elaboration of the construction of value linked directly to social/political differentiation and stratification, but the value attached to these items was not (so far as we know) put into circulation via commodities either in a market system or in a *kula*-like circulation of valuables. Rather, the construction of value in the Andean case was directly linked to exclusive access to materials and manufactured products by an elite class in its attempt to promote a particular religious agenda. The representation and rationalization of this religious ideology, the specific features of which are still open to debate, underlay a system of broad and profound social and political inequality. In short, objects mattered in the process of the construction of power, and this process was coincidental with the construction of value.

The Chinese case study developed and presented by Rowan Flad in chapter 15 provides another fruitful avenue of inquiry in a non-Western context, one that shares certain features with the construction of value in Chavin culture discussed

by Burger. Flad's paper considers the relationship between object value and political power in ancient Sichuan in the late second and early first millennia B.C. By looking at several categories of valuable objects at the sites of Sanxingdui and Jinsha, Flad observes changes in the way that bronze, jade, gold, and ivory were employed as valuable objects in the context of political and ritual practices. Flad begins by embracing Graeber's (2001:115) argument that negotiations of value are essentially political. He goes on to stress that we cannot examine object value through a focus on only one attribute or even a set of attributes, such as scarcity of the raw material or labor investment. Instead, it is crucial to consider the intersection of several factors: raw material, labor investment, the identity of the producers and consumers, the divisibility or "commodifiability" of the object, and its capacity to accumulate history (cf. Appadurai 1986a; Weiner 1992). For Flad, the value attributed to objects is dynamic and contingent, the consequences of practices of production, use, and discard through the life history of the object. Flad stresses the importance of considering the production of objects, together with their use and discard, to tease out relationships between object value and political power. Production, use, and disposal are critical. The production stage of an object's life history instills initial object value through a series of mechanisms that Flad discusses. A number of factors affect the values—in the plural—attributed to an object through its use life. Finally, the deposition stage is all important, for the degree to which contexts of final disposal are public or private, and whether or not they were intended for recovery, speaks volumes about object values in the past. In comparing and contrasting the particular contexts of Sanxingdui and Jinsha, Flad sees no significant differences in terms of production, and the remains from both sites similarly reflect few differences in object use. But it is in the realm of deposition where the greatest differences occur, and here it may well be that a different set of values is associated with the deposition and destruction of commodities such as bronze, jade, gold, and ivory.

In three very different papers, we return to the heart of Renfrew's world of fungibility and measurement: eastern Europe. It may be useful to begin with two papers that deal with the earliest and latest material. In chapter 13, John Papadopoulos turns to the particular cultural context in western Asia Minor (Lydia) and eastern Greece, where the earliest coinage in the world was developed in the late seventh and the sixth century B.C. What is important to bear in mind is that coinage in Europe and the Near East was essentially a Greek phenomenon, which non-Greek peoples such as the Etruscans, Phoenicians, Carthaginians, and Egyptians were slow to adopt. Indeed, there was even some resistance to coinage in the Levant, so in this aspect, western Asia and eastern Europe should not necessarily be seen as a single economically operating unit. Contextualizing the development of coinage, Papadopoulos looks to the quest for metals—the very commodities that define our periodization of ancient Greece (Copper Age, Bronze Age, Iron Age)—but this is seen not simply as an issue of technological innovations or one of supply but as a real search for structuring commodities of value that ultimately leads to an

economic system of exchange not limited to elites. In the search for the origins of coinage, the specifics of the particular cultural context are of paramount importance. By focusing on the early coinage of several Greek centers, more particularly the emblems that certain city-states chose for their coinage—images that hark back to prehistoric measures of value, such as cattle, bronze tripods, and grain—this paper challenges long-held assumptions as to the economic underpinnings of coinage. Struck by the state, the polis, these emblems sought to represent a collective identity. By boldly minting their identity on silver coinage, the Greek city-states chose money, the very vehicle of value, to create relations of dominance and to produce social orders that had not existed before.

In chapter 17, Ioli Kalavrezou brings to the fore the issue of light in terms of precious objects, or “value” as it was seen by the Byzantines. Her focus is very much the cosmopolitan world of the court and the wealthy society of Constantinople and its provinces in the middle and later Byzantine period. As Kalavrezou shows, what the Byzantines recognized as valuable was in large measure provided by nature, appreciated as a gift of God, and perceived as miraculous and wondrous, the latter echoing the *thauma* (wonder) that Kurke spoke of in the context of fifth-century B.C. *choreia*. Apart from the magnificent mosaic surfaces decorating the interiors of Byzantine churches, precious commodities and substances discussed by Kalavrezou include *porphyra* dye (extracted from *Murex trunculus* shell), used in elaborate textiles, as well as gold, various colored marbles, and pearls. With regard to the latter, the Byzantines believed, as did the ancient Greeks, that pearls were created by lightning. It fell from the sky, hit an oyster in the sea, entered its shell, rolled around inside, and created the perfect spherical object, full of light itself. Indeed, the Virgin Mary is often equated with the shell, the sea, or some other type of container that bears within the “divine” or “heavenly” pearl—*o margarites* in Greek—that is, Christ. Here, as in earlier periods, value and religion are not easily separable. What is evident from Byzantine texts is the emphasis given to the brightness and translucency of the pearl, and in theological terms it is associated with purity and perfection, especially for its flawless and unblemished whiteness. The Byzantines recognized the importance of light and its effect on objects, which led to the qualities most appreciated in the various materials discussed by Kalavrezou: reflectivity, luster, shine, iridescence, and so on. Creating objects of value was to bring together or to combine selected materials with light. Many of the same terms and qualities are found earlier in Greek tradition (see Kurke, this volume), but they are also clear elements in cultures with which the Byzantines had no contact whatsoever, such as the Chavin (see Burger, this volume) and the Moche (see Donnan, this volume) civilizations of ancient Peru.

Arguably one of the most challenging—yet rewarding—papers in the collection is that by James Porter (chapter 16) on the value of aesthetic value. The paper deserves to be read in tandem with that of Renfrew. On the surface, these two contributions appear to present very different, if not contradictory, visions of value. However,

on closer study, the views on object value may well be more complementary than a first reading might suggest. Porter's interest lies in the origins of value, in what gives *anything* value and its basic status of having value. He is also interested in the primary and secondary processes of valuation and how these looked at various moments in the cultures of Greece and Rome, although for this contribution his focus is very much on Greece. Porter suggests that values in a culture generally, and aesthetic values specifically, are closely linked, so much so that locating one helps locate the other. We have already seen many shortcomings of the term "aesthetics" as it is applied to art in our earlier discussion of the work of Alfred Gell. Porter moves well beyond the strictly art historical and problematic use of "aesthetics" to the Greek word from which it derives: *aisthēsis*. In this, Porter makes a strong and important claim—namely that aesthetic processes, in their primary function of *aisthēsis* (that is, in their immediate connection to the senses, sentience, pleasure, and pain), are actually *indices* of cultural value. By looking at the language of aesthetic value and its expression in antiquity, Porter shows that aesthetics can be a meaningful category with which to approach objects and experiences in the ancient world. He casts his net wide, encompassing the work of the Presocratics (not least Protagoras and his famous doctrine of *homo mensura*), Epicurus, Spinoza, and Kant. Moreover, Porter's analysis is not limited to a linguistic or philosophical exercise, for one of his postulates is that whenever we attend to objects and dwell upon them with our mind or our senses, we tend to ascribe those objects value, whether positive or negative. In this he moves into the realm of materiality, especially in his discussion of grave markers and public inscriptions (decrees, memorials, laws, boundary stones). Porter moves well beyond an idea espoused by scholars like Kristeller (1990 [1951–1952]) and Shiner (2001), that art and aesthetics are an invention of the modern (Enlightenment) era, and thus comes up with a type of aesthetic value that is not tied to modern notions of high art. Porter's basic argument is that aesthetic values go hand in hand with larger operations of evaluation or value judgment and can be shown to be present wherever positive or negative ascriptions of value are at work. Such ascriptions, Porter argues, ultimately reach down to the level of basic sensations and up to the highest and most complex forms of socially embedded judgments.

The three final papers in this section deal with the Americas. The diminutive anthropomorphic clay figurines common across Mesoamerica during the Formative period (1800 B.C.–A.D. 200) are the focus of Richard Lesure's chapter 18. Although a few of these figurines appear as burial offerings, the vast majority were found as broken pieces in domestic debris. Their frequency in "household" contexts suggested to earlier scholars who studied the figures that they were little valued (e.g. Vaillant 1931:36). Given this, Lesure turns to aesthetic value, noting that the majority of modern observers react to these objects aesthetically, even though George Vaillant made it clear that the value of the figurines was heuristic. Lesure elaborates that like objects, responses to them would have occurred in concrete

situations and that these responses would have prompted actions, such as choices between one way or another of making figurines—that is, choices between styles. The important issue here is that stylistic variation as a record of choice is relevant to any investigation of aesthetic value, even if the content of original subjective experiences is lost to us.

By reviewing the three most common approaches in past studies of the figurines, Lesure finds each wanting. He goes on to propose an alternative inspired by the semiotics and sociology of fashion, particularly the work of Roland Barthes (1990 [1967], 2005 [1960], 2005 [1966]; see further Blumer 1995 [1969]). Among the figurines studied by Lesure, attributes cooperated to prompt the viewer not toward subject matter but instead toward the form of one figure in relation to that of others. In other words, the way a figurine was made seems to have been more important to the original makers and users than its manifest subject matter. One problem here is that if figurines referenced other figurines, we seem to have something of a closed loop and thus the question: How do we interpretively put *people* back into the equation? It is here where Barthes's semiotic analysis of fashion resonates in any effort to interpret figurines that mainly referenced other figurines. Thus Lesure's study points out that although evidently of little "intrinsic value," the figurines seem to have been the subject of lively "evaluation." It is this precept that has the potential to cast light on other types of objects in a variety of other contexts.

In Tamara Bray's chapter 19, we return to the Inka Empire and to a relational perspective that seeks to reconfigure the concept of value to discern ways in which premodern, non-Western peoples who inhabited the archaeological record may have conceived of, instantiated, and deployed ideas about value. Bray challenges the modern Western notion of value, with all its economistic baggage, a perspective that privileges the *matter* of value over the *spirit* of value. Instead, Bray focuses on three key issues: the ontology of value, the relational nature of value, and the concreteness of value. Rather than according priority to either abstract notions of value or the intrinsic properties of objects, Bray suggests that value is constructed as a relation between subjects and objects. Bray's approach thus advocates a consideration of the personal, social, and aesthetic contexts within which such relations are constituted, constructed, or expressed. In line with this approach, it is recognized that for value to be realized, it must be embodied; that value has a comparative nature; and that value is not an "either/or" quality but rather registers on a gradient. For Bray, it is paying attention to precisely these comparative, relational, and gradational aspects of value that provides the key for working with value in the anthropological and archaeological realms.

The starting point for Tom Cummins in chapter 20 is that some registers of value are perhaps universal. Cummins restricts his analysis to the materiality of value to examine the clash of systems of value created by the European conquest of the Americas. Although some registers of value may be universal, things within those registers can be radically different. Cummins suggests that value can be

understood to express materially different phenomena. For instance, some things may be intrinsically valuable; others, such as a ruin (place), an heirloom (object), or even a body, become valuable through time. Some things, such as exotic objects from distant lands or objects made from materials made elsewhere (cf. Scarre, this volume), become valuable through their association with place. Still other things, such as icons, *wakas* (sacred objects), and miraculous images, become valuable by their coming into being as manifestations of the sacred. By looking at these materially different phenomena of value, Cummins turns to the issue of how the clash and integration of values might alter how these phenomena are understood and/or experienced. Under the surface lurks a deeper question, which Cummins effectively brings to the fore: Are concepts such as desire, time, and space affected when things that express their value are, at the very least, put into doubt? To get to these issues, Cummins focuses on the “performance of value,” by which he means the acts in which different objects and materials perform or acquire their value. We return to a very familiar and significant vantage point, one where ritual and economics intertwine, which Marx articulated in his discussion of the commodity fetish. Cummins expands Marx’s notions beyond the realm of Western capitalism by looking at both Inka and Aztec registers of value and their rearticulation with the arrival of Spanish power, with its superimposition of registers of value. Cummins argues that what happens is the creation of simultaneous values, licit and illicit according to the Spanish point of view, and that values can cross between various registers depending on cultural context. This is to say that the same object can be recognized to have multiple values but within entirely different registers. By means of this simultaneity, an object can perform in radically different ways and can therefore serve as an active agent in maintaining pre-Columbian social, cultural, and artistic forms.

The importance of Cummins’s conclusions lies in the fact that systems of value of two very different worlds are neither absolute nor impermeable. For Andean peoples, participation in the new economic system meant being brought quickly into the sphere of mercantile capitalism while at the same time maintaining traditional economic forms of reciprocity. What this particular—often violent—colonial encounter brings to the fore is that two very different economic systems can merge to create something totally new and unpredictable.

Number Value

.....

In the case of number value, we enter a world of knowledge and practice that is often considered to be exempt from the ambiguities and fuzziness of meaning and reference in everyday speech and texts whose exploration has been the preoccupation of linguistic and discourse analysis from Saussure and Peirce through Wittgenstein and down to the present day. It is evident that in our everyday thinking on these matters, we tend to conceive of numbers as fundamentally exempt from, or at least not a primary domain of, the operation of metaphor, metonymy, and

other linguistic tropes. Such a view is considerably at odds with what we have learned from recent studies of the language of numbers (Hurford 1975, 1987) and ethnomathematics (Ascher 1991; Crump 1990) and from comparative studies of the history of numbers and mathematical systems worldwide (Chrisomalis 2010; Robson 2008; Robson and Stedall 2009; Urton 1997). Such studies have shown clearly that while numbers have always and everywhere been the principal instruments employed in quantification and mensuration, this field of cultural practice is nonetheless rich in metaphorical constructions linking different domains of the production, distribution, exchange, use, and discard of objects. Thus quantification and numerical manipulations are central processes in constructions of value in societies around the world, past and present.

In the five articles included in the number value section, we find many different concepts and principles employed in constructions of value. While it is difficult to do justice to the range of uses of numbers in the widely disparate societies discussed in the five articles, we note that the principal expressions of value in the domain of numbers are: a) *counting*, or enumerating items according to a standardized sequence of number names of the language in question; b) *positionality*, whereby (especially) ordinal numbers specify ranked positions among a group of items (first, second, third); such processes of ranking may also be performed by employing adjective qualifiers that designate sequential positions in hierarchical order (first, middle, last); and c) the *equivalence* of objects being brought into relation with each other through (reciprocal) gifting, marketing, and a variety of other exchange relationships (perhaps most importantly for connections with other forms of value discussed in this volume). Of the three concepts and practices, only counting is uniquely linked to numbers, as positionality and equivalence may be designated by other, non-numerical kinds of labels, depending on the conventions current within a given social and linguistic group.

The grounding condition of all numbering activities and mathematical manipulations is a conventionalized sequence of number names (both cardinal and ordinal). Numbers produced in the process of counting are intimately linked to constructions of value in that the count of items often takes the form of statements denoting the quantity of items in collections. Quantitative predicates on such enumerated sets of items are often used as the basis for differentiation and for asserting weighted valuations between sets of objects (each with its own quantitative label, deriving from being subjected to counting). A variety of different place value principles are at work in the numbering systems discussed in the articles included here, from the sexagesimal system of ancient (Ur III) Sumer to the vigesimal system used by the Maya and the decimal system used by the Greeks, Chinese, and Quechuas (although the decimal principle was incorporated into Sumerian and Mayan numeration as well). To the extent that numbers are one of the principal instruments for ordering and classifying objects, the existence of different number base systems and their

evolution over time are subjects of considerable anthropological and historical interest (see Chrisomalis 2010).

In addition to standard sequences of number names, many systems employ “numeral classifiers” to signal the class identity of particular types of objects (e.g., see Englund and Stuart, this volume). We also often encounter traditions employing distinct numbering systems or different numeral graphic systems of representation for referencing items enumerated in specific contexts. For instance, in their classic study of Sumerian economic accounting, Nissen et al. (1993) detail the some 60 different signs that were organized into a dozen or so distinct metrological systems, each of which was used to enumerate particular types of objects or products (grain measures, land measures, and so on).

Statements about the conclusions of counting, which we commonly term counts, can be used to make claims of quantitative equivalence between sets of different kinds of objects. For example, the statement “there are six apples” contains an expression of numerical equivalence with the statement “there are six sandals” *if* the question at issue is: How many objects are there in each set? Such claims regarding numerical-based equivalences, then, are not just the playthings of structuralist manipulation—of pointing to homologies between identical numbers of items in different contexts. Rather, expressions of equivalence and/or difference in quantities of items are the stuff of everyday discourse centering on the processes of production, exchange, and the circulation of goods that take place in social interactions among people, often under the purview of state institutions ensuring standardization of weights and measures, within any given society. Numerical identities and manipulations are important in a larger sense, as they constitute the forms of practice through which number and equivalence become embedded as more generalized qualifiers used in everyday conversations and in a wide array of cultural productions (rituals, offerings, sacrifice, story-telling). From reverberations between such everyday and formalized contexts and practices, we come to recognize how numbers and quantification are intimately entangled in virtually all domains of social life.

The concept of equivalence takes us to the heart of the numerical operations and manipulations that are often considered most directly linked to value *sensu stricto*. For instance, Renfrew (this volume) has argued that in looking critically at concepts of value in the ancient world, it is essential to hew to an understanding that privileges exchange relations, such as when one object is taken or “delivered in lieu of” another; this is the principle of fungibility. Renfrew argues that it is only in considering value in the context of exchange practices and the exchangeability of commodities that we can pursue a reasoned, comparative approach to the problem of the construction of value in antiquity. In terms of the three areas of concern in the number value articles mentioned earlier, equivalence is most directly implicated in the concept of fungibility. In principle, we agree that focusing on equivalence (or fungibility) allows one to investigate value without getting mired in questions of preference and desire and thereby becoming entangled in what Renfrew criticizes

as subjective, impressionistic, and emotion-laden distortions of the strict concept of value. Although there is much to commend this position, especially insofar as our studies must rely on the archaeological record (that is, in the absence of textual commentary), we argue that it is essential to allow counting and positionality within the tent of a strict construction of number value. As stated earlier, we also maintain that there are legitimate grounds for considering value constructs phrased in terms of desirability, esteem, worth, and even intrinsic worth, particularly when these are drawn on the basis of testimony recorded in ancient texts (for example, see articles by Porter and Urton in this volume).

In what follows, we provide an overview of the central issues with respect to number value discussed in the five articles in this section, which include material from Mesopotamia, China, the Andes, Mesoamerica, and the Greco-Roman Mediterranean world.

In chapter 21, Englund documents in extraordinary detail the complex world of ancient Sumerian (Ur III) equivalence values, which were manipulated by the privileged elites, through the efforts of their scribes, to exploit the large body of productive laborers. The concept of equivalency values is central to Englund's study. He makes clear that equivalencies were recorded in cuneiform tablets in various registers, or modes. These included equivalencies between objects or sets of objects such as those based on intrinsic (food, animals) versus nonintrinsic (presumed rarity, prestige) worth and those between producing agents and the objects they produced. Englund points out that in many instances, the calculation of equivalencies relied on conversion into common denominators—that is, the coordination of values among different commodities based on their mutual ability to be phrased in terms of units of a product bearing a fixed value. The most common examples of common economic denominators in the Sumerian case were barley or other grains and silver, the latter representing a common conversion value for all quantifiable goods and services in the Ur III economy. While the scribes who recorded the extraordinarily complex equivalencies documented in Englund's study did not provide metacommentary on the meanings of, or the principles underlying, the various manipulations (for example, of producers and products) within the economy whose details they were responsible for recording, nonetheless we are convinced by the end of this article of Englund's own observation that "central household accountants employed, with almost dizzying accuracy, a broad palette of equivalencies as part of their means of control of production. To the degree that one is concerned with how centralized authorities dealt with and manipulated units of volume, capacity, and ultimately value, Englund's discussion of the manipulations of equivalencies of the Ur III state is a highly relevant case study.

As in ancient Mesopotamia, the economy and bureaucracy of ancient China turned to a large degree on calculations of measures of different grains. Chemla (chapter 22) focuses on a central problem in present-day investigations of the units and values of those various grains. This problem concerns two seemingly different

referents of the term *bu*. On the one hand, *bu* designated a unit of capacity used to measure and express amounts of grain. On the other hand, the same term was used to designate a unit of value, based on a specific practice of measuring capacity. In the former context, a certain mathematical formula was used to determine equivalent amounts of different kinds of grains, whereas in the latter context, a given grain was measured by a particular set of vessels, so that one *bu* of any given grain had the same value as any other. From her study of the tables recording grains, Chemla concludes that the two different uses of *bu* were related by a key feature: the relationship between grains expressed in a well-known table of grain measures (*The Nine Chapters*), in which each kind of grain was measured by means of a specific standard vessel, was the same as the relationship between the volumes of the vessels used. The problem here, extremely subtle and according to Chemla difficult to extract in all its qualities from the ancient texts, was one of precisely measuring and establishing equivalencies among a wide variety of types of grains, measuring instruments, and mathematical calculations central to the ancient Chinese economy.

Chemla indicates that this system underwent changes over time, so that part of the problem researchers confront today is understanding the underlying principles by which grain capacities and volumes were measured and calculated in different periods. At the heart of this study is the proposition that “in addition to attending to numbers and measuring units, historians need to describe *practices* for determining and expressing the numerical value of things” (Chemla this volume).

In his study of Inka numbers, Urton (chapter 23) focuses on three principal (though not exclusive) concepts and practices relating to value that emerge from a review of terminologies for value in Quechua, the language of administration in the Inka state. The three forms are: a) trading, marketing, and evidence for an Andean money form (copper ax money); b) comparative formulations of value, which take the form of items that were accorded ranked positions in hierarchical systems of valuation; and c) intrinsic value. As for the first of these forms, most studies of the Andes emphasize the character of Andean economies as nonmarket based (a view deriving primarily from the research of John Murra). This does indeed appear to hold true for societies of the central and southern Andes under Inka domination. However, there is increasing evidence for specialized craft production and the circulation of preciousities along trade routes linking the central coast of what is today Peru with coastal and highland populations of northern Peru and the territory of present-day Ecuador. The latter trade network appears to have employed to some extent copper axes as a form of currency, although we have very little information on the mechanisms of such currency-based trade and marketing. Whether proceeding through marketing or the better-attested reciprocal relations of *ayllu* (clan) centered exchanges over multiple vertical ecological zones, Andean societies employed a rich lexicon of terms organizing the world of objects in hierarchical arrangements of relative worth or value (good, better, best). Urton explores a range of different

contexts in which such constructions of priority and precedence are testified in early colonial documents.

As for intrinsic worth, Urton's focus is on the analysis of places that were considered to be of value—primarily a class of places classified as *wakas*, a Quechua term denoting the sacred, whether referring to sites in the landscape, ruins or objects from the ancient past, or “unnatural” forms of otherwise ordinary objects (for example, ears of corn, children born with harelips). The focus on *wakas* allows Urton to raise the question of an analogy between the place value (positional) system characterizing Quechua decimal numeration, especially as formulated in *kipus* (knotted string recording devices), in which knots are linked to different positions/places along cords, and the notion of high-valued, sacred “places” in the landscape, as referenced in myths and other oral accounts. Urton suggests that such a connection could have been used by Inka cord makers to construct knot records linking person and place identities in myths and histories. This suggestion awaits further investigation and analysis, but if there is indeed interpretive potential in this approach, it may have implications as well for place value systems of numeration and their links to narrative formulations in other cultural and linguistic settings.

It is somewhat surprising that only David Stuart (chapter 24) explicitly reviews the sequence of number names used by a particular society. In this case he is concerned with a set of related Maya languages in Mesoamerica. Stuart notes that basically two different systems of numeration were in use in Maya territory. One method was used to count commodities and things (cacao beans, ritual offerings, and the like). Another, more restricted method was employed in reckoning days and years in the Maya calendar. Stuart notes that there are few terms in Maya that appear to reference the concept of value. The ones that exist include *ajil*, which appears to apply to value in the context of numbers and counting, and *tojool*, which meant “price” or “payment.” Stuart adduces certain evidence suggesting an active system of the circulation of goods, with traders transporting loads or cargos (termed *ikatz*, or *ikitz*) of precious commodities around the countryside. In addition, Stuart argues that cacao beans may have constituted something close to the instruments of a standardized monetary system, at least in some times and places in ancient Mesoamerica. The main unit for accounting practices relating to cacao traffic was the *pik* (8,000).

Stuart goes on to provide an intriguing analysis of the term *pik*. This term in fact designated fixed quantities keyed to specific *positions* in two different counting contexts: cacao beans and the days in the so-called Grand Long Count. The actual number of items occupying the position specified as *pik* in these two different contexts varied: *pik* equaled 8,000 cacao beans and 400 *tuns* (or 144,000 days), respectively. Stuart concludes that *pik* referred to the concept or principle of a specified position within numerical sequences composed of a number of positions but that the term was not equated with a particular quantitative value. In this case, what was apparently considered to be comparable were the relative positions within

the two different place notation systems. As he states the matter: “In the Standard Vigesimal count system [used for cacao beans, etc.] . . . the word *pik* stood for the number 8,000 (20^3), whereas in its calendrical setting, the same term referred to the third position in an exponential expression of time based on the 360-day year, or *haab*” (Stuart this volume). Thus we see in this instance terms and concepts for value as used in the trading of commodities that become entangled with the organizing principle of positionality.

In her article, Bailey (chapter 25) describes a wealth of exchange practices in the ancient Greco-Roman Mediterranean world centering on what she terms operational spaces, by which she means “organizing parameters enacted through specific instruments,” the latter primarily taking the form of coins and weights. Such transaction practices had great significance and implications for the nature and sense of community that underwrote market exchanges within ancient Mediterranean settlements. For instance, Bailey notes that the more people trusted in community authorities, the more likely they were to count rather than weigh their coins. In the Greco-Roman context, coins and weights were both based on fixed units having prescribed numerical properties. Such units could exist and be manipulated in different social and exchange contexts only when underwritten by a shared system of numeration. The numbers were the shared basis of communication; what the exchange value between any pair of enumerated objects was and on what terms one quantity might be exchanged for another were matters determined in the workings of the market. Bailey argues that in the creation of settings for exchanges in the Roman Empire not only were spaces created for numerical value manipulation but that such a circumstance gave rise to particular problems—specifically problems of *replication* and *validation*. Bailey defines the central problem here as “the less immediate the source of validation [of the standards of measure, the weight of coins, and so on], the more fraught the replication.” Acting together, coins and measures made up what Bailey terms a continuum of instrumentality in which a process of constant, reciprocal monitoring went on to validate continually and revalidate values within the grand Greco-Roman “community of circulation.” As Bailey concludes, “imperial authority . . . was not one of manipulating money supply or asserting values but of being the most powerful creator, concretizer, and replicator of an underlying metrology.” The numerical units of coinage and measures could be termed the founding conditions of value. Based on these initial conditions, the market went about its work of determining exchange values—that is, of determining how many of one thing might be exchanged for how many of another.

At the heart of the various operations and manipulations detailed in the articles on number value stands the concept or principle of value. Different concepts and formulations of value are at the heart of systems of knowledge and practices of quantification that emerge in descriptions and claims about the world of objects and identities made in the language of numbers in the five societies focused on here. In terms of the circulation of goods within societies, the critical issue in all the

articles—although perhaps most succinctly summarized in Bailey’s discussion—is one of reproducing or replicating standardized units of measure, weights, currency, and so on and of validating those units in such a way that exchange relations continue to function to provide for the production, circulation, and consumption of goods. In the absence of such processes and practices, society ceases to function. Just as today, it was in the everyday resort to standardized units of measure, weights, coinage, and so on in daily discourse, and through interactions within the home and marketplace (often through instrumentalities provided and overseen by state institutions), at the core of which were equivalencies among standardized numerical units, that we can situate some of the central processes of the construction of value by means of numbers in ancient societies.

CODA

.....

Whereas value, broadly defined, has been something of a preoccupation of anthropology, it has not featured as prominently in archaeology until very recently (e.g. Barrett 2009; Bevan 2007; van Wijngaarden 1999). The first book-length study of the archaeology of value was a volume of essays edited by Douglass Bailey, with the assistance of Steve Mills, entitled *The Archaeology of Value: Essays on Prestige and the Processes of Valuation* (Bailey 1998). The focus of Bailey’s edited volume was not limited to value but included the related spheres of prestige and wealth, with the regional focus exclusively on Europe. The theoretical starting point of the volume was more prescribed, based as it was on Nancy Munn’s seminal work on the Gawa of the western Pacific, which we have already touched upon as it pertains to “fame” (Bailey 1998:1).

The most recent study, another edited volume, was put together by Iain Morley and Colin Renfrew and entitled *The Archaeology of Measurement: Comprehending Heaven, Earth and Time in Ancient Societies* (Morley and Renfrew 2010). In addition to an introduction coauthored by Renfrew, the volume includes papers by two of the participants in this volume (Stanish and Urton). The focus of Morley and Renfrew’s volume, although complementary to ours, is very different in that their purview is the construction of formal measurement systems and archaeological evidence for the development of measuring activities in various ancient societies. Indeed, as the editors argue, the construction of measurement systems underlies the development of science and technology, as well as economics, leading to new ways of understanding and explaining the world. More than this, measurement systems have provided the structure for addressing key concerns of cosmological beliefs and hence the comprehension of heaven, earth, and time as expressed in the subtitle.

Our aims for this volume are both more circumscribed and in some sense broader, as our focus is the construction of value in the ancient world. And like so many scholars interested in the construction of value, we return to Marcel Mauss’s

The Gift (Mauss 1990 [1925]), a small (in page length) yet profound and highly original contribution that had its greatest impact on what Douglas (1990:xvi) called the “small professional bodies of archaeologists, classicists, and anthropologists.” With some notable exceptions, the primary contributors to our volume are the same small professional bodies of (in alphabetical order) anthropologists, archaeologists, and classicists.

In so many ways, the brilliance of Mauss’s *The Gift* was the fact that he began by surveying living, functioning social systems—the American Northwest, Melanesia, and Polynesia, as well as functioning systems among Inuit and Australian hunters—before looking at texts that dealt with vanished systems (Roman, Germanic, Hindu, and other Indo-European laws) where there were also no free gifts. As students of the past, we cannot view functioning social systems with the immediacy and clarity of Mauss. So we begin where Mauss ended, not only in the hope of providing more depth and scope to the complexities of constructing value in long-vanished human systems but in the hope that these essays may contribute an insight into our own world. As Benedetto Croce (1966:4 [1917]) famously said, “Ogni vera storia è storia contemporanea” (all history is modern history). Or put another way, “we study the past to understand ourselves.”

NOTES

.....

1. As so many words in English, “fungible” enjoys a classical heritage, one that derives from the Latin *fungibilis*, *fungi* (“perform”; “enjoy”), as in *fungi vice* (“take the place of”). Fungible is a thing that precisely or acceptably replaces or is replaceable by another. “Fungible” does not appear in English vocabulary in noun form much before the early nineteenth century; “fungibility” was coined in the context of the early twentieth century.

2. As in the journal *Oeconomicus*, founded in Germany in 1983.

3. The fullest and most recent study of Aristotle’s economic thought is by Meikle (1995), which covers, among other things, exchange value, *chreia* (“need”; “want”), demand (Aristotle, *Nicomachean Ethics*, 5.5), exchange (cf. Aristotle, *Politics* 1), money (as in Aristotle, *Politics* 1.8–1.10), and the notion of justice in exchange. Meikle’s study builds on the earlier work of Finley (e.g. Finley 1970, 1973).

4. Many prehistorians interested in the early prehistory of value and worth tend to follow a very economic mode of analysis; see most recently M. Smith 2010:47–49.

5. However, he does concede that Louis Dumont (see especially 1967, 1982, 1986) was the “only author who has made a consistent effort to develop a theory of value along Structuralist lines” (Graeber 2001:16).

6. Riegl’s essay “Der moderne Denkmalkultus, sein Wesen, seine Entstehung” was published in 1903 and reissued in 1929, almost a quarter century after his death, in *Gesammelte Aufsätze*. It was translated into English as “The modern cult of monuments” (see Riegl 1982 [1903]). In this paper, Riegl broke new ground by discussing the modern cult of monuments, their preservation—whether intentional or unintentional—and their *commemorative* value. For Riegl, “Age-value appreciates the past for itself, while the historical value singles out one moment in the developmental continuum of the past and places it before our eyes as if it belonged to the present. Intentional commemorative value aims to preserve a moment in the consciousness of later generations” (Riegl 1982:38 [1903]).

READ ONLY/NO DOWNLOAD

PART I

.....

PLACE VALUE

.....

READ ONLY/NO DOWNLOAD

CHAPTER 1

.....

SIGNIFICANT STONES,
SIGNIFICANT PLACES:
MONUMENTALITY AND
LANDSCAPE IN
NEOLITHIC WESTERN EUROPE

.....

CHRIS SCARRE
DURHAM UNIVERSITY

ABSTRACT

.....

The study of significant places in the prehistoric world demands careful consideration of the values and meanings of place among ethnographically recorded non-Western societies. These reveal how natural features such as rocks, trees, and springs may be identified with ancestral or mythological individuals or events. Some of the early farming societies of western Europe marked significant places on the landscape in permanent form through carvings on natural rock surfaces. Many of them also created artificial monuments of earth, timber, and stone. The places chosen for these monuments may have been significant locations in themselves, but in some cases the monuments also referenced significant other places through incorporating materials brought from a distance. Megalithic blocks, for example, might be dragged over distances of several miles or in the extreme case of Stonehenge over more than 200 km. Long-distance megalithic transport, though relatively rare, suggests that the places from which megalithic blocks were drawn were important in their own right. This leads us to consider the significance that natural places in the landscapes held and continued to hold both before and during the periods when such monuments were being built. An understanding of the character and appearance of the “premegalthic” landscapes, before agricultural clearance of boulders and vegetation, is essential to this inquiry. African ethnography, through concepts of “places of power” and “shrines of the land,” also helps throw light on the ways in which the values and significance of places may have changed with the adoption of agriculture.

INTRODUCTION

Places have always been prominent in archaeology. We mark them on maps, study their distributions, and examine their relationship to topography and vegetation. We deal rather regretfully with objects without provenance, lamenting that they have lost their “place,” their original depositional context, that all-important locational dimension that constitutes a key part of their identity (Renfrew 2000:19–26). Those aspects of the archaeological endeavor, however, are securely rooted in the present. Seeking to understand the value that “places” may have held for societies remote in time and culture is an altogether different undertaking.

An important starting point for such an inquiry is provided by ethnographic studies. Graeber, writing on the anthropology of value, draws a fundamental contrast between economic value and sociological value (the latter defined as “what is ultimately good, proper, or desirable in human life”; Graeber 2001:1–2) but pays little attention to the values that attach to places. A more sustained analysis of the value of “place” is provided by geographer Yi-Fu Tuan (1977). Tuan argues that places are defined in contrast to the spaces that separate them and are inextricably linked to movement. Places stand out by their salience, whereas space becomes the background. “What begins as undifferentiated space becomes place as we get to know it better and endow it with value. . . . Furthermore, if we think of space as that which allows movement, then place is pause; each pause in movement makes it possible for location to be transformed into place” (Tuan 1977:6).

Movement is an important theme in western European prehistory, whether it be the movement of raw materials revealed by characterization studies, the movement of individuals disclosed by isotopic analyses, or debates about the spread of colonist-farmers and the sedentary or mobile character of the earliest agricultural communities. The proper study of “places” in western European prehistory has also become a central feature of postprocessualist approaches to landscape that have been developed over the past decade and a half. As does Tuan, these approaches contrast place with space and emphasize the importance of movement. Postprocessualist archaeologists have observed that prehistoric landscapes should not be conceptualized from a universalizing map-based perspective (the “distribution map”) but should be envisaged as a network of paths and places (Tilley 1994). They should be interpreted as they would have been experienced by embodied individuals. Drawing on ethnography, this school of thinking argues that many landscape features would have held mythological or sacred significance. This has led to claims that link, for example, a particular megalithic tomb and a neighboring rock outcrop or mountaintop.

Such connections are plausible in a general sense but are often difficult to support in detail and have attracted criticism on a number of grounds, including weaknesses in field methodology (Fleming 1999, 2005, 2006). Ethnography nevertheless makes abundantly clear that the values ascribed to places in non-Western societies give a

very different perception of landscape to that which is current in most industrialized countries today. Traditional or indigenous societies name and explain places by reference to stories or legends. The Haida of the Northwest Coast of North America, for example, believe that the coastal cliffs and islands are inhabited by supernatural beings known as the Ocean People, and name some of them after sea creatures because of their shape, such as Sea-Otter-Lying-upon-Its-Back-in-the-Water and Killer-Whale-with-Two-Heads. These features are thought to be inhabited by the supernatural beings after which they are named (Swanton 1905:18–22).

As anthropologist Eric Hirsch has observed, the meaning of landscape resides at a number of levels, and the topography and vegetation that we initially observe may mask a deeper set of significances. “There is thus a landscape we initially see and a second landscape which is produced through local practice and which we come to recognize and understand through fieldwork and through ethnographic description and interpretation” (Hirsch 1995:2). He goes on to remark that “there is no ‘absolute’ landscape: the salience and relationship between place and space, inside and outside and image and representation are dependent on the cultural and historical context” (Hirsch 1995:23). Furthermore, many aspects of place are dynamic over time, based as they are on season, work activity, ritual requirements, and special occasions such as burial.

A powerful illustration of this concept is provided by the Western Apache use of places to anchor and exemplify moral precepts through the stories and mythologies attached to them. As Basso (1996:55) notes, “Places possess a marked capacity for triggering acts of self-reflection, inspiring thoughts about who one presently is, or memories of who one used to be, or musings on who one might become.” The engagement is not static but dynamic, and “when places are actively sensed” they become “wedded to the landscape of the mind” (Basso 1996, 55). Specific locales become repositories of wisdom through the traditional stories with which they are associated, and those stories in turn are stimulated in many cases by a chance resemblance to a person or animal in a rock or tree.

In the Western Desert of Australia, landscape features are associated both with mythical beings and human ancestors. Layton (1995:216) observes how “rocks and waterholes are spoken of as relatives, or as embodying ancestral beings.” The distinction between mythology and ancestry is sometimes elided. Thus one story tells of a fight that broke out between Tingara and visiting Mala at a ceremony in the Petermann Ranges. A line of stones shows where the men sat down to talk, and living individuals point out individual stones that are identified with their fathers. A large stone shaped like a double cylinder marks the place where one man and his nephew were killed by the *tjukur* (Dreamtime avatar) of another of those present (Layton 1995).

A particularly striking (if rather exceptional) example of the mythologized landscape is provided by Uluru (Ayers Rock; Figure 1.1, *see color plates*). One story here tells of a battle between two groups of snake-warriors, the Liru and the Kuniya.

Two of the Liru were transformed into black-stained watercourses, while the surrounding cliff face is riddled with the impacts of their spears. The marks are still visible in the rock face (Layton 1986:7–9). Another story, the Wiyai Kutjara story, tells how Uluru itself was built during the creation period by two boys playing in the mud after a rain (Layton 1986:5). The evocation of the malleable properties of mud in such an arid environment makes this a particularly powerful image.

The traditional stories attached to Uluru illustrate how indigenous societies explained the peculiar features of this striking natural landform. They became part of a general understanding of the world and its origins. Such prominent places *demand* explanation, in terms of how they came into being, and our twenty-first-century geological accounts are in that sense merely the lineal successors to earlier beliefs. Through their size and visual impact, these landmarks continue to attract attention down the ages and become examples of what Tuan has termed “enduring places”: “Ayers Rock in the heart of Australia, for example, dominated the mythical and perceptual field of the Aborigines, but it remains a place for modern Australians who are drawn to visit the monolith by its awesome bulk. Stonehenge is an architectural example. No doubt it is less a place for British tourists than for its original builders: time has caused its dread as well as its stones to erode, but Stonehenge remains very much a place” (Tuan 1977:163–164) (Figure 1.2, *see color plates*).

PLACES IN PREHISTORY

The challenge is to draw upon these generic insights to develop robust interpretations of prehistoric places. It is easy to believe that the prehistoric societies of western Europe held similar beliefs to those of ethnographically recorded traditional societies; but it is much more difficult to provide substantive evidence. We are fortunate, however, in that some of these same prehistoric societies left direct material traces through the placement of monuments and the carving of rock art. Together, these two activities marked out what must have been significant sites within the landscape. Places were marked in other ways: by deposits of axes or metalwork, by human burials, by mines and quarries, by field systems and settlements. The monuments, however, and more specifically those of megalithic construction, are special in that they *incorporate fragments of the landscape* within their structure. Those “fragments” were usually drawn from sources within the immediate locality. In some cases, by contrast, the individual blocks of stone had been carried from a distance, and given the difficulty of that enterprise, we must conclude that the locations they were taken from were in some way special. We have hence two connected sets of “places”; those occupied by megalithic monuments were not only significant in themselves but also referenced significant other places from which they drew their materials.

A good example of this phenomenon is provided by a small group of megalithic tombs in the Alentejo region of southern Portugal. These tombs (in the Vale de Rodrigo) consist of circular orthostatic chambers covered by corbeled vaults and accessed by stone-built passages. Three of them survive, and two have been the subject of recent archaeological excavation (Vale de Rodrigo 2 and 3); a fourth lies beneath an abandoned farmhouse and has been largely destroyed, although some of its megalithic blocks are built into the later structure (Kalb 1996, 2002; Larsson 2001). The first point to note is that the choice of tomb location does not appear to have been governed by the availability of building material in the immediate vicinity. The megalithic elements consist primarily of biotite-tonalite, for which the nearest sources lie 1 km from tomb 1 and 2.5 to 3 km from the other three. Biotite-tonalite is visually indistinguishable from the bedrock on which the tombs stand but has the important advantage that its fracture planes readily yield usable megalithic blocks. The local bedrock, by contrast, fragments generally into smaller pieces. It is clear that the proximity of raw materials was secondary to desire to build the tombs in these specific locations; the place had some particular value of its own, though one that is now difficult to determine. More striking is the fact that each of the three surviving tombs also contains one or more blocks of a much more distant material, a porphyritic granodiorite transported more than 7 km (Figure 1.3). The northern source at Freixial (about 7 km north of tomb 1) was probably preferred over the eastern source at Monte do Barrocal (about 6.5 km from tomb 1), since transport from Freixial did not necessitate crossing a stream valley (Dehn et al. 1991).

We do not know the precise location of the outcrop or quarry of the porphyritic granodiorite, but its distance alone suggests it must have been a place associated with some special value. The choice of this stone was certainly not driven by the mechanical properties of the material. In Vale de Rodrigo 2, porphyritic granodiorite was used for one of the capstones of the passage, but it is the only capstone in the passage that has subsequently cracked (Larsson 1998).

Probably the most famous instance of this practice of “megalithic transport” is provided by the Stonehenge bluestones. These are not the large blocks of silicified sandstone that form the most prominent elements of the monument but a series of 80 or so smaller pillars, each around 2 m high and weighing up to 4 metric tons. Recent field research suggests that the bluestones were brought to Stonehenge around 3000–2900 B.C. and were originally erected, some as a single ring of stones in the so-called Aubrey Holes around the inner edge of the ditch, others as a separate smaller circle 2 km away (Parker Pearson et al. 2009). They are geologically foreign to the Stonehenge area and derive from southern Wales. Attention has focused on a series of outcrops in the Preseli Hills, and in particular on the impressive Carn Meini, some 240 km distant from Stonehenge. It is not difficult to envisage these jagged pillar-like outcrops as a place of mystical or sacred importance to prehistoric communities (Figure 1.4, *see color plates*). Naturally fractured blocks of stone lie scattered and readily available around the foot of the outcrops.

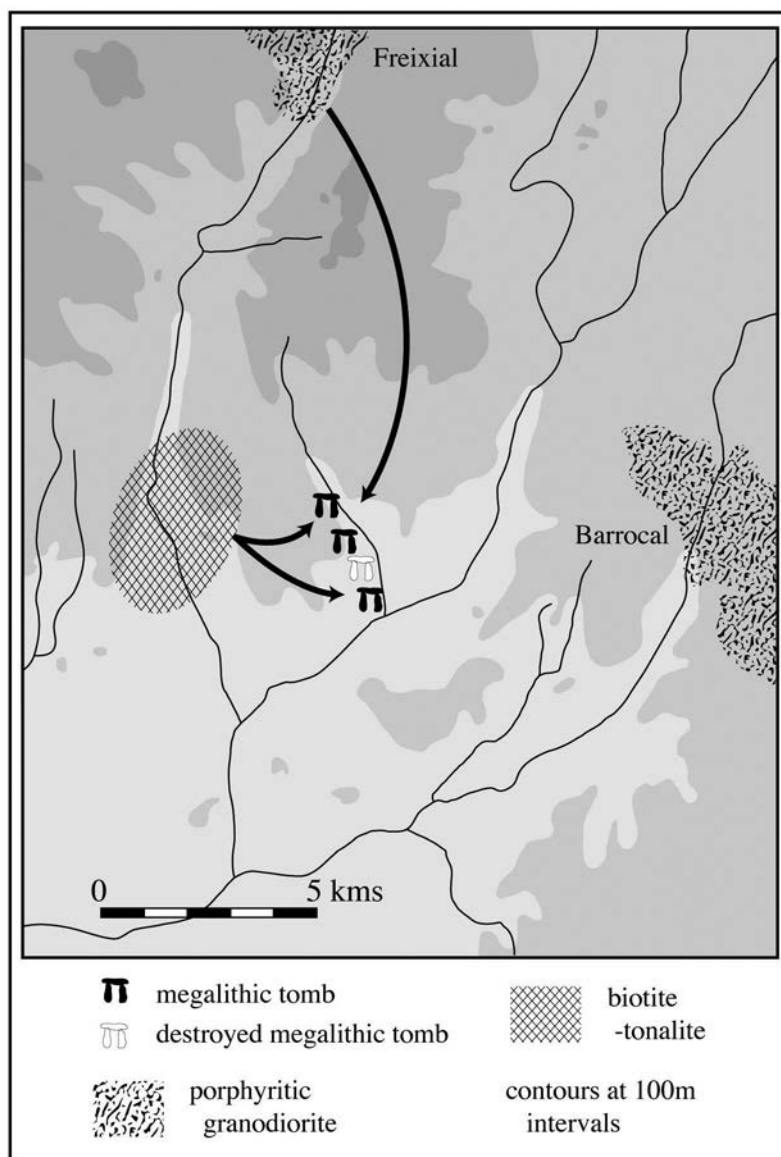


Figure 1.3. Sources of stone for the megalithic tombs of the Vale de Rodrigo in southern Portugal (after Kalb 1996, 2002).

Recent fieldwork has attempted to find direct evidence of prehistoric activity or quarrying, with some measure of success (Darvill 2009). The geology of the bluestones is very varied, however, and includes rhyolites, dolerites, and sandstones (Green 1997; Thorpe et al. 1991). Carn Meini must have been only one of the sources from which the bluestones were derived; other bluestones may have been taken from exposures widely scattered through southern Wales (Ixer and Bevans 2010; Ixer and Turner 2006). Thus the transport of the bluestones does not reflect the sacredness of one particular place, however dramatic the Carn Meini outcrops.

But it may nonetheless represent the desire to incorporate the powers or values of place within a focal prehistoric monument.

The argument here takes us back to the fundamental question. The use of extravagantly large blocks, which frequently weigh up to 10 metric tons and sometimes more than 100 metric tons, demands explanation. The largest of all, the Grand Menhir Brisé (“large broken menhir”) at Locmariaquer in Brittany, would originally have stood some 20 m tall and weighed around 300 metric tons (Bonnioi and Cassen 2009:705; Scarre 2011). Its quarrying, shaping, transport, and erection must have demanded the cooperative effort of several thousand individuals drawn probably from across a large area of northwestern France. The fact that megalithic blocks such as this were transported over considerable distances indicates that we are not dealing in these cases with an opportunistic use of local materials. Quite the reverse: the manipulation of stone blocks weighing many tons must have been a difficult and hazardous proceeding. It was definitely not a primitive constructional technique adopted by communities that had not yet mastered the skill of splitting stone. Any such notion is immediately dispelled by the substantial panels of dry-stone walling. A number of the earliest tombs are built entirely in dry-stone technique. Thus the technology of dry-stonework was available to these communities, but they chose nonetheless to deploy large megalithic blocks.

Such a use of stone was therefore an intentional and symbolic act. Two further observations can be added. The first is that the megalithic blocks were always derived from surface exposures. They were not quarried from a depth but from visible exposures. Some came from rock outcrops, others came from boulder scatters, and others were cut from cliff faces (Scarre 2009). The second feature is that the megalithic blocks were often left relatively unworked, so they retained the surface appearance of the boulders or outcrops from which they were taken. Hence there would have been a direct visual link between the megalithic block and its source.

The argument that visual appearance was important is supported by studies of megalithic monuments that incorporate stones from a number of different sources. We have already seen this at Stonehenge and in the Vale de Rodrigo. It is underscored by the patterned ways in which the different kinds of stone were arranged; the builders were fully aware that they were dealing with materials of varied origin. In northwestern France, for example, the tomb of Les Mousseaux is built of local tertiary sandstone, but the blocks are of different varieties and come from several different sources. The variability is reflected in color and texture, with reds and red-browns alongside yellows and grays, and surfaces that are smooth and fine grained alongside others marked by ripple or wave patterns. These visual contrasts are reflected in the patterning of the stones within the monument, especially in the symmetrical arrangement of slabs of red ferruginous sandstone (Figure 1.5) (Scarre 2004).

Were these red sandstone slabs important because of their color or because they came from a location endowed with cosmological or mythological significance?

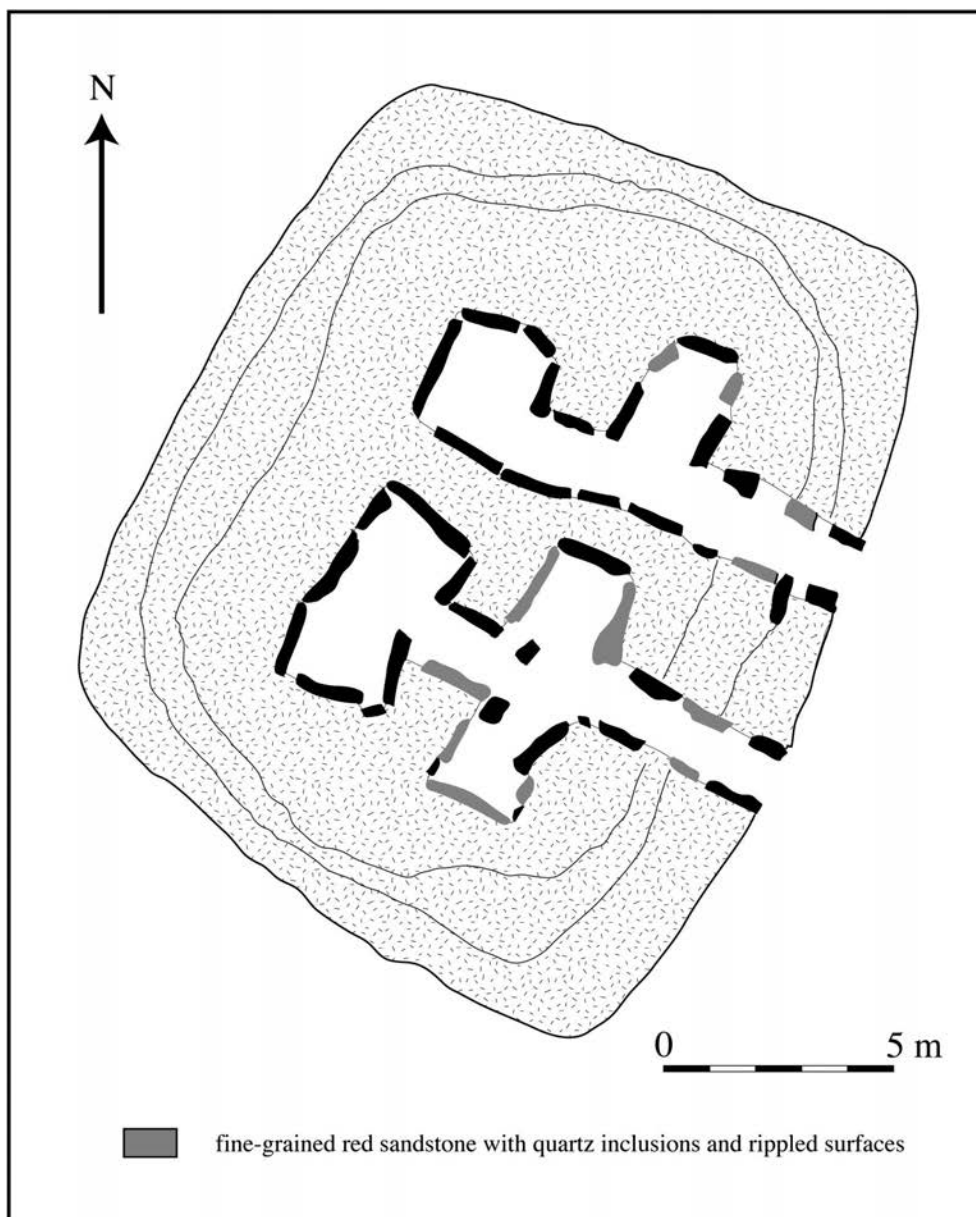


Figure 1.5. Symmetrical arrangement of red sandstone slabs in the chambered tombs of Les Mousseaux, Loire-Atlantique, France).

Color in itself may certainly have been of consequence. This can be shown for the stone rows of Le Moulin at Saint-Just in central Brittany, where pillars of local schist are arranged within a linear setting of quartz blocks that were quarried and dragged here from a source 4 km distant (Briard et al. 1995; Le Roux et al. 1989; Scarre 2002, 2011) (Figure 1.6, *see color plates*). The interplay between brilliant white quartz and dull gray-brown schist may refer directly to the presence of quartz seams

cutting through the bedrock. These seams are too narrow and granular to furnish blocks of megalithic dimensions—hence the need to transport quartz monoliths from distant sources—but they may have inspired particular readings of the hilltop on which the stone rows were built. Contrasts of color and brightness lie at the core of this engagement.

Quartz as a material has a special importance in many traditional societies owing to its brightness and reflective qualities and to the phenomenon of triboluminescence, whereby crystals of quartz emit light when struck or rubbed together. There was a widespread belief in the American Southwest, for example, that the breaking of quartz rocks releases supernatural power, which may be a reference to the triboluminescent properties of the material. In western North America, quartz is systematically associated with shamanism, and pieces of quartz are found wedged into cracks in the rock at rock art sites (Whitley et al. 1999). Other continents provide similar instances. In Australia quartz and quartzite have a particular association with Ancestral Beings through their brightness and iridescence. In recent times, Aboriginal groups considered quartzite to be the petrified remains of ancestors, and tools made of quartz had special symbolic power (Taçon 1991).

The intentional interplay of quartz and schist monoliths at Saint-Just may thus be interpreted within a framework of ethnographic references that illustrate the special nature and properties of the quartz. It may have been the presence of quartz seams that first drew attention to this hilltop. The hilltop had become a special place even before the stone rows were built across its surface. Tuan argues that “to build is a religious act, the establishment of a world in the midst of primeval disorder” (Tuan 1977:104). At Saint-Just the act of building may not in itself have created a place *de novo* but may have enhanced and modified one that already existed.

MARKING ROCKS, MARKING PLACES

The sources and patterning of stones in these constructions suggest that these prehistoric societies shared a complex world of beliefs linked to significant places in the landscape. Further evidence comes from the decoration of rocks with cup-marks (ground hemispherical hollows). These are a widespread phenomenon, found from Scandinavia to Portugal, and are present both on rock surfaces and on megalithic stone slabs (Waddington 2007). In megalithic tombs they chiefly occur on capstones or roof stones. A good example is the site of Bachwen in Wales (Figure 1.7). The cup-marks are on the upper surface of the capstone and may have been concealed from view once the burial chamber was covered by a mound; hence they were probably carved before the tomb was built.

Similar cup-marks are found on open-air rock surfaces throughout northwestern Europe. From this it follows that the cup-marked capstones were originally panels of rock art. The Neolithic builders targeted these rock art panels when seeking

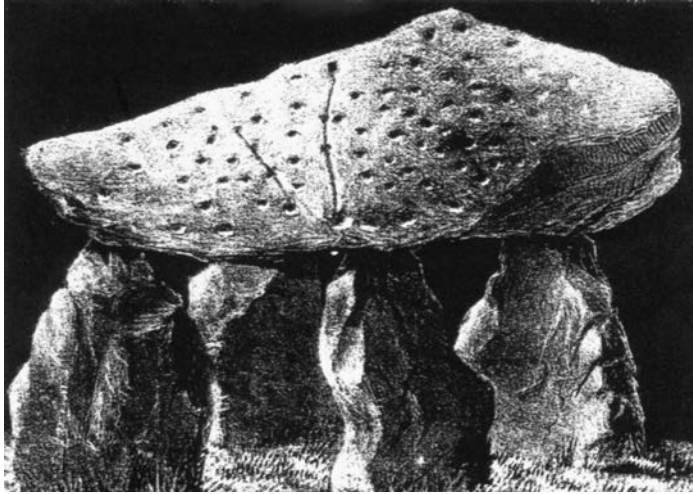


Figure 1.7. Megalithic tomb of Bachwen in northern Wales showing numerous cup-marks (from Simpson 1867).

material for megalithic monuments. Cup-marks indicate locations that were already recognized as “special” places in the landscape. The megalith builders sought to appropriate the powers of these special places by physically cutting them away and dragging them to a new location, where they became part of a tomb or were erected as standing stones.

The age of the cup-marks is difficult to establish, but they are evidently older than their contexts of reuse. One of the oldest monuments with a cup-marked capstone is the central megalithic chamber beneath the massive long mound of the Tumulus de Saint-Michel in southern Brittany. The underside of the capstone has a series of six cup-marks (Closmadeuc 1862:35–36). These may have been executed in situ, but it is more likely that this panel of rock art was cut away and brought here to serve as a capstone. The date of the chamber falls probably in the third quarter of the fifth millennium B.C.; the practice of marking out special places in the landscape with cup-marks must be older still. These cup-marks are our clearest evidence for an Atlantic Neolithic world populated by places of special value.

LIVING AMONG THE STONES

The patterned use of stone and the reuse of cup-marked blocks together illustrate how European megalithic monuments drew upon significant “places” in a direct and physical way. In a sense, however, the argument is somewhat curious in that it suggests that the monuments were drawing upon the powers of *other* places. What about their own locations? Were the sites on which they were built already locales of historical or mythological importance?

We might term this quality “rootedness,” though interpretation is weakened where the time spans involved are particularly lengthy. Thus the row of postholes for upright timbers found on the site of the car park adjacent to Stonehenge in the 1960s (Cleal et al. 1995) might be taken to prefigure the monument that followed. They demonstrate that this was a “place” within the landscape long before the first stone structures were built. The age of the postholes, which date to the eighth or seventh millennium B.C., invites caution, however. As great an interval separates them from the Neolithic monument (built around 3000–2900 B.C.) as separates the Neolithic monument from the present day. The argument that the Mesolithic postholes at Stonehenge mark it as what Tuan would term an “enduring” place must be weighed against the possibility that this is a case of simple spatial coincidence.

In other cases, a much stronger connection with earlier activity can be argued. This includes instances where a tomb was built on the site of an earlier dwelling house. A good example is provided by Ballyglass in Ireland, where a megalithic tomb with an open central court overlaps the plan of a rectangular timber house (Figure 1.8). The excavator argued that the house had been intentionally demolished to make way for the construction of the tomb (Ó Nualláin 1972). Though at first sight the plans and purposes of the successive structures appear strikingly different, the chambers of the court cairn do bear comparison to the house in their rectangular and segmented form. We might go further and suggest that the central court materializes in monumental form an unroofed social space originally adjacent to the house. If the house was not a domestic dwelling but a feasting hall, as Sarah Cross (2003) has suggested, the succession at Ballyglass will have been not from domestic to funerary but from communal gathering to communal burial.

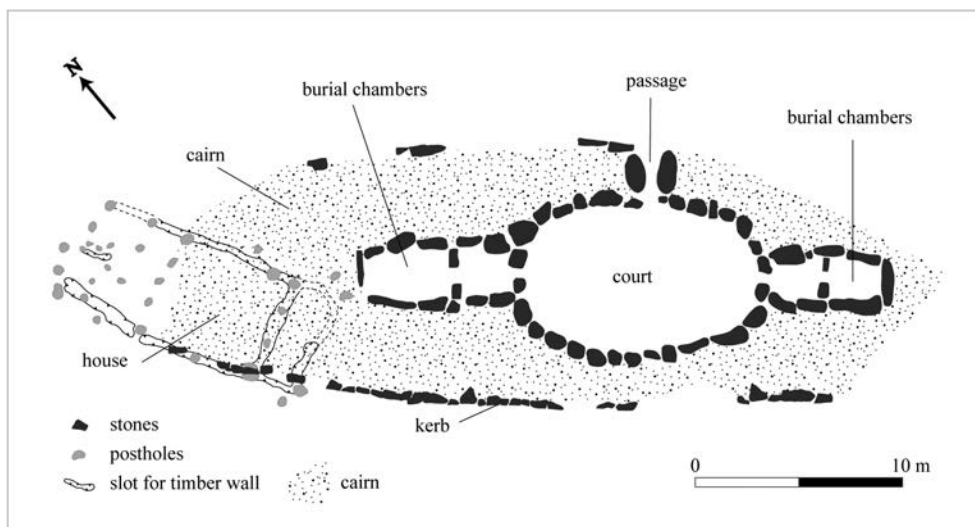


Figure 1.8. A court cairn with two megalithic chambers opening onto a central space (court), Ballyglass (County Mayo, Ireland). The northern end of the cairn covers the remains of a rectangular Neolithic house, represented by postholes and bedding trenches for walls (from Ó Nualláin 1972). Adapted and redrawn by Kate Sharpe.

In this instance, it was the act of dwelling (or feasting) that created the special place in which the tomb was subsequently built. There may have been a direct genealogical connection between those who used the building and those whose remains ended up in the tomb; they may indeed have been the same individuals. Both stages in the creation of “place” through building (house and tomb) were the result of human material action.

In other cases the continuity is with “natural” features rather than earlier human constructions. Thus a chambered tomb might be built up against a rock outcrop or a row of standing stones might be aligned upon a conspicuous boulder. At Carreg Samson in southwestern Wales, a small polygonal chamber is covered by a massive capstone, which was probably an earth-fast boulder dug out from the pit in which the chamber was then built (Lynch 1975:16; see also Richards 2004) (Figure 1.9, *see color plates*). Here the project seems to have involved the elevation of a conspicuous stone that was already a venerated feature of the landscape (Whittle 2004). It was much more than merely a convenient structural stone; in all likelihood it was the reason for the construction of the tomb. The boulder may well have been one to which special significance had long been attached, analogous perhaps to the petrified ancestors in the Petermann Ranges of Western Australia referred to earlier.

At Carreg Samson, the boulder was preserved intact. Many other megalithic tombs involved a systematic process of destruction. Entire outcrops might be quarried away to provide suitable slabs. In the megalithic tomb of Kerbourg, three of the four capstones come from the upper surface of an outcrop, while the orthostats (supporting uprights) are drawn from the lower edges or from the interior of an outcrop (Mens 2008). Logically, the latter would be accessible only when the upper and outer parts of the outcrop had been removed. Hence their presence may indicate that the source outcrop was completely demolished to provide material for the tomb. A similar conclusion applies to the Carnac stone rows; evidence suggests likewise that local outcrops were comprehensively quarried away and removed to build the stone rows (Mens 2008). In other words, a landscape of natural places was transformed into a cultural monument.

These studies serve to remind us that the settings in which Neolithic monuments were built were very different from those in which we see them today. The demolition of rock outcrops has radically transformed the Carnac landscape. Elsewhere in western Europe, the formerly extensive scatters of boulders have been removed to clear fields for cultivation and broken up for building stone. Megalithic monuments did not stand originally in stone-free landscapes. Indeed, to build a monument such as Stonehenge, an essential first step may have been to clear away the jumble of natural boulders that littered the site (Field 2005:91). Those boulders may themselves have been part of the existing importance of place that led the Neolithic builders to this location.

PLACES OF POWER AND SHRINES OF THE LAND

Taken together, the evidence assembled here suggests that the construction of megalithic monuments reconfigured an existing pattern of landscape beliefs, appropriating the powers of established places to create *new places*. The landscape beliefs of traditional societies in sub-Saharan Africa provide an interesting ethnographic analogy. Here a number of societies distinguish between “places of power,” which take the form of natural features such as rocks, waterfalls, and trees, and “shrines of the land,” which are human constructions associated with lineage founders and ancestors (Colson 1997; Mather 2003).

Places of power are associated with nature spirits, whereas land shrines are dedicated to ancestral spirits. Colson remarks that such “places of power” are not restricted to Africa but are found throughout the world, where they everywhere invoke similar kinds of natural features. All “seem to have the potential to engage the human imagination and become imbued with sacred authority” (Colson 1997:49). They are places of danger as well as power and are carefully avoided or approached cautiously in the presence of priests or religious specialists. Land shrines, by contrast, owe their origin and siting to human intervention. “They represent . . . the continuity of human life forces, not the power inherent in nature” (Colson 1997:52). In many instances they commemorate the people who first settled, colonized, or conquered a particular area. They are shrines to the ancestors or to lineage founders, and they relate to human history rather than primordial beings.

It would be easy to read the European Neolithic evidence in the light of this distinction. The megalithic tombs are human constructions and in that sense are comparable to “shrines of the land.” The burial deposits they contained may have been those of ancestors whose presence legitimized the land rights of subsequent generations. That was the argument proposed in processualist interpretations of the 1970s (Chapman 1981; Fleming 1973; Renfrew 1976). The concept of “ancestors” has since been criticized. Many such claims fail to provide any specific grounds for believing that those whose remains were buried in the tombs were regarded as lineage founders by subsequent generations (Whitley 2002). The concept may still be valid, however, if one adopts Ingold’s distinction between “genealogical” ancestors and “relational” ancestors, the latter reflecting people’s perceived relationships with the landscape and each other. Ancestry need not involve “the physical transmission of substance” (Ingold 2000:140–142; Jones 2008:192–193).

A more pertinent criticism in the present context is the observation that the concept of ancestors does little to explain the morphology of the monuments or the predilection for the use of oversize “megalithic” blocks. Why megalithic? The answer may lie in the relationship of these monuments to existing “places of power.” They drew upon the potencies of such places by physically incorporating their fragments. Those fragments could be cup-marked rocks or distinctive stone slabs laboriously transported from distant sources. The megalithic character of the

stone slabs preserved the memories of those special places in a more evocative and visual manner than their reduction to smaller blocks could ever have done.

Such a proposal may explain the emphasis placed on megalithic blocks in the construction of these monuments and the use of blocks taken from different places. A parallel might be drawn with the practice of shrine franchising as reported, for example, among the Tallensi of northern Ghana (Insoll 2006). The Tallensi take stones from rockshelter shrines such as Tonna'ab for the foundation of smaller household shrines in neighboring villages. The stones involved are smaller than the megalithic blocks incorporated in the western European Neolithic monuments we have been considering, but some common principles are apparent: the sacred power of unmodified rocky places (such as the Tonna'ab rockshelter shrine), the symbolic significance of stone as a material, and the transfer of power through the agency of stones from natural places to human constructions.

We must also consider the dimension of time-depth. Like the mythical landscapes of Australia referred to earlier, "places of power" in sub-Saharan Africa are considered primordial. They are "different in kind from places whose efficacy is seen as prior to any human relationship with the site" (Colson 1997:48). The megalithic monuments of western Europe, on the other hand, like the African "shrines of the land," are associated with agricultural communities and fall within human timescales of history and genealogy. There may, then, be a layering of belief, with new understandings of place overwritten on earlier geographies of meaning and significance (Scarre 2008).

Genealogies can be written into the monuments themselves. In folklore, human-size stones are recurrently identified with petrified individuals. There are numerous examples, both in the names attributed to prehistoric sites and in the stories associated with them. Thus the Merry Maidens stone circle in Cornwall illustrates the fate of young girls neglecting Sunday vespers to dance in the open, lured by devil pipers and turned to stone for their disrespect (Hunt 1865). The ascription of human qualities to nonhuman objects is a feature of human cognition and is all the easier when an object is of roughly human form (Guthrie 1993). Upright stones of approximately human dimensions readily lend themselves to such a reading. There is also ethnographic evidence that pillar-like stones could be erected to represent deceased individuals. The Zafimaniry of Madagascar (Bloch 1995), for example, commemorate men by erecting menhirs (which may symbolically reference the central post of a house). Women, on the other hand, are commemorated by a setting of three stones (representing hearthstones) covered by a large flat stone (which stands for a cooking pot). Offerings may be made at these places, and indeed where no standing stone is present, a person gathering honey or clearing a new field will leave the offering instead on a prominent natural rock. Bloch remarks that "the Zafimaniry say of such prominent rocks that they are 'standing-stones made by God' and the difference of authorship makes no difference to their function" (Bloch 1995:74).

With few exceptions, the hunter-gatherer communities of western Europe who directly preceded the first farmers did not build monuments. Their sacred places must have been unmarked natural features, perhaps rocks, trees, and springs. The monuments built by Neolithic communities indicate that new values of place had become established. Those new values did not repose entirely in primordial beliefs about the land; they also reposed in human history, in the stories and legends that surrounded the individuals and groups who had created *new places* by dragging and raising massive megalithic blocks.

The values exemplified by these actions cannot easily be comprehended by modern Western understandings of place. Even if we retained the view that mortuary commemoration expressed a link to the land as an exploitable resource, that would fall far short of explaining the specific form that these structures assumed. Reading the rocks, looking closely at the shapes and sources of the stones, provides a different level of insight, one that brings us closer to a concept of places as repositories of spiritual or supernatural knowledge and power. That those places were exploitable in this particular way, that their powers could be co-opted and controlled by breaking off fragments, testifies to a specific concept of “value” that was sensitive to the natural forms and features of the land. These early farming societies must also have valued other places—homesteads, horticultural plots, summer and winter pastures. Like the construction of prominent monuments, the creation of these through clearance and cultivation would have radically altered the texture of the landscape, establishing “places” of a kind unknown to earlier hunter-gatherer societies. There may indeed have been a number of overlapping reticulate sets of significant places, many of them scarcely visible today from the archaeological record. The advantage of the monumentalized manifestations is that they offer us the possibility of insights, albeit partial, into the values that may have attached to one particular series of prehistoric places.

ACKNOWLEDGMENTS

First and foremost, I would like to thank John Papadopoulos and Gary Urton for inviting me to the conference from which this paper derives, and for their editorial comments on an earlier draft. I am also grateful for the comments of two anonymous referees, and to the media team at Uluru-Kata Tjuta National Park for supplying the photograph of Uluru and for permission to reproduce it here.

CHAPTER 2

.....

THE NEGOTIATION OF PLACE VALUE IN THE LANDSCAPE

.....

JOHN CHAPMAN
DURHAM UNIVERSITY

ABSTRACT

.....

The commonly accepted “dwelling perspective” favored by Tim Ingold and many since is based upon the creation of value through inhabitation of a place. However, the construction of place value, which rests on the ontological character of sites, monuments, and their landscapes, is the endless (re)negotiated result of disputes between different interest groups—particularly insiders and outsiders and the powerful and the weak. The four common resources used to build an ontological model are the persons, objects, and landscapes enchaind to the place in question, as well as the history of the place itself as contained in cultural memory. Shields (1991) has developed a nested hierarchical model for the emergence of place identity that is closely related to the way place value is created. The predominance of one form of place identity over the others is a key political issue for places and their related landscapes. These issues will be discussed through scenarios from the Balkan Mesolithic, Neolithic, and Chalcolithic, including the emergence of tells and the abandonment of flat sites, the reuse of Minoan monumental sites in the Cretan Iron Age, different place myths found among forager and farmer groups in the Iron Gates Gorge of the Danube, and implications of the debate over a pacified or a warlike prehistory for place value.

INTRODUCTION

.....

The question of how we value places is an all-encompassing one, since everything we do takes place somewhere. As the Greek philosopher Archytas of Tarentum (428–347 B.C.) stated, “To be is to be in place.” Until the late nineteenth century, to be in contact with someone meant the state of copresence; two or more persons had to be in the same place to have a meaningful interaction. This is why pre-Columbian Amerindian groups have no separate toponyms for “person” or “place” but instead have a portmanteau referring to kin territories, best translated as “people-places” or “place-peoples” (Robinson 1989). In small-scale societies, localism was so pervasive that a generic word for “place” was as unnecessary as it was unthinkable (cf. Gregory 1994). Separating people from places was hard because a person’s identity was so closely tied to his or her place (Robinson 1989:161, 167). There is thus a moral character in the relation between person and place, especially in times of settled life (Wilson 1988), when the anchoring of a person in a particular place results in the identification of that person with that place and vice versa. It is but a small step forward to associate the importance of a place in its relationships with persons to the values placed upon the persons who come from that place (and vice versa).

But this small step is one that few archaeologists have dared to take. There is an immense literature on places, but the number of papers on place value is minimal. In an earlier survey of this field (Chapman 1998a:106), I sought to explain the tendency among social anthropologists such as Weiner (1980) and Strathern (1988) to exclude places from their otherwise stimulating discussions of the creation of value by highlighting the paucity of anthropological discussions on landscape. However, more than a decade later, landscape has become a growth area for anthropology (e.g., Bender 1993; Hirsch and O’Hanlon 1995; Rodman 1992), while place value continues to suffer neglect. One would expect more in the recent *Handbook of Landscape Archaeology* (David and Thomas 2008a), where “if landscape archaeology concerns the archaeology of human emplacement, then landscape archaeology is an archaeology of place” (David and Thomas 2008b:20). But place value is an almost excluded area apart from contributions on cultural resource management (Byrne 2008; Lazzari 2008; Strang 2008; especially Lydon 2008). The latter emphasizes the importance of all aspects of a place’s value—whether aesthetic, historic, scientific, social, or spiritual—to its cultural significance (Lydon 2008:656–657). She complains, however, that contemporary heritage discourse privileges the scientific worldviews of archaeology over categories of social value. Could it be that this deeply rooted positivism and empiricism is the underlying reason why so few landscape archaeologists discuss place value? Perhaps, despite recent progress in understanding places and their emergence from the natural world, the deeply sedimented effects of reliance on the economic values of land over the last five centuries continue to exert an influence on our thinking. It is with the hope of moving beyond

this established category of the economic value of places, which was foundational for the modern world, that this chapter is offered.

There are as many ways in which places emerged from human dwelling as there are ways in which human bodies needed an understanding of the landscape to some degree to discover places for themselves (Thomas 2008). Just as inherited familiarity with the landscape is the context for places to reveal themselves in intelligible ways to those dwelling there (Thomas 2008), so the landscape calls past practices to mind, if they do not directly manifest such practices, to make comprehensible actions in the present (Ingold 1993).

Casey (2008) has summarized the history of the relationship between space and place in Western philosophy, starting in ancient Greece, with a close relationship between place and being—a relationship that became more distant until, by the seventeenth century, and especially in the thinking of Kant, there was a progressive dissolution of place as an independent variable in human existence. The emphasis upon space instead of place continued through the nineteenth century, even in Darwin's thinking, and well into the last century, until the emergence of a tendency to deconstruct space—especially neutral, objective space—and a rediscovery of place. The rediscovery of place in the social sciences often started from a creation of meaningful “place” from abstract “space” (Strang 2008:52 and references), with Chapman (1988) being an early example in prehistory. The transformation of space to place was extended to “arenas of social power,” in which the germane aspects of social power—ideological, economic, military, and political—could be identified with a place (Chapman 1993).

An objection can be made, however, to this way of explaining the emergence of place. This objection concerns the form of allegedly “neutral” space, which is no more or less than the entire physical environment. The initial reconnaissance of a human group settling any area for the first time would have identified landmarks and built them into a worldview of the landscape, also noting the productive affordances of the area for an assessment of whether the group could dwell there or not, or for how long. The previous experiences of the group settling the new landscape would have given them the knowledge and skills needed to assess the new land; the meaning in new landmarks was a fusion of physical appearance and the accumulated understanding of places gained by the group. Thus any freshly occupied “space” could be neutral only insofar as the group had no previous experience of dwelling. Moreover, meanings are not simply “bestowed” upon objective space in its transformation into “place” because the variability of the physical environment is such that the human group in question could never have seen these specific landmarks, whether individually or in combination, in another landscape. Richard Bradley (1998) has provided excellent examples of how natural landmarks have accreted symbolic meanings through acts of dwelling.

The aspect of this process of dwelling and the reciprocally related emergence of meaningful places that has been less emphasized is the creation of place value, which

is central to the assessment of a landscape settled for the first time. Place value may be defined as the combined significance of a place in relation to other known places, as negotiated through the prioritization of available affordances, both physical and symbolic. It is an umbrella term combining aspects of two forms of value: use value, or the affordances given by a place to a specific project, and labor value, or the amount of labor invested in a place in the actualization of projects carried out there. Continuing with our example of a freshly settled landscape, the group's previous experiences of topography, soils, vegetation, and special natural landmarks would combine with the cultural memories of objects, persons, and history associated with related places from previously known areas. Part of a group's identity consists of the histories people share—knowledge that makes group members insiders and people from other places outsiders (Shields 1991). These histories are grounded in place as much as in time, involving time-marks—places with associations to specific times or past events (Chapman 1997)—as much as landmarks. Thus the principal cultural baggage of colonizing groups is their own history, into which elements of a new landscape are integrated. The key point about local histories is the sequential accumulation of layer upon layer of past events and their meanings. However, because of the different associations and alternative histories of different persons in any group, the attribution of value to a place was rarely a straightforward matter but involved discussion, negotiation, and perhaps conflict. These elements have not been discussed frequently in the “dwelling perspective” (Ingold 1993).

Ingold (1993) distinguishes the dwelling perspective from both the naturalistic view of landscapes as the neutral, external backdrop to human activities and the cultural view of landscapes as the symbolic ordering of space. This perspective places dwelling as central to life and prior to building, whether as construction or cultivation. For Ingold, a place owes its character to the experiences it affords those who spend time there, the ambience of a place—its sights, sounds, and smells—reflexively depending upon the activities carried out there. Thus the tasks of different places give rise to “taskscape”—landscapes replete with the remains of audible social action, in which economic significance (work) and cultural values (symbolic practices) cannot readily be disentangled. However, there is no consideration of the way political considerations enter the taskscape or help shape the creation of a place. The central paradox of the dwelling perspective is that while it appears to be firmly grounded in the details of everyday living, tasks, and discard, it remains high above the everyday questions of negotiation, contestation, and dispute.

An expanded dwelling perspective starts from the premise that place value is always a contested field of practice in which political action is as important as dwelling practices (Chapman 1998a:109–111). Gregory (1994) has argued that it is an insight of feminist geographers such as Massey (1994) that places were understood as sites where identities and subjectivities were negotiated through varying individuals advancing claims of the varied meanings and values of places that were apparently shared as common loci of activities.

Shields (1991) has developed this perspective in two ways: first, the contrast between “insiders” and “outsiders,” and second, the theorization of a nested hierarchy of spatial identity—mythology, place myth, and place image. For Shields, people use discourses about places as a mark of their “insider” status, creating affiliations that separate the group from “outsider” places and people. Thus the essential cultural marker is the process of place identification, for it is the naming of a place that marks an insertion into a symbolic realm of a specific space whose meaning can be discussed only in terms of that symbolic realm of discourse. An essential element of that place naming is constituted by the ascription of place value to the place. One of the most important insider stories consists of the group’s hierarchy of spatial identity.

The highest level of Shields’s (1991) hierarchy of spatial identity is formed by a mythology of place identities—a form of place cosmology comprising the overall system of relative similarities and differences between all known places in the network. This is a relational system agreed upon by the majority of group members and built upon the second hierarchical level—a set of place myths. Place myths represent conflicting but often internally coherent visions of the identity of a particular place—visions that often change over time but that are always negotiated by different groups holding their own versions of the place myth, and therefore their own versions of place value, and negotiating them with other insider or outsider groups. These place myths consist of a suite of the third hierarchical level—place images, which derive from face-to-face encounters with particular places and comprise discrete meanings associated with real places regardless of their character in reality. Shields (1991:47) identifies three processes by which people create place images: oversimplification, stereotyping, and labeling. This leads to the emergence of place images from the bottom up, often dominated by core images derived from mental maps. Each core image has an element of place value.

This model of place identity creates the possibility for a more dynamic process of place formation than in the standard dwelling approach, since the possibility of negotiation over places is built into the very beginning of the exploration of a new landscape. If the colonizing group consists of mostly young adult males rather than a representative subset of the entire group (Green and Perlman 1985), the identification of places would be equally biased and subject to negotiation over place values with full settlement by the whole group. Alternatively, the initial preferences over place by the group leader may be disputed at a later date by the group as a whole, leading to changes in the hierarchy of place identity. Shields (1991:262) argues that this tension between communal identities and the polyvocality of individual place images—between group myths and personal experience—forms the basis for social action.

It is the purpose of this chapter to explore this claim through a study of scenarios developed from Balkan and central European prehistory. In terms of Jackson’s (1984) distinction between landscapes of the living—or the “vernacular

landscape”—and monument-dominated landscapes—or the “political landscape”—I shall focus more on the vernacular landscape of emergent dwelling features (for an emphasis on the political landscape, see Scarre, this volume). In my first scenario, answers are sought to Yi-Fu Tuan’s intriguing question, “What time is this place?” by confronting the place mythology materialized in planned settlements of the eastern Balkan (Karanovo VI) and eastern European (Tripolye–Cucuteni) Copper Age with lower-level place myths represented by acts of deposition and settlement-wide communal house burning. I then examine the emergence of one site as a tell-to-be from a range of other flat sites and the concomitant abandonment of the other flat sites, using the Neolithic of the Polgár area in northeastern Hungary as an example. This is followed by a consideration of another common settlement practice: the reoccupation of an abandoned former site, with various possibilities for the creation of alternative narratives. This scenario is exemplified by the use of cultural memory in the reoccupation of Minoan sites on Crete in later periods. The scenario of clashing worldviews is explored through different place-based ideologies found among forager groups and farming communities in the Iron Gates Gorge of the Danube. Finally, the implications for place value are discussed via a major disagreement over fundamental assumptions about whether prehistoric societies in Europe were largely peaceful or predominantly warlike. This scenario is peopled by alternative place narratives that could have emerged from the site of a prehistoric massacre—in this case, the Hungarian Neolithic site of Esztergályhorváti.

WHAT TIME IS THIS PLACE?

.....

I continue by thinking through a question posed by phenomenologist Yi-Fu Tuan (1978): “What time is this place?” The multiplicity of answers to this question depends initially upon the kind of place in question. We shall discuss this question by examining three stages in the biography of a place: its origins, an episode in its life, and its death.

In any settlement that shows signs of deliberate, formal planning, the place is the time of “origins,” since the plan at once captures the presencing of the ancestral past and the representation of a contemporary geometric order whose salience is as much social as formal. There may be a debate as to the nature of the social power or authority of those village leaders who implemented the plan of a settlement, but the guardians of the cosmological traditions of the community must have played an important role in the layout of that site. Formal plans are a spatial materialization of Shields’s place mythology, the plan representing relations between members of the community and the settlement itself. Formally planned settlements are rare in European prehistory, yet there are cases in the Climax Copper Age of the eastern Balkans and farther east. The essence of the highly planned settlement layout of the Bulgarian Copper Age (fifth millennium B.C.) tell of Poljanitsa is an enclosed



Figure 2.1. Plan of phase IV of the Copper Age tell of Polyanitsa, northeast Bulgaria (Sherratt 1980:figure 20.1).

rectangular plan with four quarters of equal size, each containing a rather different suite of rectangular houses (Todorova 1982) (Figure 2.1). Here the axis mundi is defined geometrically by the main “streets” of the settlement. By contrast, the concentric ovals of the Tripolye Copper Age site of Glybochok (Videiko 2007:266 and figure 5), one of a group of Ukrainian megaliths, materialized a rather different worldview, with the cumulative addition of strata of settlement, each in turn farther from the center of the world—the omphalos—at the center of the site (Figure 2.2). Here the “streets” of the settlement are gently curving, with most houses close to their neighbors and all houses in a specific ring broadly equidistant from the center of the site. These two carefully planned, distinctively materialized versions of the origin myth of Copper Age societies are contemporary and yet contrasting in the way that the time of their places is represented. While later occupants modified elements of the design of these structures, there was rarely an attempt at a complete transformation of the settlement plan.

Turning to an episode in the life of a place, other ways of representing the times of a place involve the construction of cultural memories. The pioneer of memory studies was Maurice Halbwachs, who believed, “If a truth is to be settled in the memory of a group, it needs to be presented in the concrete form of an event, a personality or a locality” (Halbwachs 1941:159; cited in Alcock 2002:25), to which we might add “objects” and “processes” for the sake of completeness. An example

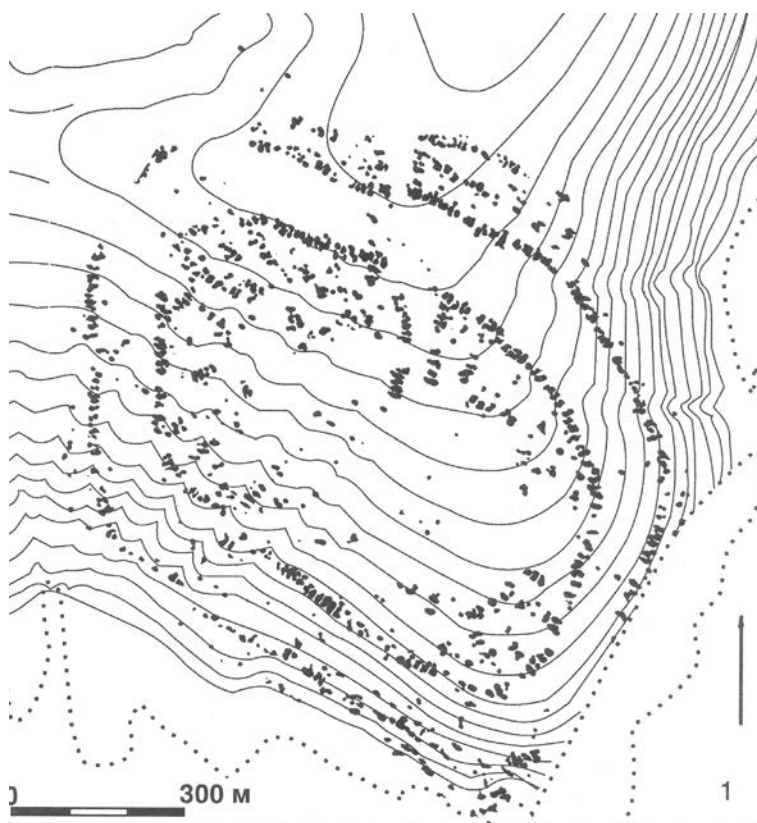


Figure 2.2. Plan of the Copper Age Tripillye megasite of Glybochok, Ukraine (Videiko 2007).

of a concrete event provoking the retention of its significance in cultural memory is the act of deposition.

The concept of the time-mark is important here. Similar to a landmark, which is a place of special physical or cultural importance in a landscape, a time-mark is an event of cultural significance that occurred at or in association with a place (Chapman 1997) and that helped create or reinforce the place value of that place. A time-mark could evoke positive or negative emotions and memories—whether the death of a great leader, a vast communal feast in advance of the building of new houses, the killing of a magnificent stag, or the loss of an eldest daughter drowned in the floodwaters of the Maritsa River. Acts of deposition are good examples of specific time-marks that help define the time of a place.

A striking example of settlement deposition comes from the northeastern Bulgarian Copper Age tell of Goljamo Delchevo (Todorova 1975). Here the deposition of two parts of a fired clay feline figurine is the materialization of a time-mark, a citation of the discovery that big cats roamed wild in the Balkans in the fifth millennium B.C. (process), as well as the imaginative reconstruction of the leader of a hunting party that ran a panther down and killed it (personality), with the

processional bearing of the trophy and the meat back to the hunting leader's tell (locality) for a great communal ceremony (event). Vörös (1983) has documented a range of Hungarian and Bulgarian sites where often single bones of big cats have been deposited in Neolithic or Copper Age contexts, suggesting that the flesh of these cats had been divided up to construct enchainment relations between hunters, their families, and their homes. The varying accounts of the lion hunt, in which careful planning of the hunt or decisive bravery at the critical moment was attributed to one person or another, changed the narrative in their favor and laid the basis for division of the spoils of the hunt, as well as the future reputations of the hunters in question. Here the scale of place value is more personal than corporate, with the possibility of people creating several different place images.

The death of a settlement can be a quiet event, in which those dwelling there accept the realities of another poor harvest or another serious flood and move on to another place. Or it can be a dramatic performance that lives long in cultural memory as a critical time-mark of the community. Closer to the latter was the communal burning of all the houses in a village¹—an event that Tringham (2005) imaginatively terms *domithanasia* (the killing of a house by the residents or their friends or agents, because it is time for the fractal house to die) (Tringham 2005:107), in contrast to Porteous's (1995) term *domicide*—the deliberate, planned destruction of a home that causes suffering to the dweller. Tringham considers house burning a strategy for ensuring the continuity of place and the construction of the social memory of the personal histories, emotions, and passions invested in each house by the household. The various memories were brought together at the event of a multiple house burning, which must have been one of the most dramatic visual and emotional events ever experienced by a prehistoric community but also one whose successful execution required careful planning of the objects appropriate to deposit in the houses and the resources of timber needed to maintain the fire to destruction (Stevanović 1997). But what could have prompted the decision to make the sacrifice of an entire village? Did everyone in the village agree with such a dramatic communal act? Surely, such an event could have been prompted by a critical event affecting the entire community, such as the death of the village leader or the destruction of the village's crops by flooding. An alternative is that the burning of a group of houses may have been stimulated by a positive event, such as the birth of twins. Communal house burning was thus a double time-mark, representing the initial stimulus and the communal response. Thus at least one time of this place was a time of tragedy and death but also a time of renewal and renegotiation of village community identity. Here the scale of place value was clearly communal, highlighting place mythology over place myths and place images.

SETTLEMENT NUCLEATION, ABANDONMENT, AND REOCCUPATION

Settlement archaeology has become adept at disentangling sites of different phases and periods to produce maps of supposedly coeval settlements, forming a settlement sequence (e.g., Astill and Davies 1997; Barker 1995; Chapman et al. 1996). While most narratives of settlement sequences remain at the general level of fluctuations between more or less nucleated settlement, these map images mask the social background to the choice of what happens to a site—whether occupation continues, a site is abandoned, or a site is reoccupied after a period of abandonment. To ignore what was at stake for persons dwelling at particular places is to miss an opportunity to outline the dynamic social decision making at the heart of settlement changes. A key element in this decision making was the extent to which communities could focus on and integrate their place images of a particular place into an integrated place mythology and maintain their dwelling. Underlying these practices was a sense of place value, which prompted those dwelling there to continue. In this section, we shall consider an example of preference of one site over others for future dwelling, including concomitant settlement abandonment, before turning to the processes of settlement reoccupation following long abandonment.

An example of the choice of one among many concerns the first farming sites in northeastern Hungary, which consisted of a dense scatter of short-term Middle Neolithic Alföld Linear Pottery sites, very few of which were later to develop into tells. The example of settlement selection discussed here concerns a cluster of sites near the town of Polgár in northeastern Hungary, investigated by the Upper Tisza Project in 1991 and 1996 (Chapman et al. 2003). In the Polgár survey block, the vast majority of sites occurred in a small number of site clusters, where there is significant continuity of dwelling over a millennial timescale. This attachment to place contributes to a sense of the social continuity of dwelling in a multiply occupied landscape. Multicommunity zone 3 in the Polgár survey block is bounded by wetlands to the north and west, with an abundance of terrace-edge locations and extensive interfluvial terrain. In comparison with the single “founding” settlement occupied in the Early–Middle Neolithic phase, there was a major expansion in the number of Middle Neolithic sites, which were located in all zones of the multicommunity zone (MCZ) (Figure 2.3a). A linear grouping of five sites in the center of the MCZ included an enclosure associated with Middle Neolithic painted wares at site 71 (the Csőszhalom “tell-to-be”).

A steep decline in the number of Late Neolithic settlements is matched by major settlement nucleation in this MCZ (Figure 2.3b). All four Late Neolithic sites had been occupied in the preceding phase. The tell of Csőszhalom developed out of a Middle Neolithic enclosure into a major landscape monument, with two alternating cycles of pits, postholes, and palisades and the deliberate burning of houses

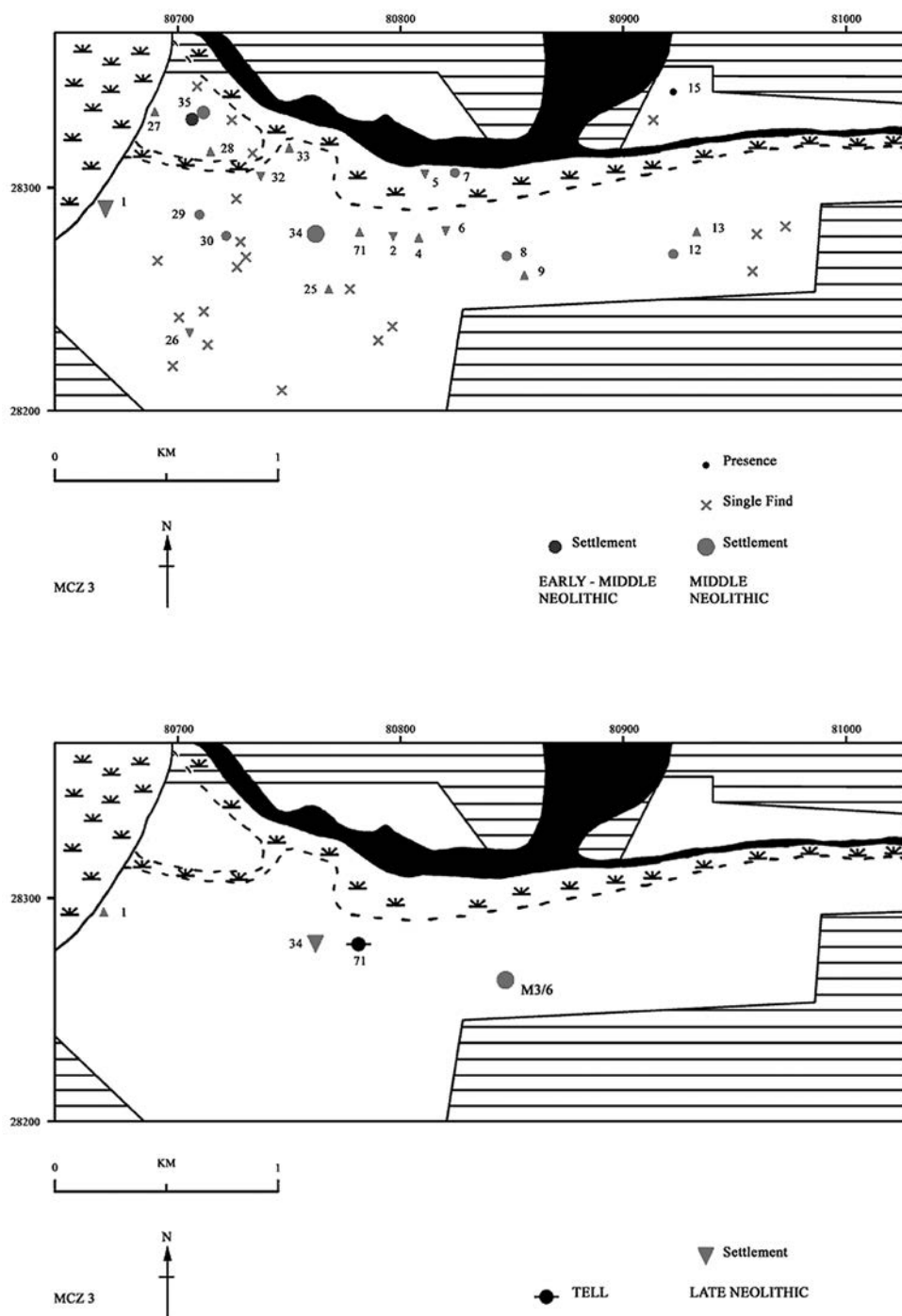


Figure 2.3. Settlement distribution, multicommunity zone 9, Polgár block, northeastern Hungary; (a) Early Middle Neolithic and Middle Neolithic sites; (b) Late Neolithic sites (Chapman et al. 2003).

full of material culture. Adjacent to the tell, a 28-ha open site contemporary with Csőszhalom phases 2 and 3 was formed by a number of household clusters, each with a house, burials, and pits, and with several households sharing a well (Raczky et al. 2007).

From a line of five sites, the selection of Middle Neolithic site 71 for the location of the central Late Neolithic settlement is informative about the cultural priorities of the period. Neither the largest Middle Neolithic site nor the central site of the five was chosen; indeed, neither was the ancestral site of the MCZ—the only site with an Early–Middle Neolithic dwelling. Instead, the only known enclosed Middle Neolithic site was preferred, presumably because of its special bounded space. It is improbable that this choice was endorsed by all dwellers in MCZ 3, since some occupants would have had closer links to alternative sites. Tensions between residents at different sites could have readily escalated into interhamlet disputes before mediation offered a way forward. Different place images would have been influential in the comparison between the place value of various places.

The creation of the enclosure at site 71 would have been an important time-mark in MCZ 3 because of the definition of a specific relation to place in that area. The likelihood of intergroup feasting and special deposition during the construction of the enclosure would have added a further dimension to the site biography, as would the development of any mortuary foci. The time-marks of other former sites reoccupied in the Late Neolithic would have been accessed through further memory-based dwelling practices, while those of Middle Neolithic sites not reoccupied in the later period could have attracted visits from residents of the new tell.

Returning to more general issues, we can see how place value was related to the creation of “nascent” tells-to-be. While some tells-to-be never grew into settlement mounds, dwelling at other sites continued until the interplay between social and material conditions (group size and organization, duration of prior occupation, local subsistence potential, and so on) led to mound formation. The repeated decision to stay in one place and to live above where the ancestors had lived, to the point where a mound was apparent in the landscape, led to the accretion of cultural memory, using the building blocks of time-marks and ancestral relations as well as the emergence of a monumental dwelling space. It is this conjunction of accumulated place biography and landscape features that makes it hard to agree with the late John G. Evans when he objected that tells enjoyed no greater a sense of place than did flat sites and, consequently, that developing such a sense of place was not part of the purpose of tells (Evans 2005:115). The obvious riposte is that there was no such teleological concept as “tell purpose”—rather, that the history and cultural memory of a tell and a flat site were both cumulative but in different ways and with varying results. The location of an abandoned flat site was still marked in the landscape as a node of past practices, often leaving physical traces of surface objects as much as places in the place mythologies of local inhabitants.

We have discussed the repeated occupation of a single place and the related abandonment of other places, but a common alternative dwelling practice concerns coming back to recognizable places after a break in occupation. The significance of the “reoccupation” is partly dependent upon the length of time that had elapsed since the last occupation. A good example of how past dwelling places were incorporated into the present despite centennial or longer abandonment comes from the island of Crete, where the standing ruins of Minoan palaces or towns, such as Knossos, Phaistos, Ayia Triadha, Palaikastro, Amnisos, Tylisos, and Komnos, became the focus for Early Iron Age deposition some 500 or 600 years after the fall of the palaces (Prent 2002). The selection of a specific place within the abandoned Minoan site was important; deposition occurred near to or on the finest ashlar masonry walls—the pinnacle of Minoan architectural splendor. The focus of deposition concerned elite practices, such as sacrificial dining and the associated aristocratic tripod-cauldrons, as well as objects linked to male warriors, such as weaponry and shields. However, Minoan ruins had other uses, such as stone quarrying and occasionally resettlement. It is interesting that intensive reuse of past sites took place at a time when the reading of Homer was popular. Here memory work was dedicated to the linking of physically specific places of evident but unclear antiquity to Homeric epic writing about a glorious heroic (Greek?) past, redolent with palace life, feasting, sacrificial offerings, and warfare. Such practices, so magnificently described in Homer, were indexed by the deposition of related objects in places where it was assumed that such practices took place.

A CLASH OF LIFESTYLES: THE IRON GATES MESOLITHIC AND THE FIRST FARMERS IN THE CENTRAL BALKANS

One of the most complex overlapping networks in Balkan prehistory concerned those living in the Iron Gates Gorge of the Danube River and those living on the edge of the gorges on the Danube Terraces (Bonsall et al. 2008; Radovanović 1996). The last decade has witnessed an explosion of novel applications to the Iron Gates problematic of archaeological scientific techniques pioneered, for the most part elsewhere, in combination with access to previously unpublished contextual information. The notion of place value is rarely explicitly mentioned, however, even in the debate over the ideologies of the various communities living in or near the gorge.

An alternative origin myth concerns the trapezoidal house plans of the Late Mesolithic settlements at Lepenski Vir, Vlasac, and Padina (Radovanović 1996; Srejović and Babović 1983; cf. Copper Age plans above). The by now well-known source of this distinctive shape was the trapezoidal Treskavec Mountain (Srejović 1969:slika 3) on the left bank of the Danube, opposite the site of Lepenski Vir and

visible from Vlasac, though not from Padina. Peaks of distinctively trapezoidal form are rare in the Iron Gates Gorge; rising abruptly from the Danube, Treskavac's visual impact creates an origin myth coded in stone—a place myth transferred to settlements through the shape of their houses (Chapman 1993) and marking the ancestral time of this place. Hence the place value of Vlasac and Lepenski Vir arose out of the timeless history of ancestors. If correct, Bonsall et al.'s (2008) argument for the continuity of occupation at Lepenski Vir alone throughout the Late Mesolithic in the period 6300 to 6000 B.C. makes the place value of Lepenski Vir even greater, since the ancestral flame was kept burning there and only there during three centuries of great change in the middle Danube area—the period of the first locally attested farming practices (Whittle et al. 2002).

In the period 6500–5500 B.C., individuals with rather different diets were buried at different settlements both within the Iron Gates Gorge and on the margins. While the causes of dietary variations are hotly debated (cf. Bonsall et al. 2004; Borić and Dimitrijević 2007; Radovanović 2006), some individuals were clearly consuming far less anadromous fish than was usual in the Late Mesolithic and substantially more meat from domestic mammals or wild herbivores. The relationship between the greater range of possible diets and the question of new populations of incoming farmers is complex (for a flavor of the debate, see Jackes et al. 2008; Pinhasi 2003; Roksandić 2000). The anthropological evidence for morphological heterogeneity in the Late Mesolithic suggests greater interaction between local foragers and others rather than population replacement in the Danube gorges (Roksandić 2000). This development helps us identify communities of individuals with different lifestyles, varying diets, and therefore distinct attitudes toward the ancestral sites of Iron Gates foragers. For example, it is unlikely that early agro-pastoral communities would have attributed the same significance to the sturgeon of the Iron Gates Gorges caught by the residents of Lepenski Vir in their whirlpool (Radovanović 2006). The arable and pastoral practices of the former may well have fostered a sense of locally created fertility in intensively cultivated garden soils and small pasture fields that involved little of the annual movements of anadromous fish. It was out of such different place myths that contrasting place values at forager and farmer sites were mobilized.

Recent Romanian–British excavations at the left-bank site of Schela Cladovei (Boroneanț et al. 1999) have demonstrated a hiatus in dwelling of several hundred years, with a forager occupation up to 6300 B.C. and a farming occupation after 6000 B.C. The reoccupation of this site rapidly led to the digging of pits that cut through Late Mesolithic layers, revealing a rich lithic and bone/antler assemblage that demonstrated to the farming community that this was indeed an “ancestral” site—a notion perhaps preserved in local place mythology. The refilling of the pits with farming cultural material comprised a cultural fusion of old and new that gave the farming group the position of “genuine ancestors.” It was only the absence of

a foraging population at Schela Cladovei at the time of the farming settlement of the site that enabled such usage of ancestral resources.

The position at Lepenski Vir was different insofar as most if not all agro-pastoral visitors to the site would have encountered foragers dwelling there and witnessed an array of material culture found nowhere else in the gorge, whether trapezoidal houses with red floors, highly colored stone fish stunners, or elaborately carved sandstone images that were Europe's first monumental sculpture (Srejović 1969). But equally, agro-pastoral assemblages of pottery and of ground and polished stonework would have been new and interesting for the Iron Gates foragers. The essential foodstuffs of the two groups may not have been so totally new and different, since agro-pastoralists living in the Danube Valley may well have fished for carp, catfish, sturgeon, and other delicacies, as well as enjoyed the hunt. But the baking of unleavened bread and cereal-based dishes would have been totally unfamiliar to foragers, even if gruel and bread were not as tasty for them as venison or wild boar chops.

This clash of lifestyles based upon different place myths would have played out in many different scenarios, with the stimulus to preserve one's own, threatened identity at one end of the spectrum, mutual acculturation leading to rapid cultural convergence at the other end, and selective exchange of key elements of each other's repertoire in the middle. Each scenario had an effect on the place value of the sites where such practices were played out. Recent Iron Gates research has focused on the depositional contexts of the pottery, exotic lithics, and domestic meat joints found at Lepenski Vir, while Antonović (2006) has neatly demonstrated that local foraging technologies for ground and polished stonework in the gorge were supplemented by agro-pastoralist techniques that led to a diversification of the total assemblage. The placing of stone sculptures in Lepenski Vir houses has attracted different interpretations, some emphasizing the threat posed to local forager identities by the arrival of farming communities (Chapman 1993; Radovanović 1996), others proposing the emergence of a Lévi-Straussian house society at Lepenski Vir (Borić 2008). In the former view, two diachronic changes late in the sequence—the increasing elaboration of the sculptures and their relocation outside the houses (Figure 2.4)—suggested a more active dramatization of the ancestral role of Lepenski Vir in the foragers' worldview. Moreover, variations in the degree of elaboration of trapezoidal houses and their contents should alert us to the likelihood of households having very different responses to their contacts with agro-pastoral groups. It can readily be appreciated that while older individuals in positions of power at Lepenski Vir would have favored this place-based resistance, younger, less powerful persons may well have embraced the novel possibilities of farming symbolism. Thus the ancestral place value of the settlement was negotiated through the ritual status conferred by access to the river ancestors at Lepenski Vir and to the novel objects that materialized relationships with newcomers outside the gorge.



Figure 2.4. Stone sculpture, Lepenski Vir (© Mazbln / Wikimedia Commons, Creative Commons License).

The further enhancement of the long-developed place value of Lepenski Vir occurred through the concentration of exotic objects and food remains primarily associated with farming communities at the site. No other site within or on the margins of the gorge managed to create such an accumulation of significance in such a dramatic setting. Yet the narrow, steep-sided valleys near to Lepenski and Boljetin Vir were by no means ideal for farming. In short, it was hard to find places within the gorge that offered equal potential for foraging and agro-pastoral practices. The subtle changes in the place value of a tell-like site such as Lepenski Vir were effected more through material enchainment with farmers outside the gorge than through farming practices within the gorge. The abandonment of Lepenski Vir marked a turning away from the ancestor-based worldviews of Treskavec and anadromous sturgeon and a shift toward traditional land-based fertility for persons, plants, and animals.

FILTERING OUR VIEWS OF PLACES: WARFARE AND CONVIVIALITY

For many decades, there was a widely held view of the importance of competition over resources and social power as a principal routes to elite formation (recent examples include Mann 1986; Tilley and Miller 1984). The main exponent of the significance of military power in prehistory was Lawrence Keeley (1996), for whom primitive and prehistoric warfare was just as terrible and effective as the historic and civilized version, while being ubiquitous because no polity had the capacity to control its outbreak.

Keeley's argument has provoked criticism of its essentialism as well as for the paucity of evidence for warfare in the form of massacres (Carman and Harding 1999). On a wider front, the antithesis of Keeley's position—the pacified past—was developed even further, largely through the dwelling perspective, to reach a climax of conviviality and living well together (Whittle 2005, 2007 a,b). In this view, it was important to understand the positive emotions held in common by most occupants of a site most of the time. This idea has led to two mutually incompatible positions, with Whittle's pacified past explicitly opposed by Keeley's view of a warlike past. In this final section, I wish to examine the implications of these two worldviews for our understanding of place value. I shall begin by considering the arms race of the Climax Neolithic/Copper Age of the Balkans and Hungary before assessing the variety of narratives told about a Late Neolithic massacre site.

In later Balkan prehistory, it was the Climax Late Neolithic/Copper Age period of the fifth millennium B.C. in which we can recognize a major concentration of weapon-tools, tool-weapons, and indeed the first true weapons—copper daggers (Chapman 1999). Given the historical pattern of arms races, in which an advance in offensive weaponry stimulates further developments in defensive capabilities (e.g., Keegan 1993), we should expect to find, as we do, the emergence of serious site defenses in the Climax Copper Age position (Chapman 1999; Chapman et al. 2006). The establishment of defenses at a site was transformative of place value, bestowing on it a sense of strong collective identity. The best example of a wide variety of defensive structures comes from the Tripolye–Cucuteni culture of Romania, Moldova, and Ukraine (Table 2.1).

One question concerning the emergence of defensive structures, especially in an object-rich period of prehistory, is what exactly is being defended? We can posit four principal values that are worth defending: human values (people), object values (artifacts and resources), symbolic values, and place value itself. The protection of human life in small-scale societies was particularly important, since the loss of a household head in a dispersed homestead of ten to twelve persons would have had a major emotional and economic impact on the family. In larger, nucleated villages, such losses would have been no easier to bear emotionally but less severe

Table 2.1. Types of Cucuteni–Tripolye defenses by period.

Type of Defense	Cucuteni A/Tripolye B1	Cucuteni AB–B/Tripolye BII–C1
Ditch	Târpești IV	Cucuteni-Dâmbul Morii
Double ditches	Polivanov Jar Hăbășești	
Bank and ditch	Trușești	Traian-Dealul Fântinilor III
Double bank and ditch	Starije Kukonesty	
Triple bank and ditch		Costești IV
Stone-lined bank		Zvanec-Scorb
Double palisade	Ariușd	
Bank, ditch, and stone counterscarp bank(?)	Mălnaș Bai	Cucuteni-Cetățuia

Note: From Häusler 1990; László 1993.

in terms of production practices. The loss of the old, the young, and the ill, with their varied contributions to the household and the wider community, would also have been hard to bear.

The combined resources of certain places in the Climax Copper Age constituted substantial accumulations of objects, since set formation was an increasingly significant practice in this period. While the dispersion of people, objects, and places across the landscape was often an effective form of defense (Chapman 1988), the logic of the nucleation of readily portable things—often hoards of exotic, colorful, and shining objects—was communal defense in nucleated sites.

The third form of loss of symbolic value is impossible to separate from the physical loss of things. While objects were not irreplaceable in the same way persons killed in battle or in a raid on a settlement were, the enchainment links between humans and objects rendered the loss of an “inalienable” object—such as a hunter’s favorite bow and arrow—personal too.² To the extent that object value was implicated in a sense of group honor, the loss of that object diminished the overall place value of a settlement. The burning of a family house in a raid on a village was as much a personal and group symbolic loss as an economic disaster (cf. Tringham 2005).

Place value itself was a generic form of symbolic value, summarizing the significance of people, buildings, and objects associated with the dwelling in that place. An attack on place combines an assault on all aspects of place identity, which explains the absolute priority given to the “defense of the realm” in the medieval and modern periods (Chalfont 1987; Keegan 1993). In such hostile conditions, the place comes to stand for the very act of dwelling at that place, representing the most basic social identity that can be defined through dwelling. In such a context, the most definitive loss is the killing of all those dwelling at a place.

An important part of the archaeological case that Keeley (1996) built for continuous warfare in prehistory concerned the evidence for on-site massacres, defined by mass graves containing the skeletons of adult males, adult females, and children with signs of potential fatal traumas (Makkay 2000; Osgood and Monks 2000; Thorpe 2006; Vandkilde 2006; Vencl 1999). However, scholars have paid little attention to the importance of the massacre itself as a time-mark. A good example of

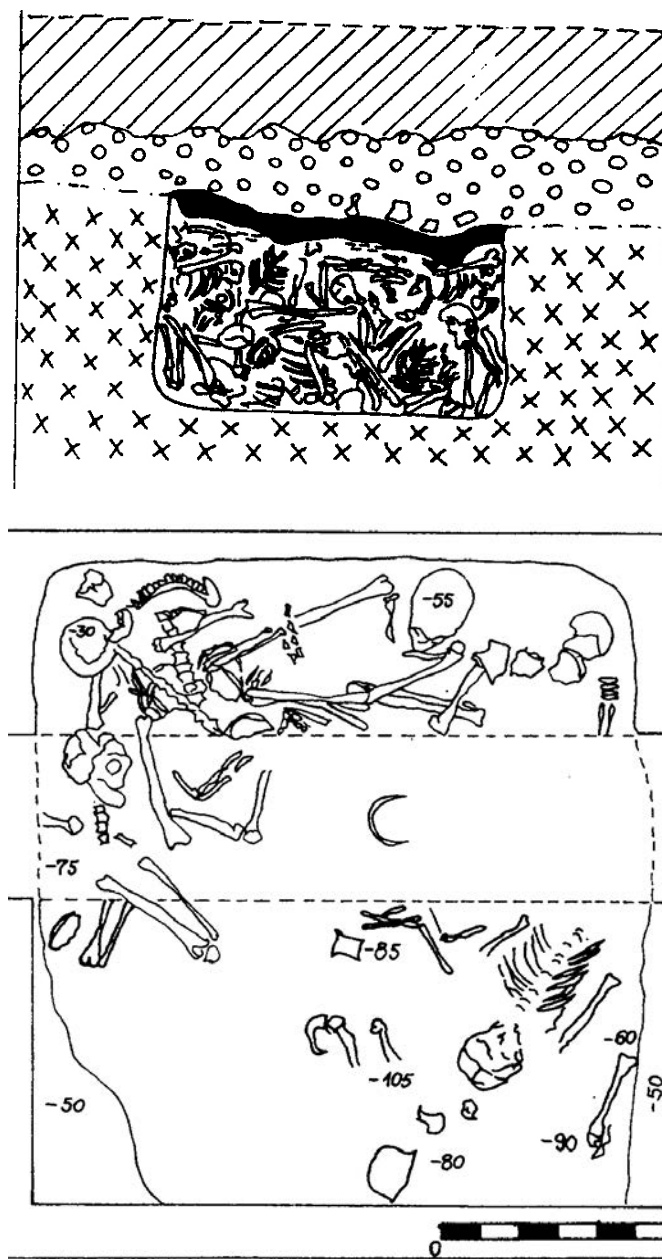


Figure 2.5. The Late Neolithic Lengyel mass burial pit at Esztergályhorváti, western Hungary: (a) plan; (b) section (Makkay 2000).

the new massacre sites is the fifth-millennium B.C. Late Neolithic Lengyel site of Esztergályhorváti in western Hungary (Makkay 2000).

The mass grave at Esztergályhorváti measured 1.8 m × 2.3 m, was cut from a layer at .60 m depth, and was itself .80 m in depth (Makkay 2000:8, figures 1 and 2) (Figure 2.5a and 2.5b). The human bone deposit was sealed at the base and the top by heavily burned layers and comprised the partial remains of between 25 and

30 people. Cause of death could not be established for many skeletons, but both surviving skulls bore traces of a lethal blow from a sharp instrument. One skeleton had been bound with cord before burial. All human remains probably derived from males ranging in age from juvenile to mature. The age/sex profile of the deceased, the bound body, and the lethal blows to the skulls suggested to the excavator, Judit Barna, and to Makkay that this was a war grave following an intervillage raid (Makkay 2000:14–20, 62–64).

The exploration of this tragic time-mark raises many questions about the history of the place after the massacre. What happened to this place? Was the place forgotten, with the absence of further material discard? Was the massacre commemorated at the same place, with the place biography extended through later dwelling? Or did the battle find its own commemoration in myth at other places? We can expect disputed narratives arising out of such an emotionally charged place. One view would have been created by the victorious group—who may have celebrated their victory through later occupation of the place. Quite a different narrative would have been created by the defeated party, notably the close relatives of those killed. Such a narrative of mourning would have been the most personal of the intersecting stories, with the personal biographies of the victims playing a prominent role. The decision by the kinship group of the defeated to begin a later occupation would probably have modified the emphasis of the period of mourning after the defeat in later narratives to a place of commemoration for the honored dead—now transformed into timeless ancestors. Yet a third account would have been created by another group of the defeated—the lineage leaders of the defeated lineage. Such an account would perhaps have centered on the longer-term struggles of the lineage for survival in a wider spatial context, with references to past triumphs over the victors of this specific battle and a gesture toward future victories with the support of the ancestors, who must be avenged.

The basic issue for a massacre site was whether the dominant emotion of the place value was narrated as one of triumph or shame. Since the motto of the Mae Enga group of Papua New Guinea—“We fight those whom we marry” (Meggett 1977)—may well have been true of the Balkan Neolithic, it is probable that, after several generations, the sharply drawn contrasts of the early narratives would have been moderated for the sake of alliance building to create a pacified past of a heroic defeat (or victory). Indeed, the raisers and the defenders may have ultimately derived from related groups. Eventually, the conflicting place myths of the massacre site would have coalesced into a commemorative story to form a shared element of the communal place mythology.

The most opposed of those approaches to Keeley’s militaristic views concerns Whittle’s views on the importance of living well together in everyday life (Whittle 2005). Here the emphasis is on community conviviality, the choreography of daily interactions, and the importance of positive emotions in dwelling in a place. Whittle (2005:65) quotes Amit (2002) on the “emotive impact of community, the capacity

for empathy and affinity” and again: “People care because they associate the idea of community with people they know, with whom they have shared experiences, activities, places and/or histories.” Whittle (2005:65) also explores Wendy James’s (2003) ideas about the choreography of social existence and its ceremonial character, which breaks down the opposition between sacred and profane and creates the affective sociality that constitutes their daily existence.

A good example of this account of convivial living in the Neolithic is the report on Whittle’s site of Ecsefalva 23, an Early Neolithic settlement in southeastern Hungary (Whittle 2007a). The scientific evidence for the site supports the interpretation of a permanent, year-round occupation of 50 or 60 years for a single family (Whittle and Bartosiewicz 2007:727–732). Whittle (2007:746 a, b) finds it hard to resist “the notions of intimacy, informality, general peacefulness and generosity, and of the steady flow of life.” In summary, the site is portrayed as the focus for a “human sociable world surrounded by a violent, angry, ugly and capricious universe” (Whittle 2007a:744). This curiously binary worldview resembles nothing more than the early modern folktales of the Brothers Grimm, whose convincing evocations of the terrors that lie beyond the village perimeter continue to frighten adults and children. It is doubly curious in that much of the Ecsefalva monograph is devoted to establishing the ways in which inhabitants were moving through this terrifying landscape (Gillings 2007; Gulyás et al. 2007; Whittle 2007b) or exchanging raw materials or finished objects with people originating from deep in this frightening outer world (Mateiciucová and Małecká-Kukawka 2007; Starnini et al. 2007).

Despite the flowing conviviality of the family and their agnates, the site was eventually abandoned. Whittle (Whittle and Bartosiewicz 2007:751) advances four reasons for the abandonment of the site: (1) the infestation of houses by insects and vermin; (2) the need to escape from neighbors; (3) the need to move closer to family allies; and (4) the need to move on after a significant death in the family. However, this list omits a potentially significant factor in all “Do we stay or do we go?” decisions—the importance of place value. There can often be a reflexive relationship between dwelling in a place and the creation of a cumulative sense of place value. In this sense, place value can be drawn upon in critical decisions. In works developing the dwelling perspective, we look in vain for references to the “missing half” of Bourdieu, which archaeologists tend to ignore—the various forms of economic and symbolic capital, disputes over which provide the dynamic sources of social change for Bourdieu (1991); Bourdieu and Wacquant (1992); and Shields (1991).

Whittle, however, has realized the dangers of an idealized, fully pacified past, at least within the settlement: “While there is much emphasis on harmony and love, the intensity of attachment to such an aesthetic of living also explains the converse of dispute and anger, and the fragility of the affective community” (Whittle 2005:65). I suggest that this tension between “warriors” and “pacifists”—between the past according to Whittle and the past according to Keeley—underpins many differences in interpretation, not least of place value.

DISCUSSION AND CONCLUSIONS

In this chapter, I have sought to demonstrate the negotiations and tensions over the creation of place value with examples of the dynamic use of each of Shields's three categories of place identity: place images, place myths, and place mythology. The varied suites of place images created by different persons arose most widely from events allowing the enhancement of personal biographies. One example concerns alternative place narratives constructed from great hunting successes, such as the Copper Age lion hunt near Goljamo Delchevo, with different emphases on personal contributions to the hunt. Another concerns the household place image of their house as it burns down in a single event rather than in a communal firing. Whenever there is a decision to be made over continuing to dwell somewhere or to abandon the place, there will be an insider's place image of that settlement or perhaps even two or more conflicting place images within the family that led to the decision to stay or go.

A wider collective of views emerges when there is some resolution of the different place images through the negotiation of place myths. This shift up a level of inclusivity can be seen in the decision to burn not just one house but a whole village of houses—a decision disputed by those insiders not wishing to burn down their houses, those insiders pressing for this act of social renewal, and those outsiders with views on the village near them. Equally, as exemplified in the Polgár area, a decision to move into one nucleated settlement from several smaller sites raised the likelihood of different households supporting the place images of their site as the ideal center for continued dwelling, with views of outsiders contributing to the debate. A similar scenario can be envisaged with the opportunity to reoccupy a long-abandoned settlement such as Schela Cladovei, in terms of the various place images of the abandoned site and its suitability and affordances for further dwelling. An example of divergent place myths concerns the more overtly competitive context of various Iron Age polities on Crete that sought to buttress their claims to territory or good harbors through claims of strong ancestral relationships with the Minoan/Mycenaean palatial period. Each group would have created a place myth emphasizing its own centrality at the expense of any other group, including its own acts of deposition at key parts of the standing remains. A final case of divergent place myths is that arising from a massacre site, in which winners (outsiders) and losers (insiders) would have created their own stories of the victory/defeat and the implications for group relations and reputations.

The development of place mythology implies a more corporate structure of beliefs and values. There can be little doubt, for example, that the origin myths materialized in the geometrically ordered plans of Copper Age settlements or the trapezoidal house plans of the Iron Gates Mesolithic can be anything but part of the group place mythology. The tensions between communal and individual were channeled into different levels of decision making, with individual households

responsible for the size, shape, and precise orientation of the houses while their general location was guided by progress toward the complete building plan. Place value in such ordered communities is concerned primarily with the production of an ordered plan to symbolize community ideology. The construction of enclosure banks or defenses would have reinforced the sense of cultural order at the level of place mythology.

The partial resolution of divergent place myths at the level of place mythology can be proposed for three narratives discussed above. The burning of all the village houses was transformed into part of the cultural memory of the village, the memory recalled as a time-mark itself marking an important place among local settlements that had not been totally burned down. Similarly, the one flat site chosen to be the local nucleated center took its privileged place among all the other sites, occupied or not, in the settlement network. Thirdly, the passage of time led to the conversion of all the stories of mourning and triumph about the massacre site into a more generalized commemoration narrative, which became part of the place mythology of both groups involved in the primary event.

Some scenarios, however, may have had little resolution of divergent place mythologies. It is not surprising to find the development of very different attitudes toward places between foragers and farmers in the Iron Gates Gorge, since the former emphasized the centrality of whirlpools, mountains, and anadromous fish above that of fertile land, while the latter emphasized the importance of flat and fertile land above that of the river and the gorge. These fundamental place mythologies would have grounded the views of both groups at any site on which they dwelt, leading to strongly contrasting place values for any site both groups experienced.

These scenarios provide examples of the identification of different narratives among the various subgroups—insiders and outsiders, strong and weak—playing their part in the creation of place value. I have suggested that in the two kinds of narrative transformations—from place image to place myth and from place myth to place mythology—the passage of time was necessary to adjust to new emotional and political circumstances. There is no doubt that the interpretation of such scenarios is challenging. One of the principal research challenges concerns the identification of the strategies of materialization of place value that characterized each scenario. An important idea is James's notion of the choreography of social life, in which place value is heightened and extended through the use of material culture. The power of citation gave objects and places the potential to reinforce cultural memory by recalling the performances they gave, often by citing time-marks and linking them to group practices. Two forms of time-marks can be identified—those related to the beginnings, endings, and renewals of dwelling at a particular place and those linking persons, objects, and places to specific events, whether positive or negative.

The final general point concerns discrepancies not so much between the narratives created by prehistoric persons and communities as between the varied interpretations stemming from the fundamental assumption of either a warlike

past, *pace* Keeley, or a pacified past, *pace* Whittle. One of the most neglected topics in landscape archaeology is that of gender—a neglect fostered by the difficulties of resolving essentialized views of male and female roles in dwelling. A preference for a warlike past inevitably creates a more strongly gendered view of the past than the view from a pacified past, with its constant emphasis on male-related fields of practice, whether offensive and defensive practices, structures, or objects. Military values would inevitably have crept into the general concepts of place value. By contrast, the views of a pacified past conjured up by conviviality and living well together emphasize female participation in settlement practices by implicit references to more peaceful female emotions and modes of interaction. There is a danger in a pacified view of the past that everyday tensions and stresses can be swept under the carpet, leaving a less than dynamic picture of daily life. It is vital to integrate the multidimensional significance of gender into future studies of place value and landscape studies.

In the version of dwelling envisaged here, a dynamic and gendered suite of past social practices, incorporating both peaceful interactions and violent opposition, sometimes leading to warfare, was materialized in the places where people dwelled. Since all social practice occurred somewhere, that somewhere became a place that, through memory and citation, crystallized the value of the practice, the persons involved, and the place itself. In this way, place value is a general characteristic of each place, representing either the cumulative history of the place or the selective citation of that place's past history. Insofar as subgroups had the power to offer resistance to a community version of place value, the negotiation over place value in the past was dynamic and complex. In this sense, there is more to place than dwelling practices.

ACKNOWLEDGMENTS

I would like to thank the editors for their kind offer to deliver a paper at the Los Angeles value conference and for their patience in awaiting the final version of this chapter. I am also grateful to the delegates to the conference for a wide-ranging set of stimulating ideas. Finally, I thank Bisserka Gaydarska for discussing the final drafts of this paper.

NOTES

1. There are also many settlements where not all the houses were burned at the same time (for example, Opovo [Stevanović 1997]).

2. The term “inalienable” is used in the sense of Weiner (1992) when she talks about objects that retain a personal aura, even when separated from a maker or previous user.

CHAPTER 3

.....

SPARE VALUES: THE DECISION NOT TO DESTROY

.....

SUSAN E. ALCOCK
BROWN UNIVERSITY

ABSTRACT

The concept of place invests particular locales, gifting them with emotional power, charging them with commemorative agency, imbuing them with meaning and value—positive, negative, or both, depending. Such a statement is now relatively familiar terrain in archaeological thinking, and the power of place has been studied in numerous cultures from numerous directions. Especially visible to the archaeologist are instances in which places are destroyed—to undercut alien beliefs, to reorganize social networks, or to deny territorial possession. In the construction/reconstruction of values, the devastation of place plays a central role.

While acknowledging this fact, my chapter takes a different and somewhat perverse tack, exploring the impact of nondestruction, of times when sacking or eradicating a place was an obvious option—but one not, and deliberately not, taken. How does the decision to spare a place reflect its value and, perhaps even more importantly, affect its value (as assigned by both potential “destroyer” and “victim,” to use inadequate terms)? The chapter briefly explores a series of case studies drawn from the ancient city of Athens (Greece), fundamentally arguing that far from being neutral, sparing is a transformative and violent act, with long-term implications for the place and the people in question. It should be noted that sparing can be archaeologically difficult to observe (certainly compared to a good old-fashioned destruction). But its relative invisibility belies its potential significance to the archaeological and cultural record.

I begin by considering five ways to value place. First, the concept of place invests particular locales, either monumentalized or left untouched, gifting them with emotional power, charging them with commemorative agency, imbuing them with meaning and value—positive, negative, or both, depending. Second, place can be embedded in a myriad of modes: in a tree, a city, a fortress, a mountaintop; in a well, a monument; in a rock, a building, a house, a tomb; in a street, a fallow field, a view, a wall. There is nowhere that cannot be “place” to someone.

Third, no two places are created equal; some places carry more collective weight than others, which bear meaning to few or only one. Some places are long-lived; others blink out of existence. Some, as we shall see, are destroyed. Many, perhaps most, if they live long enough, have their stories change or (better) changed for them over time. Fourth, places elicit a range of reactions: a shock of recognition, a glow of pride, a frisson of horror; always there is a spike in the emotional register. Places might be neutral; a place cannot be.

Fifth, places have to be chosen—here not there; there not here; this not that. Places, in other words, are not accidental. The corollary is that the values they are assigned are chosen as well, prioritized as worthy of selection, of remembrance, of support, of preservation. The content of those values—be it allegiance to a particular state, affection for a particular way of life, mourning over a particular loss, celebration of a particular belief, advocacy of a particular cause—will vary considerably, and there one has to dig in on a case-by-case basis. But all places are a creation: of illusory stability, of solid evanescence.

Highfalutin phrases such as “illusory stability” and “solid evanescence” make evident that it can be easy to get carried away when talking about place. That is understandable, for place is a heady and often heartbreaking concept. It is also one in need of movement, evolution, and refinement, not least since the concept has been increasingly widely adopted in archaeological discourse, running the risk of being eagerly adopted, voraciously consumed, and then abandoned (Chippindale 1993:33–35; for just a few references on the “archaeology of place”: Ashmore and Knapp 1999; Bender 1993; Bowser 2004; Bradley 1998, 2000; Feld and Basso 1996; Hirsch and O’Hanlon 1995; Ingold 1993; Low and Lawrence-Zúñiga 2003; Tilley 1994).

It is therefore, perhaps, time to give the pot another stir, and place value is an attractive avenue to explore, lying at the “intersection of individual and collective tastes, desires, sentiments and attitudes that inform the ways people select, or give priority to, one thing over another” (to quote the invitation to the original conference on which this volume is based). One impact of this particular prod is to ratchet up the importance of that fifth and final element of choice and to focus more specifically on what we can learn from the priorities established by place selection and place preservation. Only—perversely—this discussion, at least initially, will start from the perspective of place destruction.

And a particular category of place destruction at that: the outright, unambiguous “taking down”—in every sense—of select places by an external hostile power or an

internal contrarian force. With our late-twentieth/early-twenty-first-century sensitivity to trauma and the effects of loss in the recent spate of memory literature, such destructive acts have come in for considerable notice and analysis (Anheier and Isar 2007; Chapman 1994; Young 1993). And they seem, at first blush, relatively straightforward. If a monument enshrines a belief alien to your own, knock it down. If you wish to disorient the transmission of historical or genealogical information, reorganize its landscape of human occupation and ritual practice. If you want to deny territorial possession and emotional connection by others, obliterate their graves or their homes. If you want to undercut the institutions and values represented by a nation or a city, don't just defeat it. Punish it, mark it, wound it—all time-honored strategies, as any readings in the sorry litany of imperial systems, from China to Peru, will make clear (Alcock et al. 2001).

Such aggressive interventions can pursue a range of tactics beyond “simple” devastation, including moves to annex or to twist places to new purposes. For example, move cult images out of enemy temples, truncating their ritual function, and establish them in your own holy places. Change the statue on top of a column, replacing another's general with your own, or an emperor with a saint (Figure 3.1, *see color plates*). Or one could adopt the green option: plant trees, a sacred grove, to discourage illicit gatherings, as a pagan emperor did at Golgotha (Halbwachs 1992:202–203). Such acts involve less wrack and ruin, less blood, but they are no less intrusive in terms of assaulting and reconfiguring senses of worth and value.

Irony is at work here, as pointed out by many scholars, for the selection of place by one “side” as a communicator of memory and meaning—of value—is of course what makes it potentially vulnerable to attack by another, offering the original red rag to a bull. In turn, that “attacker” has to assess and prioritize which places bear unacceptably dangerous value and therefore have to be undermined, in whatever fashion. It is difficult to argue against the frequent efficacy of these strategies of eradication and redirection, used, as Henri Lefebvre put it, “from time immemorial by conquerors and revolutionaries eager to destroy a society” (Lefebvre 1991:221).

Nothing is simple with either place or value, however, and we should not look for unidirectional, ineradicable, or unanimous shifts following such actions. Destruction could provoke resistance and memorialization in the breach; ruins can become a pleasure; or an entirely new site might be created to grasp and maintain “lost” value. A good old-fashioned pounding could reshape things in countless ways—and it is worth noting that many of the resulting traumas would of course be highly visible to the archaeologist.

It would seem, then, that the moral of the story thus far is that in the construction/reconstruction of value, the destruction of place has its role. But so, it can be argued, does nondestruction. What are we to do with sparing?

Spare values appear to lie somewhere in between—between what was chosen to be remembered and respected and what was chosen to be obliterated or radically transformed. The question: What should we make of instances where destruction

is an obvious option but one not, and deliberately not, taken? How does the decision to spare a place reflect its value (as assigned by both potential “destroyer” and “victim,” to create two obviously inadequate categories) and—perhaps even more importantly—affect its value (as assigned by potential destroyer and victim)?

Sparing is normally read in a highly instrumentalist vein. A place might be spared because it is more useful intact than destroyed—which is one reason William Tecumseh Sherman, after burning Atlanta, spared the strategic port cities of Savannah and Charleston during his notorious March to the Sea (he went on to present Savannah to Lincoln as a Christmas present; Kennett 1995). Or sparing signaled a reward for good behavior and acquiescence. For example, in Roman military custom, those who failed to surrender before the battering ram first touched their wall were denied any rights to mercy or survival (Goldsworthy 2000). Still again, it might be in the interests of the conqueror to show clemency to those judged more useful co-opted than clobbered. Alexander the Great, in his annexation of the Achaemenid Empire, spared and subsequently utilized the established capital cities of Babylon, Ecbatana, and Susa, though he destroyed Persepolis, the last such center to fall and the one chosen to be downgraded in importance (Heckel 2009). Personal connections, capricious decisions, massive bribes, and sheer dumb luck are also invoked as factors behind decisions to spare. And all these do work.

If one reverts to the thesaurus function in Microsoft Word and types in “spare,” synonyms such as “show mercy to,” “free,” “release,” and “save” come up. Mercy especially adds a powerful valence, revolving around compassion, pity, clemency, and forgiveness. And that inflection contributes, inevitably, to an underlying impression that sparing (as far as it has been considered analytically) is taken as a neutral act, as leaving things the way they were. Physically, in terms of the monuments and structures in question, that may be so. But just how nonviolent is the refusal of violence? How might clemency impact the values invested in, implicit in, the place spared?

One broad-brush, impressionistic example can be employed to begin exploration of these questions. The city of Athens was sacked and spared, sacked and spared, in imbricated patterns over time. It was sacked in 480 B.C. by the Persians under Xerxes. The barbarians devastated the acropolis before themselves being defeated at famed battles such as Salamis and Plataea. The destruction of the acropolis (the Perserschutt) was long left in place to commemorate, to monumentalize, the impiety of the barbarian (Figure 3.2, *see color plates*; out of a huge bibliography, Hurwit 2004:49–86; Kousser 2009). Persian War resistance, from this time onward, became a defining value of Athenian civic identity and pride, for themselves and for many others. To match that sack, a spare: at the end of the Peloponnesian War, in 404 B.C., the victorious Spartans were urged to destroy the city of their Athenian opponents, who were not only political rivals, but also self-conscious advocates for different styles of life, different modes of political operation, very divergent value systems. Yet the Spartans forebore. In one account of the deliberations, they were stopped by the singing of a chorus of Euripides, the Athenian playwright (Plutarch,

Lysander 15.3). In another, the Spartans merely stated, laconically, that they would not destroy the city “which had done great service amid the greatest perils that had befallen Greece,” a city that had “turned the Mede” (that is, the Persians; Xenophon, *Hellenica* 2.2.19–20). A price, however, was nonetheless exacted: Athens, henceforth, was to have the “same friends and enemies” as Sparta.

Four centuries later, in 87–86 B.C., there came another sack. Greece served as a theater of war between the Roman general Sulla and Mithradates of Pontus, a powerful enemy of Rome (Mayor 2010). Athens chose to ally with Mithradates, and Sulla took vengeance, attacking the city’s walls with siege engines built from the sacred groves of Plato’s Academy. The entrapped population, it was said, was driven to cannibalism (Appian, *Mithradatic Wars* 30.38–39; Hoff 1997). Athenian envoys sent to Sulla attempted to lift the siege by speaking of the Athenian heroic past, not least calling upon their past resistance to the Persians. But this rhetoric largely failed with Sulla, who said: “Be off, my dear Sirs, and take these speeches with you; for I was not sent to Athens by the Romans to learn its history, but to reduce rebels to obedience” (Plutarch, *Sulla* 13.4, in an old translation) — or in Mayor’s racier translation: “Stop rambling! . . . I’m not here for a history lesson. Rome sent me to subdue you Athenian rebels!” (Mayor 2010:202). Athens fell and Athens suffered. Archaeological work has traced significant damage in the city, which was given over to plunder and slaughter; many lives were lost. Still, after many horrors, Sulla relented and said “some words in praise of the ancient Athenians” and forgave “a few for the sake of many, the living for the sake of the dead” (Plutarch, *Sulla* 14.5).

To match that sack, another spare, this one some forty years later. In 48 B.C., Athens again picked the wrong side, this time in the Roman Civil Wars. With a Roman army hovering near Athens, a delegation asked Julius Caesar for mercy—which he granted, it was said, with the classic devastating line: “How often will the glory of your ancestors save you from self-destruction?” (Appian, *Bella Civilia* 2.88). In the years immediately following, the magic of “having turned the Mede” had to be invoked several more times, as Athens continued to back various losing Roman sides and continued to prove disobedient. In just one spectacular example, on the news that Augustus would visit the city, a statue of Athena, patron goddess, was reported as having rotated west, to face Rome, and having spit blood (Cassius Dio 54.7; Hoff 1989). Nonetheless, Athens continued to be spared for its bad behavior—at least until the Herulian invasion of the late third century A.D., an encounter involving a very different cultural and memory community (Frantz 1988; Millar 1969).

This has been, of course, a broad-brush case study. Yet it raises some points to pull out and consider. First, that the value of a place may or may not protect it. A key element in that determination appears to be how “shared” a system of values was by both parties (who could be the bitterest of enemies), and how much primacy that system of values was accorded. The past heroism of Athens, its historical resistance to the barbarian and barbarian custom, was acknowledged and “rewarded”

by Sparta and by Caesar. Sulla, in the exigencies of the Mithradatic Wars, chose to parse things in a different way, and the third-century Herulian invaders, of course, were barbarians themselves. Sparing arguably requires sharing—some mutual recognition and acceptance of the worth invested in a particular place, some kind of discursive network in which to operate.

Second, we can recognize a stratigraphy of sparing. What happens to a place at one time can well play a part in its subsequent valuation and treatment, or indeed the valuation and treatment of other places. In other words, a cascading effect can well ensue. The Persian attack spared Athens a Spartan sack, while an Athenian prostitute, Thaïs, was said to have encouraged Alexander the Great to burn the Persian capital of Persepolis to revenge her native city (Diodorus Siculus 17.20–22; Plutarch, *Life of Alexander* 38). It is likely that Caesar, who sought fame for his *clementia*, spared Athens to distinguish himself from his problematic predecessor Sulla. A weight, a history, builds up around these decisions and guides what others do.

Finally, we can ask: How might clemency impact the values invested in, implicit in, the place spared? To trace this out in only one case, we return to Julius Caesar's cutting statement, "How often will the glory of your ancestors save you from self-destruction?" This verdict—honoring the past but dismissive of the present—sharply severed the city's current inhabitants from any real part in that history or, to put it another way, any real share in its value. The "sparing" of Athens emerges as a significant step, a constant benchmark, in an overall Roman strategy aimed at selecting and claiming Greek heritage as something precious and powerful while at the same time diminishing and dispossessing the original possessors. The effects of this treatment can be said to roil through much of the cultural production, political orientation, and commemorative behaviors of the Eastern Roman Empire, as what constituted a distinctive Greek culture and identity had in turn to be reevaluated, redefined, and defended. If violence includes "assaults on the personhood, dignity, sense of worth or value of the victim" (as in one recent definition; Scheper-Hughes and Bourgois 2004:1), then sparing is a form of violence—soft violence, as it would be categorized, but violence nonetheless.

Many of the references in this case study of Athens revolve around historical quotes and anecdotes, and that reflects something of a methodological problem. Sparing, archaeologically, can be hard to see. The equifinality of something not gone, not destroyed, can be tricky. Did it not jump? Was it not pushed? We see the same observable result, but very different interpretations can be called for. It is hard to know what to recommend at this juncture, beyond advocating that we keep the "to spare is human" option in mind when considering the archaeology of place value.

This general line of thinking can extend in some unexpected directions. One thing that springs to mind, for example, are contemporary choices about the preservation of certain heritage sites at the expense of others—an increasingly fraught process of necessary prioritization and selective sparing if ever there was one

(Meskell 2009). Or we could turn to the systems of selection behind the creation of Pierre Nora's *lieux de mémoire*—places of value if ever there were (Nora 2001–2006). Preservation, sparing, is never a noninvasive, uncomplicated, happy thing; that is one moral to this story. The other is that in the construction of value, we have long seen that destruction plays a role. But so, it would seem, does the rejection of destruction. That is something to be celebrated—how not?—but also something to think on and not to be taken for granted, with relief.

CHAPTER 4

.....

EMPLACING VALUE,
CULTIVATING ORDER:
PLACES OF CONVERSION AND
PRACTICES OF SUBORDINATION
THROUGHOUT EARLY INKA STATE
FORMATION (CUZCO, PERU)

.....

STEVE KOSIBA
UNIVERSITY OF ALABAMA

ABSTRACT

.....

Places are often treated as if they are the passive, inert backdrops against which generalized political ideologies and practices are staged. The objects that circulate through places, and the discourses that circulate about them, are understood to invest places with accumulative social value. But often overlooked are the ways in which places themselves work to generate regimes of value. In this paper I argue that the political construction of value occurs through and not over place. Using recent archaeological data from the capital of the Inka Empire (Cuzco, Peru), I demonstrate how the initial process of Inka state formation was predicated on the conversion of significant pre-Inka places. These practices of conversion manifested the absolute social distinctions—the regime of value—upon which the Inka state would come to rest. By destroying preexisting villages, building colossal walls, and paving plazas atop domestic sectors, the Inkas implanted their claims to divine authority and constituted an ideal of social order. The laborers who carried out these projects of destruction and conversion recast their own ancestral places as Inka, thereby producing a social landscape and naturalizing the political authority to which they themselves became subject. I contend that these situated practices of material transformation inaugurated a new era by emplacing new value categories that systematically ordered people, places, and things.

INTRODUCTION

The Inkas built the largest empire in the indigenous Americas, and Inka myths offer a startlingly uniform vision of the dramatic processes of destruction and subordination through which they assembled this extensive domain. In these myths, the Inkas appear as the divinely ordained caretakers and cultivators of a previously chaotic world. Other people are largely cast as uncivilized barbarians embroiled in incessant warfare—naturally disordered savages lacking permanent leadership, law, towns, and order (e.g. Cieza 1971:31, 33 [1554]; Estete 1918:330 [1535]; Levillier 1940:79; Pizarro 1965:180 [1571]; Polo de Ondegardo 1916:117 [1571]; Sarmiento 1965 [1572]; see Kosiba 2010 for several more examples).

Inka elites often testified to Spanish chroniclers about the crude barbarism they encountered when first expanding the borders of their nascent state in Cuzco and how, in accordance with their divine mandate to rule, they destroyed the villages and shrines of anyone who declared themselves equal or challenged Inka claims to absolute authority. As one early Spanish chronicler records:

There was a [non-Inka] ruler named Illacumbi from two towns located four leagues from Cuzco, one called Cugma and the other Guata (Wat'a). Inka Yupanqui and Inka Roca told this ruler to give them obedience. Illacumbi responded that he was *a high elite like them and free*, and that they would have to get rid of him with their lances. The Inkas took up arms against this ruler. Illacumbi and two other local lords, named Paucar Topa and Poma Lloqui, gathered their people together and fought the Inkas, but they were conquered and killed along with almost their entire town. This place then suffered from many cruelties. And from there, the Inka turned to Cuzco and triumphed in his victory [Sarmiento 1965:239 (1572); my translation and italics].¹

In numerous accounts like this one, the Inkas claimed that it was through the violent assertion of their absolute authority that they first cultivated order throughout the Cuzco region (Bauer 1996; Covey 2006a; Julien 2000; Kolata 1996; Salles-Reese 1997; Silverblatt 1988; Urton 1999). Indeed, the mythos of the Inka Empire casts the violence of incorporation as the necessity of state integration. The destruction of other people and places (or, more precisely, Others' places) appears essential to a glorified narrative of Inka prowess and destiny. Yet it is precisely during these violent encounters that the people and places of the Cuzco region became essential parts of an Inka order. How then do we look beyond the mythos of absolute Inka dominance and examine the contradictory processes that made this dominance manifest?

These stories about the ostensibly violent process of incorporation reveal as much as they conceal. They demonstrate that Inka authority rested in an inviolable claim of absolute difference that cast Inkas as divine and all others as subordinate. In this framework, the Inkas' fierce reply to Illacumbi's contention that he was "a high elite like them and free" was not so much a punitive measure as a corrective one—a forceful restoration of the proper order. For non-Inkas would never be

“like” Inkas: in myths, and in the very organization of the Inka Empire, vanquished people might become part of the Inka system, yet they forever remained “not quite Inka.” The stories of Cuzco’s early days, then, are not simply accounts of conquest. They are political statements about the production and naturalization of essential social value categories.

This paper examines the initial creation of the Inka state by attending to how these social categories, premised on an absolute distinction between Inka and non-Inka, were quite literally *put into place*. In particular, I examine the labor practices through which Wat’a, a significant pre-Inka town and shrine, was ceremonially put to death and then resurrected in a process of conversion that was crucial to the production of an Inka vision of social order. In so doing, I focus on how state consolidation is tied to the constitution of social value—the fundamental abstract categories through which people, places, and things are defined and ordered.

This examination requires a shift from the textual to the archaeological, from stories the Inkas told their Spanish conquerors to an exploration of the political and social contours of Wat’a in its immediate context, the Ollantaytambo area, located within the Cuzco region capital of the Inka Empire (Figure 4.1). Data presented here are derived from the Wat’a Archaeological Project (WAP), an integrated systematic survey and excavation program that I directed from 2005 to 2007.² An inquiry into practices of conversion and regeneration at places like Wat’a reveals

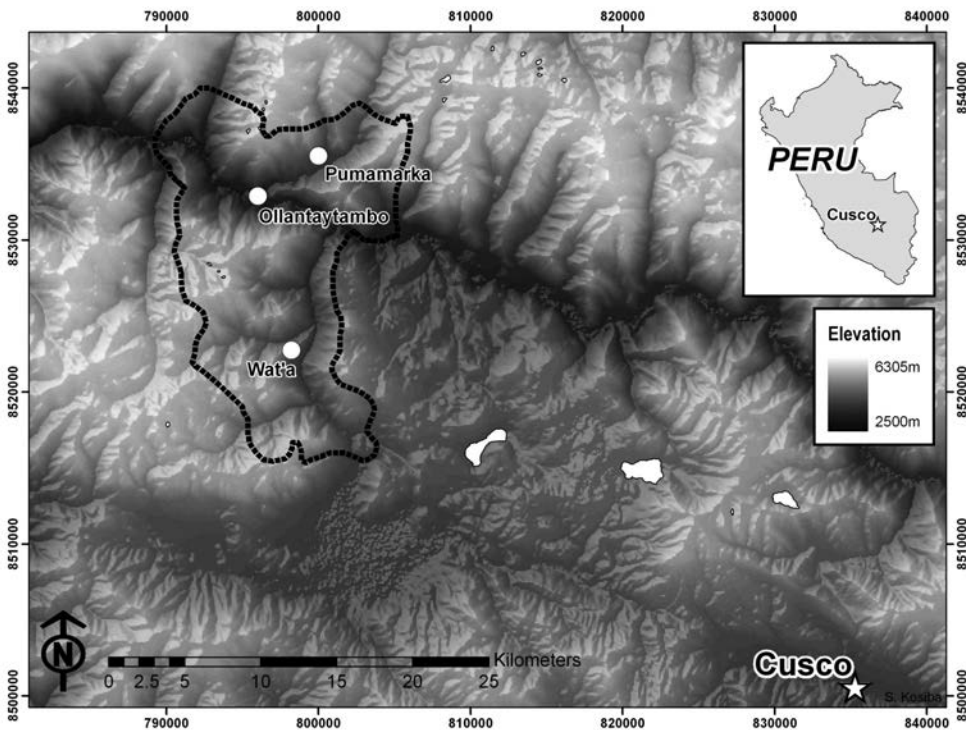


Figure 4.1. The northern aspect of the Cuzco region in which the WAP survey was situated. The dashed line corresponds to the 200-km survey zone.

how claims to the naturalized authority of the state are staked within contests over the value, definition, and meaning of the very materials and spaces of our world.

PROCESSES OF VALUATION, PLACES OF CONVERSION

Anthropological archaeologists have long noted that polity formation involves the emergence of new regulatory institutions in which political authority is invested (e.g. Adams 1966; Wright 1977). These accounts, which are rooted in Weberian (1968 [1921]) notions of centralized management, often seek to delineate the mechanisms through which regional integration and territorial sovereignty are secured. They hold that the emergence of the state is a qualitative leap in political organization, a dramatic process of social transformation during which local reckonings of authority are subsumed within a multilevel bureaucratic apparatus (Claessen and Skalník 1978; Wright and Johnson 1975). Bureaucratic rule entails abstraction: places are recast as administrative sites; customs are rewritten as laws; environments are redefined as resources; and people are reconfigured as subjects or authorities (Alonso 1994; Scott 1998). The production and extension of a state might then be considered a process of abstraction in which people, places, and things are reclassified and revalued inasmuch as they are molded into (what is claimed to be) a continuous political space.

Studies of the later Inka Empire provide tantalizing glimpses of how an expansionary political project was in part realized through the violence of abstraction. Having established an integrated polity within the Cuzco region, the Inkas initiated a series of military campaigns and political alliances throughout the Andes, ultimately reorganizing diverse peoples and distant environments under a flexible bureaucratic apparatus (D'Altroy 2001b). In governing, the Inkas ruled according to the capacities and circumstances of distinct populations and did not apply blanket policies over territory (Ramírez 2005). Scholars have argued that the genius of Inka imperial governance lay in its capacity to organize social and environmental variability and thus articulate local agendas with imperial objectives (Morris 1985:478; Wernke 2006). In some instances, the Inkas drastically altered subject populations by restructuring local settlement systems into highly productive Inka economic landscapes (D'Altroy 1987; LeVine 1992) or by forcibly moving thousands of people to distant ecological zones (e.g. Wachtel 1982). Alternatively, the Inkas sometimes chose to indirectly administer subject populations by exacting tribute through the meticulous assessment of each local household's contribution (in labor) to the imperial project (D'Altroy and Earle 1985; Murra 1980 [1956]). The Inka Empire was thus a process of political and cultural consolidation underwritten by a project of categorization. People and places were evaluated and objectified as an integrated, yet highly variable, imperial system was assembled.

Although political economic policies varied, the emplacement of recognizable Inka architecture reorganized space and society throughout the empire (Gasparini and Margolies 1980). In the absence of markets or money (La Lone 1978), the Inka economy was rooted in institutions of redistribution and labor management, and the people who oversaw these institutions were housed in newly constructed, discrete spaces (e.g. D'Altroy and Earle 1985; Hyslop 1990; Morris 1982, 1992; Morris and Thompson 1985; Protzen 2000; Stanish 2001). To legitimate their imperial project, the Inkas often manipulated widely recognized mechanisms of reciprocity, casting imperial domination as benevolence by hosting theatrical feasts within the vast plazas of their august, monumental complexes (DeMarrais 2001; Morris and Covey 2003; Morris and Thompson 1985). The immense storage facilities and extensive plazas of Inka administrative installations would have been salient markers of Inka political supremacy that, in areas where they were present, redefined the Andean landscape into a legible topography of abstract binaries: state/society, public/private, and exclusive/inclusive.

In codifying landscape, people were repositioned according to an ideology of absolute social difference. In their origin myths, the Inkas were divine beings who sowed the seeds of civilization as they introduced maize to the savage peoples of the Andes (Bauer 1996). This deified social category referred only to the royal bloodline from Cuzco. The exclusivity of this category was expressed and materialized in various ways. Only Inkas could wear the distinct hairstyles, finely woven clothing, and gigantic gold ear-spools—the latter leading the Spanish to refer to Inkas as *orejones*, “long ears”—that defined high elites (Betanzos 1996:68 [1557]; D'Altroy 2002; Murra 1989). Inka lands and treasures were inalienable, a tradition that caused great concern for a person of no less standing than the twelfth Inka emperor, who complained that the ancestor cults (*panaqas*) of his predecessors held too much power due to their inviolable claim to his predecessors' wealth (Pizarro 1978:52–54, chapter 10 [1571]). Inka people, places, and things—indeed, “Inka-ness”—were utterly incommensurable with other kinds of people, places, and things. No amount of grain could be traded for Inka ear-spools. No subject could “become Inka.”

In contrast, Inka imperial subjects were positioned within a cascading hierarchy according to the kind of service or labor they provided to the state (D'Altroy 2001b:214–216). Local elites often retained a modicum of authority within this system but were redefined as “Inkas by privilege,” a somewhat derogatory category that refers to the once-autonomous elites who now mediated between subject populations and Inka royalty (Bauer 2004:17; Covey 2006b; Urton 1990). But most Inka subjects were reclassified as specialized retainers or laborers. Some labor groups were derived from ethnic groups, whose identities were objectified as members' bodies and adornment were required to conform to an essentialized model of their group (Cobo 1979:190 [1653]). At a more abstract level, entire populations were systematically categorized according to their potential labor output: extended families were broken apart to create discrete households—a married man, his wife

and progeny—that were labeled tribute-paying units and then reorganized into groups of 10 to 10,000 (Betanzos 1996:120 [1557]; Julien 1988; Murra 1980 [1956]; Stanish 1992). And, in perhaps the most remarkable imperial policy, scores of people were uprooted from their kin networks and ancestral lands and were redefined as laborers (*mitma*) who answered only to the Inka state (Murra 1982; Patterson 1985). Repositioned in these groups, Inka subjects were made quantifiable, and their labor rendered commensurable and abstract.

This social taxonomy, these absolute differences, structured the Inka imperial social order.³ People, places, and things were valued relative to the Inka, particularly, in the case of persons, in terms of their social group's perceived geographical and genealogical distance from the Inka ruler in Cuzco (Bauer 2004). Inka social order thus pivoted upon definitions of social value—distinctions constituted through the recognition of absolute differences (on value as demonstration of difference not equivalence: Dumont 1982; Eiss and Pederson 2002; Foster 1990; Graeber 2001; Strathern 1988). The constituents of this idealized Inka order were nonoverlapping, complementary spheres of value—a kind of “taxonomic value” in which, on the one hand, certain people, things, and actions were deemed commensurable while, on the other hand, other people, things, and actions were fundamentally singular. As the opening tale of Illacumbi's downfall demonstrates, the creation of this order and these social value distinctions was a project at the heart of Inka state formation and expansion.⁴ In an Inka world, others could not dare to claim the highest status. Those who did so ceased to exist.

To ask how this kind of state was founded is, ultimately, to inquire into how value is manifested and naturalized. The aforementioned accounts of bureaucratic organization are about the application of political power across territory, but they tell us very little about how the essential categories of Inka rule were first manifested as Andean people were incorporated into this vision of social order. In attending to processes of Inka incorporation, scholars often argue that Inka governance was rooted in a preexisting system of autochthonous Andean practices and values (e.g. Murra 1980 [1956]; Rostworowski 1978; 1983; Zuidema 1982, 1990). For instance, Platt (1976) develops a theory of how the Inkas adopted the Andean cultural concepts of duality through which community labor was organized and reworked these categories into a system defined by hierarchical oppositions, in which one-half of a duality is perceived as superior (see also Schaedel 1978, 1988; T. Turner 1996). Other scholars have argued that Inka state formation and expansion were processes of mystification throughout which an exploitative mode of production was concealed by ideological claims of cultural continuity (Godelier 1977; Patterson 1985; Silverblatt 1988). These explanations offer novel insights into a drastic social change but only faintly sketch the actual processes of conversion through which these Inka value categories were carved from a preexisting social milieu. For the Inkas, this social order was not just hierarchy; it was built on *nominal* and not ordinal distinctions between things and people. We are left to wonder how an Andean person

came to recognize her new position within the Inka state, how the Inkas coerced or convinced people to labor for their state, and how the meaning and function of Andean values changed as they were incorporated into an Inka political idiom.

To address such questions, it is helpful to scale down our view of the state—which is often analyzed at regional and systemic scales—and to examine the specific contexts and practices through which social value is constituted. We might consider how social value is constituted through social action and engagement (Munn 1986) and, more particularly, how value is produced in particular, staged contexts in which social action is rendered conspicuous (Graeber 2001). Here we may do well to recall a classic anthropological example of social value as action in context: the potlatch ceremonies practiced by indigenous peoples of the American Pacific Northwest. During the colonial-era potlatch, things like blankets and copper were destroyed, while things like cloth goods, kitchen utensils, and serving trays were given away (Boas 1916:538–543; 1966). In this histrionic performance, political authority was validated and subject positions were objectified (Godelier 1999; Rosman and Rubel 1972; Tollefson 1995). But the potlatch did not solely reproduce an enduring framework. The influx of European goods raised the stakes of the potlatch, redefining subject positions among community members while affecting and altering the things, practices, and places through which claims to authority were realized (Barnett 1938; Marshall and Maas 1997; Wolf 1999). In these situated material practices, then, social value was continually defined and redefined relative to rapidly changing historical circumstances.

Indeed, political claims that rest on such processes of valuation are, sometimes unintentionally but often by necessity, staked within and over particular places. Whether it is the validation of status within a colonial-era Kwakiutl potlatch, the 1972 occupation of Wounded Knee by political activists, or the disassembly of the Berlin Wall, the emplacement of such claims matters to both the claimants and their audience. Often, it matters so much that the places themselves become objectified and thereby converted into essential elements of the claims. (We might think of how the storming of the Bastille has come to stand in for the process of the French Revolution.) It is thus through a consideration of *places of value conversion* that we may reconsider how we think about social value as a process of objectification and redefinition—a process of valuation. After all, it is in particular places that people both experience social change and recognize their positions relative to such changes.

It is telling that the Inkas repeatedly explain their incorporation of new areas through descriptions of the partial destruction of old buildings and towns and the construction of new ones. Archaeological and ethnohistorical cases demonstrate that, throughout the centuries preceding Inka ascendancy, specific places (towns, fortresses, mortuary sectors, shrines) in the highland Andes accrued special cosmological and social value for local kin groups (Arkush and Stanish 2005; Covey 2008; D'Altroy 1992; Hastorf 1993). Such places were cast as powerful sources of a kin group's social identity and as essential components of its claim to temporal

continuity and political autonomy (Kosiba 2010). Inka processes of social conversion might have targeted these places, such as the Temple of Wari Wilka (Cieza 1971:311, chapter 84 [1554]) or the Island of the Sun in Lake Titicaca (Cobo 1990:94 [1653]; see Bauer and Stanish 2001), precisely because they were long recognized as founts of political power.

In this light, the Inkas appear to have staked their claims to rule through the capture and transformation of already-recognized and valued places (Silverblatt 1988; pace Ramírez 2005). For the Inkas, place transformation and processes of social conversion were intertwined. To understand the social transformations through which Inka values—and the Inka state—were *built*, then, is to inquire into the processes of conversion through which pre-Inka places were *rebuilt*. It is to look beyond the cyclopean facades of Inka monuments and to seek instead to understand the practices of labor coordination through which these monuments first came to be raised and revered.

REBUILDING PLACE, BUILDING THE INKA STATE

Recent research has begun to uncover the dramatic processes through which the Inkas assembled their nascent Cuzco state, processes that signal the importance of place and space to Inka politics. Archaeological and ethnohistorical surveys have documented how, throughout the fourteenth century, the Inkas progressively extended their political reach into neighboring regions, subsuming once-autonomous social groups into the growing polity through strategic alliances, elite intermarriages, and military conquest (Bauer 2004; Bauer and Covey 2002; Covey 2006a; see also Heffernan 1996; Kendall 1994, 1996). The surveys suggest that early Inka regional governance was in part predicated upon the establishment of an administrative bureaucracy (see especially Covey 2006a), a model of integration, settlement reorganization, and resource reallocation that sought to convert the very contours of Cuzco's mountainous environment into conduits of political economic management. A semblance of regional coherence—indeed, the production of a region—was thus vital to an Inka vision of order.

Preexisting seats of political power appear to have received special consideration throughout this process of regional consolidation. Inka administrative buildings were raised within many local political centers, such as the hilltop settlement of Pukara Pantillijlla (Covey 2006a; Dwyer 1971), the Cuzco Valley town of Chokepukio (McEwan et al. 1995, 2008), and the cliffside complex of Q'aqya Qhawana (Kendall et al. 1992), to name a few. Such constructions foreshadowed the finely cut masonry and tiered agricultural systems that later became iconic of Inka imperial power (Niles 1993, 1999). These architectural transformations occurred more than a century before the construction of imperial Inka estates such as Machu Picchu and Ollantaytambo (Bengsston 1998; Hollowell 1987; Kendall

1985),⁵ suggesting that it was through the modification of locality and landscape that the Inkas first manifested their societal order.

My intention here is to complement the previous research by examining the specific changes in political practices and places through which Inka authority was established among the particular, formerly autonomous groups of the Ollantaytambo area. To emphasize the relation between developments in the Ollantaytambo area and the broader Cuzco region, I use the term “Ollanta phase” (OP) when referring to the centuries that directly preceded Inka ascendancy in the northwestern Cuzco area (OP ca. A.D. 1000–1300). The Ollanta phase is defined through reference to distinct local pottery and architectural styles (Kosiba 2010).⁶ I use the term “Early Inka period” to refer to the initial process of Inka state consolidation, a period characterized by the use of Classic Inka material culture within local practices and the appearance of Inka architecture within preexisting sites. Table 4.1 depicts the relation between these periods and other established regional chronologies largely derived from Ica—an area the Inkas annexed during the early stages of their imperial expansion outside of the Cuzco region (Menzel 1959) and Cuzco (Bauer 1992, 2004; Covey 2006a; McEwan 2006; McEwan et al. 2008; Rowe 1944, 1945, 1946).

Table 4.1. The Cuzco region chronology relative to the periodization used throughout the Inka provinces.

Cuzco Region	Inka Provinces	Dates (A.D.)
Ollanta phase (OP; Ollantaytambo) or Killke period (Cuzco)	Late Intermediate period (LIP)	ca. 1000–1300
Early Inka period	Late Intermediate period (LIP)	ca. 1300–1400
Imperial Inka period	Inka period	ca. 1400–1533

THE ADVENT OF INKA RULE IN THE OLLANTAYTAMBO AREA

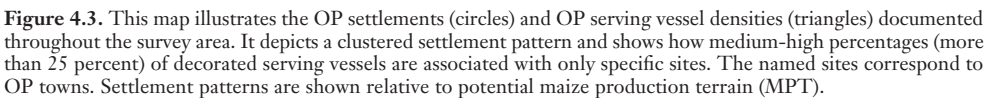
The WAP survey data provide a preliminary sketch of how the Inkas established their political control in the Ollantaytambo area. In attending to changes in settlement patterns, we can begin to understand how the transformation of particular places was important to how the people of this area were incorporated into the Inka polity. For instance, the wholesale desertion or destruction of pre-Inka places might suggest that the Inkas forcibly appropriated the area and then restructured it in accordance with an ideal of Inka order. Such changes have been documented in the imperial provinces, where the Inkas often required people to abandon their settlements and move closer to productive maize agricultural land (D’Altroy and Hastorf 2001). In contrast, continuities in both local settlement and seats of power might suggest more incorporative processes of conversion—processes through which new value distinctions were constituted as preexisting sociopolitical places and practices were recast within an Inka mold.



Figure 4.2. A view of Wat'a. The insets show Inka architectural and ceramic styles, including a niched building (left) and double jamb doorway (right).

To track changes in places and practices throughout the Ollantaytambo area, the survey documented the spatial distribution of the ceramic forms and architectural styles that comprised feasting events (Figure 4.2). Ethnohistorical and archaeological evidence demonstrates that public feasting was essential to the reproduction of both Late Intermediate period (LIP) and Inka authority (Bray 2003; Cummins 2002; Kolata 1996; Kosiba 2010; Morris 1982; Ogburn 2005; Ramírez 2005). I document the distribution of two Inka architectural styles that were often associated with feasting: open plaza spaces and niched buildings (Coben 2006; DeMarrais 2001; Gasparini and Margolies 1980; Hyslop 1990; Morris and Thompson 1985). I trace the relationship between these architectural styles and Inka polychrome ceramic densities, especially serving vessels such as plates and bowls, at a sample of pre-Inka sites. Inka polychrome ceramic styles and forms are well defined in several publications (D'Altroy 2001a; Julien 2004; Rowe 1944). In particular, I assess whether and how these tokens of Inka state largesse infiltrated OP seats of political authority.

The WAP survey data show that, throughout the OP, particular sites became privileged places of political activity. The survey reveals a dichotomous settlement pattern in which sites were distinguished by variable artifact densities and architecture types. Specifically, eight OP sites contained high densities of OP decorated



serving vessels, as well as complex architecture (Figure 4.3). I employ the term “town” in referring to these sites. The term emphasizes how these were significant local places—loci of specific kinds of social and perhaps ceremonial activity (*llactas*), particularly as evidenced by relatively high percentages of decorated serving vessels, variation in domestic architectural styles, and architectural features such as

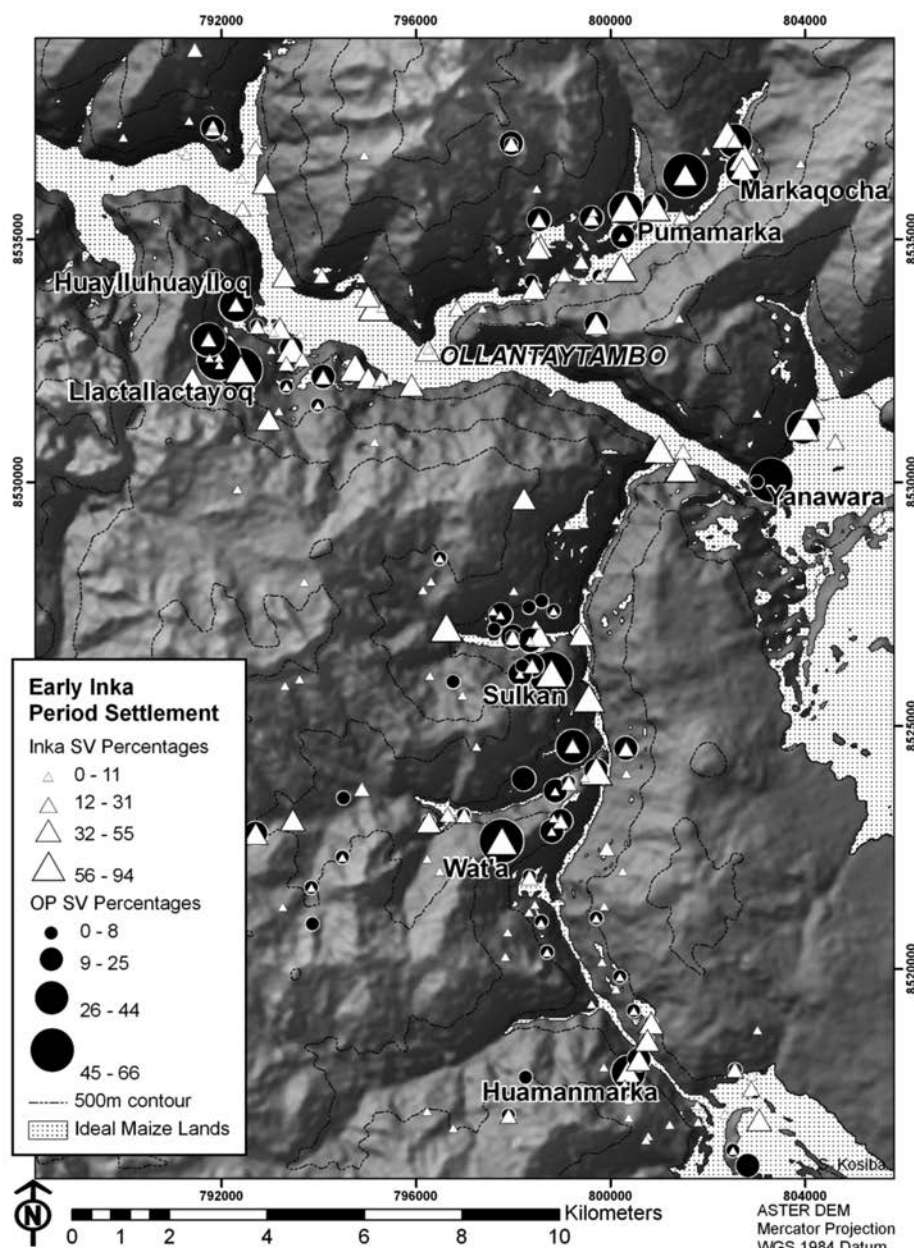


Figure 4.4. This map depicts Inka-period settlement pattern in the Ollantaytambo area. Icons correspond to densities of decorated serving vessels, not site sizes. High densities of Inka polychrome serving vessels (white triangles) are often found in pre-Inka towns that contained high percentages of LIP (OP) serving vessels (black circles), suggesting continuity in the occupation and perhaps function of some places throughout Inka polity formation.

platforms and mortuary complexes (Kosiba 2010). These places were most likely perceived to be sources of social value and political authority (see also Covey 2006a).

During the transition to Inka rule, many of these towns were continually occupied and architecturally embellished (Figure 4.4). The vast majority (94 percent) of preexisting (OP) sites—including settlements, tomb complexes, shrines, and

agricultural areas—continued to function as places of social activity. More precisely, formal Inka architecture was constructed within many OP towns. There is a statistically significant relation between OP sites with high densities of OP decorated serving vessels and sites with diagnostic Inka public architecture such as niched buildings and plazas ($\chi^2 = 27.001$; $df = 3$; significant at .001 level). There is also a significant correlation between sites with high densities of OP decorated serving vessels and sites with high densities of Inka polychrome serving vessels (Pearson's $r = .217$, $n = 83$; significance at .05 level). These patterned associations between architectural forms and serving vessel densities suggest the sustained use of many OP towns as staging grounds for political ceremony.

However, while the practices and places of the prior epoch were retained, they were now often associated with formal spaces bearing the stamp of the new state. In a striking display of power, massive walls were constructed around sections of pre-Inka towns such as Wat'a and Pumamarka. Such walls are ubiquitous features of Cuzco-area Inka monumental sites, and they most likely had both defensive and ceremonial functions (see Gasparini and Margolies 1980:281; Hyslop 1990; Kosiba 2010; Niles 1980).⁷ Similar to the high walls that enclose the castles of medieval Europe or the fortified towns of medieval Rajasthan (e.g., Johnson 2002; Sharma 1993), these Inka walls may have both protected and monumentalized the courtly spaces and social centers that comprised local political life. Diagnostic attributes (for example, bar holds, trapezoidal doorways and niches, and quoins) make obvious that these walls were constructed in accordance with an Inka-period aesthetic and technology. Radiocarbon dates from the walls at Pumamarka and Wat'a reveal that they were raised in the late fourteenth century, the same time many Inka structures were first built at these sites and throughout the Cuzco area.⁸

As these perimeter walls were raised, both Wat'a and Pumamarka were radically redefined (Figures 4.5 and 4.6). Immense buildings were constructed over portions of the preexisting towns. The buildings were marked with recognizable symbols of Inka prestige, such as double jamb doorways, double frame windows, and trapezoidal niches (see Figure 4.2) (Agurto 1987; Gasparini and Margolies 1980; Kendall 1985; Niles 1980; Protzen 1993). Clusters of archetypical Inka commoner houses, agricultural terraces, and storage structures were built outside the perimeter walls. This rigid partitioning of monumental and residential space appears essential to the reconstruction of Wat'a and Pumamarka and to the materialization of an Inka ideal of order.

The maintenance and elaboration of these particular pre-Inka places—and *only* these select places—suggest that when the people of this area were subsumed into the Inka state, they were not subsumed through strategies typically associated with later Inka imperial expansion in the provinces—namely, population movement, site abandonment, and displacement (e.g., D'Altroy and Hastorf 2001). In fact, the data, in particular the evident continuation and elaboration of preexisting seats of power, accord closely with comparable systematic surveys from the Cuzco Valley,

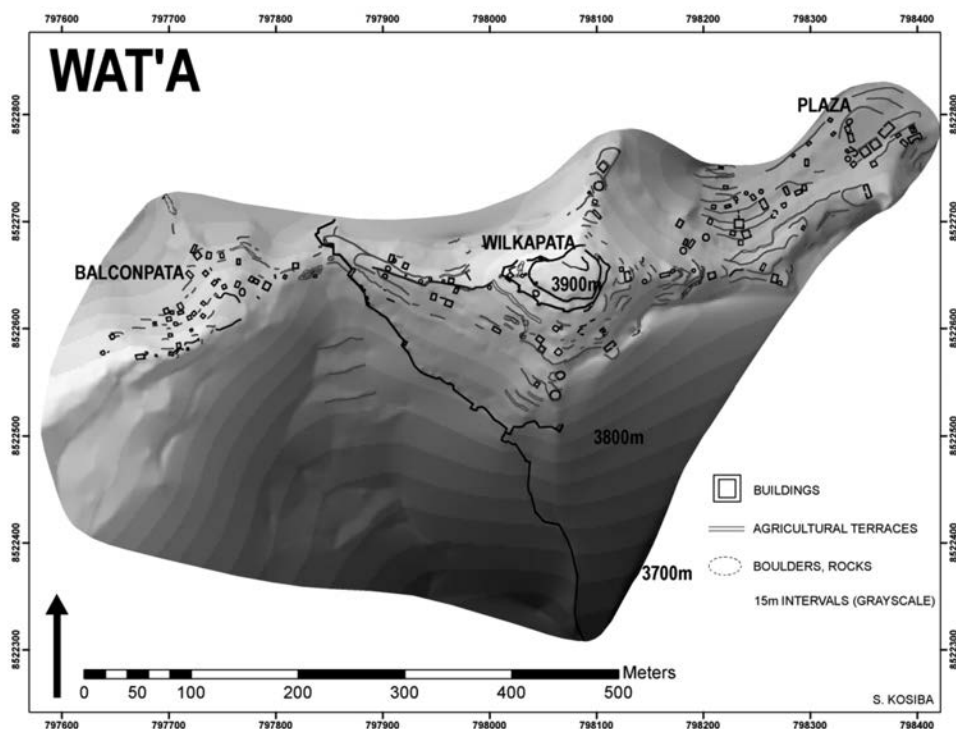


Figure 4.5. Plan of Wat'a illustrating how different sectors are spatially segregated by the site's massive wall.

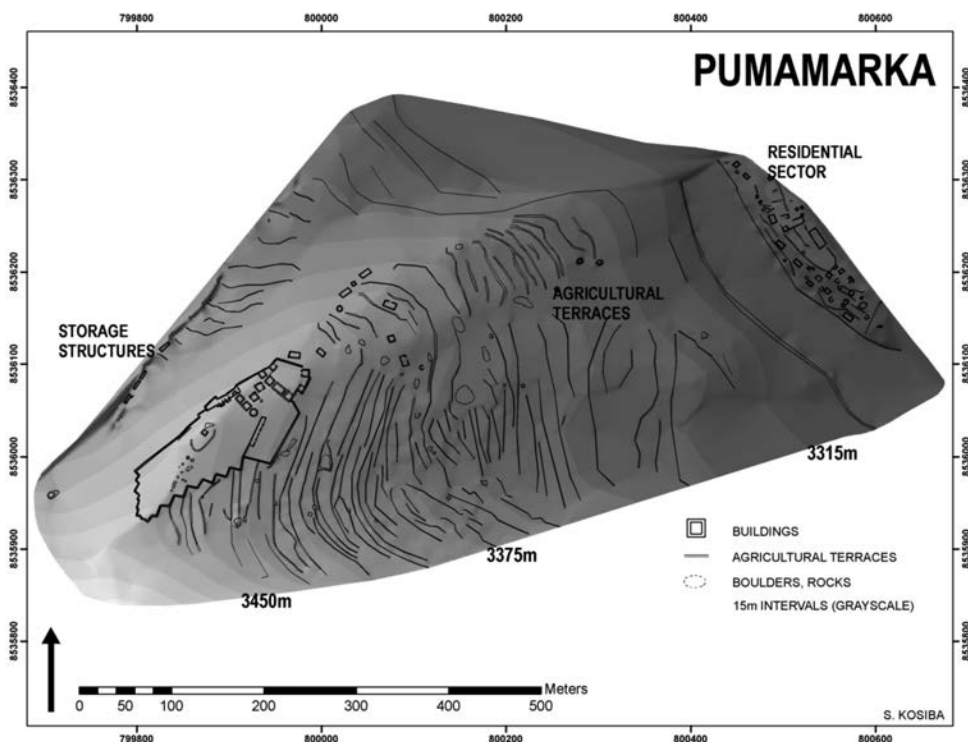


Figure 4.6. Plan of Pumamarka showing the bifurcation of this site into distinct fortified/elite and everyday sectors. The walled precinct contains baths, a feasting hall (*kallanka*), and several plazas. Storage structures, a residential area, and agricultural fields are situated outside the wall.

which find significant changes in specific localities yet little to no change in settlement location and/or sociospatial organization during the initial decades of the Inka period (Bauer 2004; Bauer and Covey 2002). Rather than fiery conquest and erasure, then, the data thus suggest a process of articulation between preexisting and Inka agendas—a process that pivoted upon the conversion and compartmentalization of local places. The division of these sites and the practices through which this division was manifested thus demand further attention.

CONCEALING THE PAST, CONSTRUCTING THE PRESENT: THE CONVERSION OF WAT'A

At the onset of the Inka period, Wat'a was a relatively large (12-ha) settlement located approximately 40 aerial km from Cuzco. Our surface collections and excavations demonstrate that Wat'a was occupied for centuries prior to its Inka-period reformulation, with particularly robust populations residing there during the Formative period (ca. 1000 B.C.–A.D. 500) and the Late Intermediate period (ca. A.D. 1000–1300). The WAP survey shows that during the OP, Wat'a was one of a few sites in which pre-Inka feasting practices and ancestor propitiation ceremonies were staged (Kosiba 2010). It is likely that Wat'a was an ancestral place—a long-occupied settlement and shrine, the history of which would have been clearly visible in its multiple tombs and accreted structures. However, much of this pre-Inka town lay beneath its Inka structures.

As the Inkas took power, Wat'a was not demolished. It was converted. Our 22 excavation units were distributed throughout the intramural and extramural sectors of Wat'a.⁹ These units uncovered no evidence for site-wide burning, such as a general ash lens, large amounts of burned plaster and earth, or high densities of charred objects. In contrast, highly localized fires were lit in only a few contexts and were directly associated with the construction of the new Inka architecture.

The following sections focus on the practices that converted Wat'a, specifically the construction of three kinds of Inka space: a plaza, a storage area, and a house. These spaces were key instruments of Inka rule. Plazas were loci of the feasting events in which Inka legitimacy was performed and declared through staged displays of state largesse (e.g., Coben 2006; Morris and Thompson 1985). Storage structures both symbolically and physically represented the polity's strength by illustrating its capacity to provision its armies and to provide for its people during droughts or poor harvests (e.g., Hyslop 1990; LeVine 1992; Morris 1967, 1992). Inka-period houses frequently conformed to a standard rectangular model, instantiating a model of order and regularity within local domestic settings (Gasparini and Margolies 1980; Kendall 1985; Niles 1980, 1987; cf. Morris and Thompson 1985). At Wat'a, the materials and spaces of the past occupation were transformed into the foundations for these institutional spaces.

Under the Plaza

.....

After passing through the perimeter wall of Inka-period Wat'a, a visitor would travel along one of two pathways that meander to either side of Wilkapata, the imposing walled peak around which Wat'a was built. Directing movement along the edge of a precipitous ridge, these pathways lead to a single place—an expansive plaza flanked by immense buildings. This, the most monumental Inka space in the site, becomes visible only after one walks the entire length of the fortified town. The restricted location of this plaza marks it as a special place, while its grandiose architecture evokes Inka authority.

Inka plaza architecture manifests both state power and societal order. Theatrical public ceremonies, especially collective feasting events, were often staged within the extensive plaza spaces of imperial cities (Morris and Covey 2003; Morris and Thompson 1985), exclusive elite compounds (Coben 2006), and smaller Inka monumental centers such as Wat'a (cf. Covey 2006a; Kendall et al. 1992; McEwan et al. 2008). Researchers have interpreted Inka feasts as political tools that rendered potential rebellions quiescent through ostentatious displays of state largesse (e.g., Bray 2003; Cummins 2002; Kolata 1996; Ramírez 2005). At Inka feasts participants were plied with vast quantities of food and drink, either in histrionic celebration of collective labor or in reverence of a state-ordained festival. In sponsoring and directing these feasts, the Inkas cast themselves as the benefactors and protectors of society. The construction of a formal plaza within Wat'a would have thus ushered in a drastic change in the institutional spaces, everyday practices, and political meaning of this place.

The plaza at Wat'a is an early Inka construction. Its spatial extent (approximately 850 m²) and location reflect OP architectural traditions, while its architecture is laden with symbols of Inka prestige and power. This space and its cyclopean buildings stand out among the otherwise dense clusters of residential buildings that make up the terraced, vertical topography of Wat'a. The plaza floor was made from gypsum and sandstone sediment—locally derived materials that often adorned significant OP architecture, such as tombs (Kosiba 2010). The white horizontal plane must have gleamed in the bright, high-altitude, Andean sun. A series of tall quadrangular buildings, painted red, provided a vertical plane and vibrant color that would have sharply contrasted with the white expanse of the plaza floor. Adding to the visual appeal of this area, the red and white plaza contrasts a series of intricately cut maize terraces, a geometric cascade of green fields that cover the mountainside directly visible from the plaza. This plaza was built directly in front of an immense and multicolored sandstone outcrop. At Inka-period sites, such outcrops are often *wak'as*, sites infused with otherworldly power (e.g., Acuto 2005; van de Guchte 1999). Two platforms are situated on either side of this outcrop, suggesting that it was revered as a *wak'a*, as it is now. The plaza was thus monumental in scale and

location. Its buildings were the nexus of the principal aspects of Wat'a, creating a sense of centrality while aesthetically and physically conjoining areas of the site.

These visual fields and this architectural aesthetic surely contributed to the grandeur of this space. Yet the political meaning of this plaza was also largely constituted by its hidden monumentality. That is, this plaza floor concealed the deeply embedded history of the place upon which it sat, as well as the monumental labor process through which it was produced.

The area upon which the plaza was built was the core of the pre-Inka settlement at Wat'a. While the occupation and use of other spaces within Wat'a waxed and waned, this area was used or occupied (perhaps intermittently) from approximately 600 B.C. until A.D. 1600.¹⁰ When compared with other excavation and surface collection units, this was the only area of Wat'a within which the densities of artifacts remained relatively stable over the site's entire history. Prestige objects—obsidian flakes and tools, silver and copper fragments, marine shells, and numerous carved steatite beads—recovered within this OP residential area suggest that it was an elite space and/or an area for nonquotidian activities (Cuba 2003, 2004; Kosiba 2010).

After almost a millennium of use, this place was buried, burned, and covered by an Inka plaza. This process was initiated when the circular and D-shaped pre-Inka residential structures of this sector were interred beneath almost 1 m of fill. Many house walls were disassembled; others were toppled. Remains of disassembled walls are very shallow, situated directly below the plaza, and are not associated with architectural debris, mortar, or rubble. In contrast, other walls appear to have been reduced through more violent actions. In these areas, a deeper fill covers the walls and serves as a foundation for Inka buildings. The sequence of destruction thus corresponded to the subsequent sequence of construction. This was not an act of annihilation. It was a planned process of spatial conversion.

Following the disassembly of extant structures, the area was then filled with rubble and trash—but not just any sort of trash. Specific kinds of objects were interred. Compared with previous levels, the fill contexts reveal a striking increase (about 120 percent) in fine decorated OP pottery sherds, particularly serving vessels.¹¹ Inka polychrome serving vessel sherds were included in this fill, suggesting that select objects were interred in this space not because they were *past* materials but precisely because they were *valued*.

Particularly large vessel sherds were recovered within the fill layers, suggesting that many of these objects were broken as they were incorporated into the fill. A sharp increase in the overall weight-to-count index of ceramic material was documented within particular levels of the plaza excavations (Figure 4.7). The weight-to-count index is a ratio of ceramic sherd weights to ceramic sherd counts recorded within each level of each excavation unit. A relatively higher weight-to-count index means that heavier and thus typically larger ceramic sherds were in that context. We recovered multiple sherds from single vessels. While the high percentage of decorated vessels indicates that only specific kinds of objects were

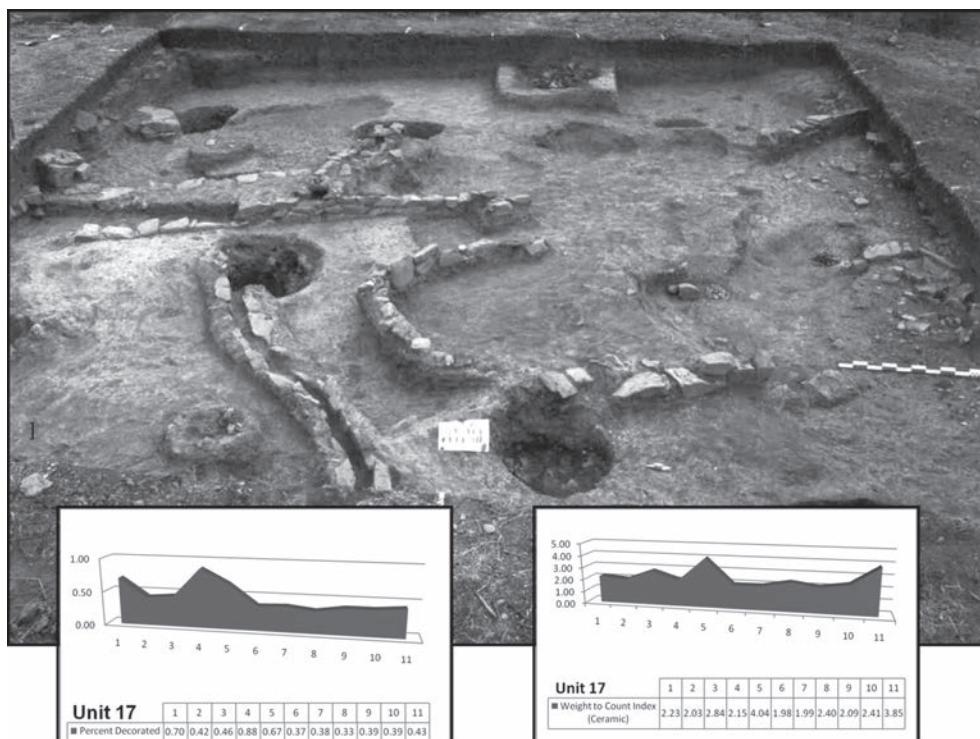


Figure 4.7. The photo shows the dense conglomeration of dissembled pre-Inka residential structures situated beneath the Inka plaza. The graphs use data from the WAP excavation unit in the plaza. They indicate that very high densities of decorated pottery were associated with only specific 10-cm levels of the fill that covered these buildings (two other WAP units revealed an identical sequence; Kosiba 2010) (photo by Luis Cuba, used with permission; all other photos by the author).

interred in this area, the fragments from single vessels and the high weight-to-count index suggest that some of these objects were broken throughout their interment (Figure 4.8).

These materials do not seem to have been transposed from another context (that is, the fill was not created or accumulated elsewhere and then moved wholesale to this site). First, it is notable that the fill layers contained broken decorated pottery but very few of the other artifacts (bones, lithics, and carbonized material) one would expect if the fill were comprised of transposed material. Second, the plaza fill levels produced relatively few eroded or highly eroded sherds (9 percent), suggesting that the material deposited in this area was covered directly after its deposition. Altogether, the interred materials appear to be “ceremonial trash” (Walker 1995)—objects typically associated with ceremonial practices and then specifically selected for disposal in a particular area.

Following the production of this fill, people leveled the area and then lit a controlled fire above the pre-Inka structures and alignments. Our excavations uncovered a thick ash lens, situated directly below the compact white sediment of the plaza floor (Figure 4.8). This lens consisted of nothing but ash, suggesting that this was a clean, hot, and very short-lived fire. Very high percentages of burned



Figure 4.8. The stratigraphy under the plaza clearly shows how a fire was lit atop the fill, right before the plaza floor was laid. The photos show examples of the Inka and pre-Inka serving vessels that were interred directly below the ash level. The graph on the lower right illustrates how higher percentages of burned fauna and pottery were associated with the ash and fill (lower left photo by Luis Cuba, used with permission; all other photos by the author).

ceramics and burned faunal remains were associated with the ash level (an average 165 percent increase in burned ceramics and a 205 percent increase in burned faunal remains). The sharp increase in faunal bone densities suggests that consumption activity or trash dumping co-occurred with the fire. The quick execution of the fire and the associated dense concentration of faunal remains suggest that this fire was designed to “cleanse” the space—an agriculturalist’s way of clearing the area before it was to be further “cultivated” through the construction of new architecture.

Subsequently, the plaza was constructed. A residential area that had been intensively occupied was dismantled and then filled with stones, bones, and broken objects. The materials of the preceding order were converted into the foundations of the new order. In this process, an important Inka political place accrued meaning through the controlled destruction of the place upon which it was built.

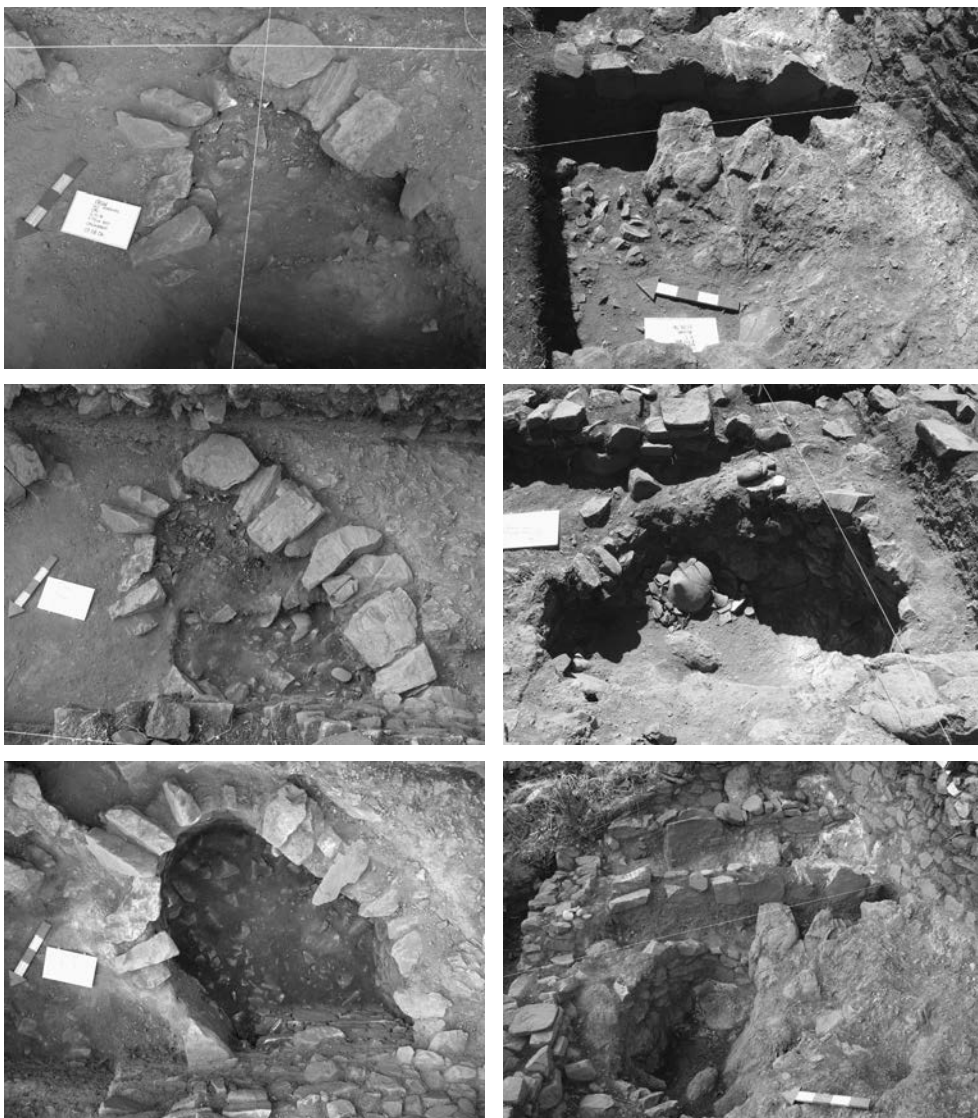


Figure 4.9. Multiple views of the OP structures uncovered beneath Inka buildings at Wat'a. Layers of ash and broken pottery covered both structures (top). These structures were completely filled with pottery, often whole pots (middle). Intense fires were lit inside the structures, as evidenced by burn scars (bottom).

In the Storage Structures

In a process rivaling the plaza construction, several OP ovoid structures were burned, filled, and then buried beneath Inka buildings (Figure 4.9). The size and morphology of the ovoid structures suggest that they were used for storage. Two of these structures contain ventilation shafts, allowing for cool dry air to enter the structure and therefore forestall the decomposition of materials contained therein. There are similar structures at LIP settlements in the Mantaro region of the central

Andes (Lavallée 1973). In discussing these structures, Lavallée (1973:103) notes that throughout the early twentieth century, highland Andean peasants stored grain and/or tubers in such stone-lined pits, called *shunkullu*. Similarly, agriculturalists living in the vicinity of Wat'a immediately recognized these kinds of structures, adding that they remember how their grandparents used such structures for storage. A radiocarbon date indicates that the structures were constructed in the thirteenth century.¹²

Scholars have argued that managed Inka storage facilities were among the social institutions that underwrote Inka governance (e.g., D'Altroy and Earle 1985; LeVine 1992; Morris 1982, 1992, 1993; Murra 1980 [1956]; Rowe 1982). Researchers in the central Andes have uncovered evidence that during the LIP, particular households controlled storage (Costin and Earle 1989; Lavallée 1973). In that region, the transition from household to centrally managed Inka storage was a sea change in local social organization (D'Altroy 1992; D'Altroy and Hastorf 2001). The interment of these structures at Wat'a, and their subsequent replacement with formal storage spaces, thus offers a rare glimpse of how early Inka political practices were established through the conversion of local structures.

At the time of their interment, these ovoid structures were completely filled with cultural material. We excavated the structures in 5-cm arbitrary levels to fully document any changes in the practices through which they were filled and interred. By attending to the detailed sequence through which these structures were decommissioned, another program of destruction, cleansing, and conversion is revealed.

The people who decommissioned these ovoid structures first emptied their contents and then lit fires inside them. We recovered few artifacts from the lower levels of the units, suggesting cleaning. A lens of ash covered the floors of these structures. The ash did not contain organic material, illustrating that these fires consumed all the fuel with which they were built. Burn scars on the interior walls of the structures further suggest that these were intense fires.

After the fires were lit, people filled the structures with pottery. Many of the ceramic sherds that filled the structures were from decorated pre-Inka storage vessels (64 percent),¹³ suggesting that only select objects were interred in these contexts, a mimetic practice in which storage vessels were interred in a storage space. Whole vessels were recovered in situ in both of the ovoid contexts. For instance, a large polychrome OP storage vessel was smashed along the wall of the ovoid structure underneath a niched Inka building (Figure 4.9). The ovoid structures also contained many stone tools used for food processing, such as cobbles for grinding maize.

Although decorated storage pots and grinding tools constitute the bulk of the material within these structures, high percentages of Inka and OP polychrome serving vessels were found within the uppermost levels of both structures (5–10 cm). Inka pottery, including several whole serving vessels, was recovered only in the upper levels of each structure's fill. As in the plaza, the Inka pottery suggests that

the destruction of valued things was important to the decommissioning of pre-Inka places.

The serving vessels were associated with animal bones and maize cobs, suggesting that food consumption practices brought these structures' decommissioning to a close. Select kinds of fauna were deposited in the upper levels. In both units, dog (*Canis familiaris*) remains were associated with an excavation level flush with the crowning features of the ovoid context. Some of the dog bones are charred and show cut marks, indicating that the dog was defleshed, roasted or burned, and perhaps consumed (see Kosiba 2010). In addition, the charred bones of white-tailed deer (*Odocoileus virginianus peruvianus*) were associated with the upper levels of the two storage structures. These dog and deer bones were mixed with numerous bones from guinea pig, or *cuy* (*Cavia porcellus porcellus Linne*), an animal that was often consumed in Inka feasting contexts (Sandefur 2001:183).

The faunal remains and the serving vessels suggest that a feasting event coincided with the final stage of decommissioning and that this event incorporated unusual or especially symbolic fare. Throughout our excavations at Wat'a, dog and deer bones were recovered only in particular contexts, typically those exhibiting evidence for transformative processes, such as construction or abandonment (Kosiba 2010). Deer was an elite and nonquotidian food among the Inkas (Sandefur 2001). Ethnohistorical sources provide some clues about Inka consumption of dog and its potential meaning. For instance, Garcilaso de la Vega (1965:book 6, chapter 10 [1609]) states that the Inkas derogatorily referred to their rivals the Wankas as dog eaters (*comeperros*), an insult that may reflect a perception of absolute social difference rather than actual practice (also Taylor 1987:161 [1598]). Similarly, an anonymous Jesuit chronicler (1968:155 [1594]) emphatically states that Andean people did not normally eat dog. The evidence from Wat'a, however, suggests that dogs were consumed only during the process through which spaces were transformed, or they were emplaced as offerings. Consistent with these data, several chroniclers claim that dogs were used in sacrifices (Jesuit 1968:154 [1594]; Avila 1987:161 [1598]), and others add that dogs were eaten during sacrificial practices (e.g., Cobo (1964:202 [1653]). Overall, the evidence suggests that these items were consumed or emplaced to heighten the social significance of the decommissioning process.

The people who enacted this process placed llama mandibula (*Lama glama*) on top of each fill context. Similar to the dog bones, llama mandibula were encountered throughout Wat'a only in select contexts corresponding to moments of transition, such as the beginning of Inka occupation or the Inka abandonment of a site. After placing these bones on the fill, the people lit another fire. The ash layers conform to the size of the ovoid structures that lay below, signaling that the fires were controlled (Figure 4.9). A radiocarbon date from the ash covering one of the ovoid structures indicates that it was buried in the fourteenth century, about two generations (or 100 years) after the date derived from its foundation.¹⁴

The process came to a close when Inka niched buildings were constructed atop these sites and new storage structures were built near the plaza. Formal, centrally located, and restricted in access, these new storage structures bore the emblems of Inka authority. A radiocarbon date from a wooden beam in the corner of one these storage structures indicates that it was constructed in the early fifteenth century, within a generation of the fires that were lit above the older, OP ovoid structures.¹⁵ The location of the newer structures suggests that they were most likely used to directly support events staged in the central plaza area. Here, as in the plaza, differences between OP and Inka organization were established in seemingly ritualized practices of destruction, interment, and construction.

Atop the House

At Wat'a, OP structures were also converted into Inka houses. In fact, one of the more striking examples of architectural conversion occurred in Balcónpata, an Inka-period domestic sector situated outside the monumental wall. Beneath the floor of an Inka-period house, our excavations uncovered the remains of an OP house and another ovoid storage structure. Whereas the conversion of architecture within the intramural area concerned the transformation of residential places into formal and monumental spaces, the transformation of these domestic spaces evokes a more intimate relationship between local people and a growing polity.

At first, the people enacting this process filled the entire context with sediment—a thick (1–1.7 m) and clean fill containing few artifacts. After almost completely covering the house in sediment, they lit a fire. Again, few charcoal pieces were associated with the fire, suggesting that it destroyed all the organic material used as fuel.

After the fire was lit, people began to fill the context with pottery. Only specific materials were then interred, especially finely decorated OP and Inka monochrome-slipped and polychrome vessels (62.9 percent). Serving vessels comprise the majority (58.3 percent) of the identifiable ceramic sample—almost double the percentage of serving vessel sherds recovered from other contexts in Balcónpata (Kosiba 2010). These sherds were deposited in concentrated areas of the fill, in a 10-cm vertical space that abutted the crowning features of two OP walls.

Again, special offerings were also placed amid the pottery. Burned dog and *cuy* (guinea pig) remains were interred between the OP walls (Figure 4.10). Dense concentrations of ash suggest that the *cuy* was burned in situ. The ash was situated directly in front of what was to become the doorway of the new house. The dog remains were scattered between the OP wall and the ovoid structure.

Subsequently, the people who enacted this process placed three rows of river cobbles on the surface of the fill, between the animal remains and the walls (Figure 4.10). Although the meaning of these cobbles is unknown, their interment suggests that they are associated with this sequence of transformative practices. The people who enacted the process then situated a human burial between a row

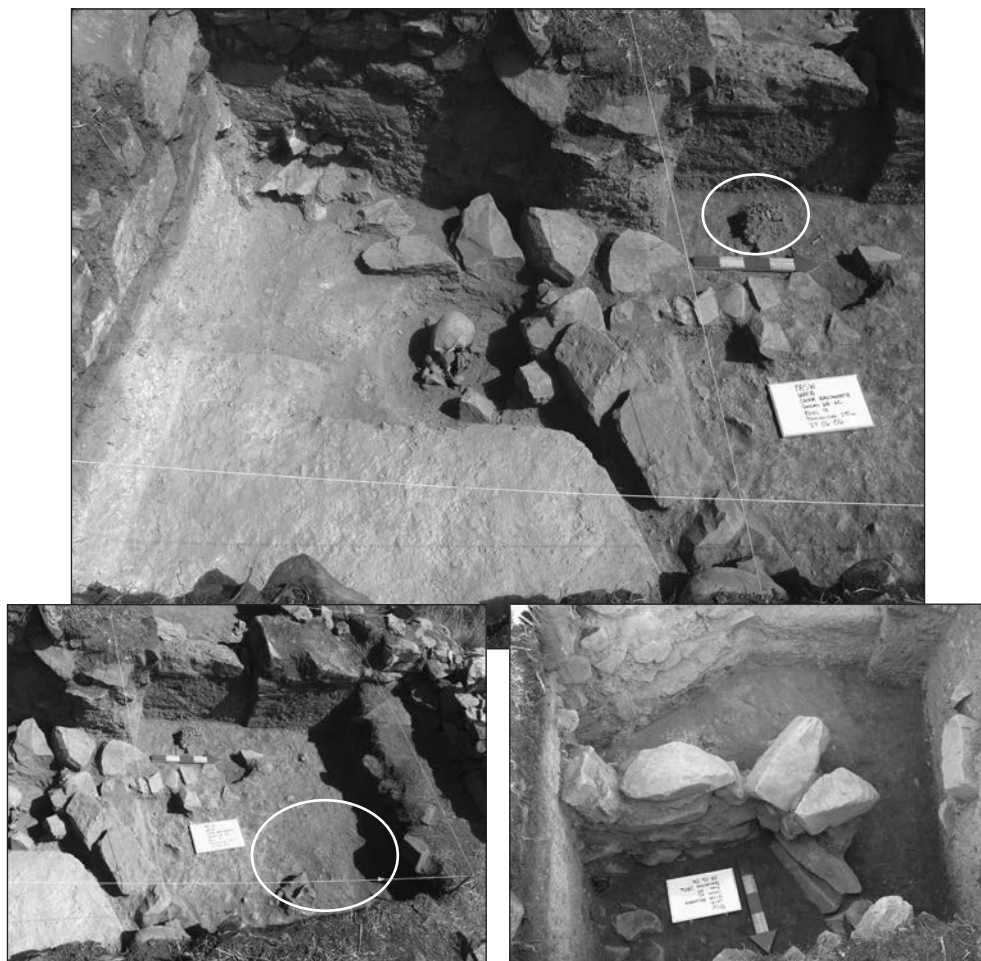


Figure 4.10. The top photo shows a human burial, a *cuy* offering (white circle in front of the house door), pre-Inka walls, and a row of cobbles—all directly associated with OP walls and situated 10 cm underneath the floor of an Inka house. The photo on the bottom left shows a layer of ash (circled) covering an OP ovoid structure that was buried under the Inka house, pictured on the bottom right.

of cobbles, an OP wall, and the corner of the Inka structure. The body is vertically positioned only a few centimeters below the Inka-period floor, in the same 10- to 15-cm fill context as the offerings, the ash, and the crowning features of the OP walls. Included with the body were a set of weaving tools—a *ruki* pick made from deer bone and a knife made from slate. These objects signal how, in many Inka mortuary practices, the objects and tools associated with a person in life were often interred with his or her body (see Lyon 1995; Paredes 2003).

Following the interment of this body and these offerings, a thin layer of sediment was spread over the entire fill level and a small fire was lit above the burial. OP and Inka serving vessels were placed within the context. Many of these sherds corresponded to the same vessels, and very few of them were burned, suggesting that the pottery was broken in situ after the fires were lit or as the fire was dying—a

practice common to all the instances detailed here. Specific objects, including a llama mandible and marine shell fragments, were recovered from this final ash layer.

An Inka house was then built. Two radiocarbon dates from this context suggest that these practices were enacted during the fourteenth century, within the same relative time frame that massive architectural and institutional transformations were occurring within Wat'a.¹⁶ The construction of Inka-style houses outside the perimeter wall corresponded to the destruction of the pre-Inka houses within the plaza space.

A household space was thus converted through a suite of violent and commemorative practices similar to those enacted within the intramural spaces. Yet this household sequence also emphasizes how, in transforming these spaces, an isomorphism was established between the burial of people and places. That is, burials and offerings were not *in* the foundations of these places; rather, they *are* the foundations of the places.

DISCUSSION: THE CONVERSION OF WAT'A AND THE EMPLACEMENT OF VALUE

As the aforementioned evidence suggests, the Inkas often sought not to destroy the places that local peoples recognized as sources of social value but to translate their value into an Inka idiom and in so doing to put local peoples into their “correct” places (see also Silverblatt 1988). The survey shows how the Inkas undertook a selective transformation of the lands they incorporated throughout the Ollantaytambo area, confining their efforts to particular sites, such as seats of political authority and ancestral places that were iconic of local social identity and autonomy. Existing sites for political ceremony were largely retained, while the practices through which local people participated in political action were relegated to exclusive and monumental spaces within a sharply defined, “legible” landscape (Scott 1998; also Mitchell 1988; Smith 2003). It appears as though Inka state formation was less a process of *coercion* than a process of *conversion*—one that sought to order people and places of the Cuzco region by staking new value distinctions within the hallowed ground of powerful places.

The excavations at Wat'a suggest how these value distinctions were emplaced. At Wat'a, Inka practices of place conversion were not solely acts of destructive erasure; nor were they simply processes of renovation. Wat'a was extinguished and a new Inka place inaugurated through a strategic program of conversion that targeted only particular buildings and areas. The sequences of destruction and reconstruction detailed here were uncovered within select contexts (6 of 22 excavation units) underneath distinctly Inka spaces. An Inka plaza was built over a long-occupied elite residential area. Pre-Inka storage areas were decommissioned and replaced by a centralized, restricted-access facility situated next to the plaza. A massive perimeter

wall was constructed around the new monumental precinct, creating an exclusive, fortified, sanctified, and thoroughly Inka space. Simultaneously, domestic activities were moved to an area outside the walled precinct. The new spatial arrangement bespoke a dramatic break with the preceding way of life. As Wat'a was split into distinct exclusive and residential sectors, the material boundaries of a new social order were built.

A look into the foundations of these Inka spaces reveals the process through which this new order was assembled. Conspicuous in its monumentality and exclusivity, the new Inka spaces of Wat'a were constructed through coordinated labor that entailed particular sequences of action—burning, smashing, offering, feasting, and burying—in particular sites. The objects interred within these spaces—marine shells, llama mandibula, *cuy*, decorated pottery—were more than just wealth, more than just the “good china.” And the practices with which these objects were associated were more than just construction activities. Offerings and feasting practices including nonquotidian fare (dog and deer) complemented the destructive interment of valued objects, lending a solemn theatricality to this process of reconstruction and renewal. As in Malinowski's famous account of the magic essential to Trobriand canoe manufacture, it appears as though the sequential interments and selected material offerings at Wat'a were both essential to and inseparable from the labor of construction (for a comparable case, see Monaghan 1998).

Similarities between the sequences of actions that built both the Inka plaza and these Inka places reveal what seems to be a ritualized program of conversion—a linked series of actions that are attributed heightened significance and are deemed culturally necessary to accomplish a goal (e.g., Bell 1992, 1997; Bloch 1989; Swenson 2007). The overall goal of this ritual program was the redefinition of Wat'a as a definitively Inka place—a place markedly different from its predecessor and a place of absolute, incommensurable value. To invalidate the prior political order and inaugurate the new political regime, it appears as though it was essential to inter *these valued things* in *these places* in *this theatrical way*. In describing such practices, Connerton (1989:9) accentuates how “a rite revoking an institution only makes sense by invertedly recalling the other rites that hitherto confirmed the institution” (see also Bell 1992; Geertz 1973; Turner 1982). In comparison, archaeologists have recognized how Maya termination rituals were performed to kill, control, or convert the power that resided within certain places (Boteler Mock 1998; Coe 1959; Schele and Friedel 1990). Indeed, Wat'a was “put to death” only to be “resurrected.”

Returning to a regional perspective, we find that walled exclusive spaces were raised at many other pre-Inka places throughout the Cuzco region. Such places were systematically converted, perhaps through similar programs of reconstruction. At Pumamarca a monumental walled precinct was built on a hillside adjoining the extensive pre-Inka settlement (Kendall et al. 1992, 1996; Niles 1980). Q'aqya Qhawana (Juchuy Coscco), in the northern Cuzco region, replicates the spatiality of Wat'a and Pumamarca (Kendall et al. 1992), and at this site, too, grandiose Inka

monumental structures are separated from a nearby residential sector. Similar to the architectural overlay at Wat'a, Inka niched buildings and plazas were built within the central sectors of several large towns, including Pukara Pantillijlla and Qhapaq Kancha (Covey 2006a; Dwyer 1971). And, illustrating a striking similarity in incorporation processes, at the Cuzco Valley political center of Chokepukio, institutional structures were burned and ritual offerings interred when this important site was subsumed within the Inka state (McEwan et al. 2002, 2008). Radiocarbon dates indicate that these sites were architecturally embellished at about the same time as Wat'a—in the mid-fourteenth century (see dates in Bauer 2004; Covey 2006a; Kosiba 2010). Like Wat'a, many of these places were continuously or intermittently occupied for centuries prior to Inka state formation (Covey 2006a; Kendall 1996; McEwan et al. 2002), suggesting that the Inkas targeted long-recognized political and/or valued places in an effort to produce a coherent and ordered landscape throughout the Cuzco region.

Throughout their imperial expansion, the Inkas continued to assert their absolute authority by converting places that had long been recognized as sources of social power. Within La Centinela, the capital of the coastal kingdom of Chinchá, the Inkas directed the construction of restricted plazas that declared Inka exclusivity by separating the Inka elite from local lords (Morris and Santillana 2007; see also Lumbreras 2001; Wallace 1998). Upon incorporating Pachacamac, a long-revered coastal religious site, the Inkas ordered the construction of a gargantuan pyramid and a monumental structure, both of them dwarfing the preexisting structures (Patterson 1985; Shimada 1991; Tello 1940). The evidence from Cuzco suggests that this later imperial policy of place conversion and subordination was forged during the Inkas' initial confrontation and engagement with the other social groups of the Cuzco region.

The authority of the new Inka regional class was rooted in claims of absolute difference, and throughout Inka state formation these claims were planted in pre-existing seats of power. At Wat'a, we see how this occurred: exclusive spaces were produced through practices of destruction and regeneration. In influencing or directing these practices of conversion in these valued spaces, the Inkas materially constituted the absolute differences—the essential categories of value—upon which their authority was built. The smashing of objects within pre-Inka places and the construction of monumental buildings and colossal walls manifested an absolute difference between pre-Inka and Inka ways of life and also between outside and inside, past and present, and non-Inka and Inka spaces. The changes documented at Wat'a, then, were not simply changes in the meaning of a local place. Through the conversion of local place value, a general regime of value was manifested and a state was born. Put simply, it was emplaced.

BECOMING INKA . . . SUBJECTS

In constituting social value, people define themselves as they define the contours of their world. The challenge, then, is to understand how in rebuilding Wat'a, once-autonomous local people inaugurated a new regime of value and in so doing redefined themselves as subjects of the Inka. Though we may never know whether Inka elites, local elites, or local commoners *directed* this process of transformation at Wat'a, it is highly probable that local hands *enacted* these practices of conversion. This proposition is well supported by broad continuities in the manufacture techniques of both the architecture and the material culture of Ollantaytambo-area sites, at which Inka structures and spaces were produced according to antecedent local styles of manufacture and construction (Kosiba 2010).

Local people were recast as Inka subjects inasmuch as they *performed* their new roles within the nascent Inka state. The excavations at Wat'a revealed a common sequence of practices within the labor process itself, intimately interwoven ritual and practical procedures of destruction, consumption, and construction. These practices would have required systematic coordination between participants within and across the spaces they sought to convert. In ritualizing this labor process, the Inkas directed a spectacle that not only recast local people as Inka subjects but forced them to be aware of their new roles (DeBord 1994; Smith 2004, 2006). The coordination of these laborers' activities must have engendered a heightened self-consciousness of their social roles (*as laborers*) and, by implication, recognition of their lower position within a broader social hierarchy. In rebuilding Wat'a, they were reclassified as abstract and commensurable "workers" in a manner that would become iconic of incorporation into the Inka state—namely, through their labor (see Patterson 1985).

People confronted the essential social categories upon which Inka authority rested through their own labor, in their own place. Wat'a was a place where ancestors dwelled, a place in which the social fabric of a group was embedded. But through these people's labor, it became Inka. More precisely, the particular and local value of Wat'a and similar places was *transubstantiated*—places like this became the symbols and sources of a completely different kind of value that divided the world into distinct and incommensurable social categories. This was not just the instantiation of hierarchy. It was the creation of nominal rather than ordinal differences between places, their functions, and their inhabitants. Local people's participation in the transformation of this place would thus have been a powerful and emotive way to concretize their new role as Inka subjects and their subjection to this new social order.

In short, to put a new twist on an old idea: value was constituted through labor. Not labor time but labor organization within a specific context. Here, social value was defined in the very conspicuous distinction between those who labored and those who did not.

This study demonstrates how situated practices of place conversion might work to constitute value and consequently solidify the foundations of a regional state.

Among the Inkas, places did not accrue value because of their use or their position in an Andean cultural system. People did not amass social value solely through the accumulation of material resources. Their value (their potential to be Inka spaces or Inka subjects) was made manifest only during situated practices and processes of conversion. In this example, then, a notion of “value” as a coherent structure or totality does not precede the practices through which it is realized.

By building over sites within Wat’a and other important places, local people labored to obliterate the structures and signs of their own past, transforming their ancestral places in ways that suited Inka objectives. Their labor of place conversion entailed a suite of practices that embedded Inka value categories within the very mortar of a long-occupied and revered pre-Inka place. In destroying pre-Inka buildings, local people concealed their own past. In raising Inka buildings, they defined the political authority to which they were subject. They built the walls that kept them out. They marked the social boundaries of a new world order. As Wat’a became Inka, new values were, quite literally, put in place.

ACKNOWLEDGMENTS

This paper is an abridged and altered version of my doctoral dissertation: “Becoming Inka: The transformation of political place and practice during Inka state formation” (2010). I thank the following individuals for their perceptive and productive comments on earlier drafts of this paper: Alan Kolata, Gary Urton, Brian Bauer, Sue Alcock, Adam T. Smith, Kathleen Morrison, Michael Dietler, Santiago Giraldo, Zachary Chase, Meredith McGuire, and two anonymous reviewers. All interpretations, elisions, and mistakes are my own. I also thank Luis Barreda Murillo, Brian Bauer, Alan Covey, Gordon McEwan, Arminda Gibaja Oviedo, and Luis Cuba Peña for their invaluable insights into Cuzco region archaeology. Funding for the Wat’a Archaeological Project was provided by a Fulbright-Hays Doctoral Dissertation Research Abroad Fellowship, a National Science Foundation Dissertation Improvement Grant, and a University of Chicago Overseas Dissertation Research Grant. The ASTER data used in this study are a product of the National Aeronautics and Space Administration (NASA) and Japan’s Ministry of Economy, Trade and Industry (METI).

NOTES

1. The original Spanish reads:
Era otro cinche llamado Illacumbi, cinche de dos pueblos, el uno nombrado Cugma y el otro Guata, cuatro leguas del Cuzco. A este cinche enviaron a decir Inga Yupangui e Inga Roca que les viniese a dar obediencia, y respondioles que el era tan principal como ellos y libre, y que si algo querian, que lo habian de librar por las lanzas. Por esta respuesta

tomaron las armas contra el dicho cinche. El cual y otros dos cinches sus companeros, llamados el uno Paucar Topa y el otro Poma Lloqui, juntaron sus gentes y salieron a pelear con el Inga, mas fueron vencidos y muertos ellos y cuasi todos los del pueblo. Y asolo aquella poblacion toda a fuego y a sangre con muy grandes crueldades. Y de alli se torno al Cuzco y triunfo de esta victoria [Sarmiento 1965:239 (1572)].

2. The Wat'a Archaeological Project included: (1) a full-coverage pedestrian survey of a 200-km² area; (2) mapping, intensive surface collections, and architectural studies at pre-Inka and Inka sites; and (3) extensive excavations and analyses (ceramics, faunal, macrobotanical) at Wat'a (Kosiba 2010).

3. Of course, this vision of absolute order was often more ideal than reality, inciting resistance as much as it instilled socioeconomic integration (e.g., Kolata 1996; Ramírez 2005; Silverblatt 1988). The challenge, though, is to first understand how the Inkas attempted to implant this kind of social order throughout the Andes and then to examine how local people might have acquiesced to or subverted Inka hegemony.

4. Such taxonomies of social value appear to define many ancient imperial projects, especially those that assert divine authority through ancestry and thus claim the absolute exclusivity of a ruling class (e.g., Brumfiel 1998; Kuhrt 2001).

5. Architectural analyses and excavations in the Cuzco area have largely concentrated on these later monumental Inka complexes and elite spaces (Alcina Franch 1976; Bengsston 1998; Burger and Salazar, eds. 2004; Farrington and Zapata 2003; Gibaja Oviedo 1982, 1984; Nair 2003; Niles 1999; Paredes 2003; Protzen 1993, 2000; Valcárcel 1934, 1935; Valencia Zegarra and Gibaja Oviedo 1992; see also Bauer 2004).

6. Several researchers apply the category Killke period to the centuries that precede Inka rule in Cuzco (e.g., Bauer 2004; Covey 2006a). The Killke period corresponds to the geographic distribution of Killke pottery, which is defined by a decorative style and often thought to correspond to Inka political influence. But, the use of Killke style pottery as a temporal marker is problematic in its cultural-historical assumptions and tenuous empirical association with political influence (see also Chatfield 2007; Covey 2006a: 135; McEwan 2006: 199). More particularly, Killke pottery cannot be used as a temporal marker in the Ollantaytambo area, where many local styles derived from pre-Inka (twelfth and thirteenth century) excavation contexts mimic some of the design and manufacture features of Killke pottery, yet with distinct local variations. (Kosiba 2010; see also Gonzalez Corrales 1984; Lunt 1987; Rivera 1971a, 1971b, 1973). For the period directly preceding Inka ascendancy (Ollanta phase), I established a local ceramic chronology based on pastes, manufacture techniques, forms, rims, and decorative motifs (Kosiba 2010). The appearance of Inka architectural and ceramic styles defines the onset of the Inka period (see also Gibaja 1984; Lunt 1987). Additional research will further clarify the Ollantaytambo-area ceramic sequence.

7. Throughout the Cuzco region, high perimeter walls surround Inka monumental complexes, including Tipón within the Cuzco Valley; the temple to Viracocha at Raqchi; Ollantaytambo; and Saqsaywaman in Cuzco (Gasparini and Margolies 1980; Hyslop 1990; Niles 1980).

8. A radiocarbon date was obtained from a grass sample embedded in the wall's mortar at Wat'a. This sample (AA85886) yielded a calibrated one-sigma date range of A.D. 1391–1446 (68.2 percent). Another radiocarbon date was obtained from a charcoal sample embedded in the wall's foundation at Wat'a (within WAP excavation unit 9). This sample (AA82719) yielded a calibrated one-sigma date range of A.D. 1425–1455 (68.2 percent) (OxCal 4.1).

9. WAP excavated a total area of 149 m² and a total volume of 195.8 m³. In previous years, INC conducted extensive block excavations in the plaza sector of Wat'a and uncovered the

remains of pre-Inka residential structures underneath the Inka-period plaza floor (Cuba 2003, 2004).

10. An excavation unit near the plaza contained a continuous stratigraphic column, suggesting the long-term use of this area. Three radiocarbon dates were derived from Formative-period contexts under the plaza. The calibrated one-sigma ranges for these three dates are A.D. 3–118, 766–543 B.C., and 787–555 B.C. (68.2 percent) (OxCal 4.1). One radiocarbon date was derived from an OP context beneath the plaza. The calibrated one-sigma range for this date is A.D. 1229–1285 (68.2 percent) (OxCal 4.1).

11. Percentages of decorated ceramics (weight in grams) drastically increase within the levels (4 and 5) of the plaza excavation units (10 and 17) that correspond to the destruction of the OP village—a 109 percent increase in decorated serving vessels in unit 10 and a 137 percent increase in unit 17. There was no significant change in the stratigraphic sequence of the excavation unit directly below the plaza (11), thereby suggesting that the filling was highly localized.

12. WAP uncovered three ovoid structures (Kosiba 2010). INC excavations have revealed similar structures (Cuba 2003). The radiocarbon sample was taken from charcoal embedded in the foundational mortar of an ovoid structure. The date from this sample (AA82091) is A.D. 1236 \pm 38. The calibrated one-sigma date range is A.D. 1230–1299 (68.2 percent) (OxCal 4.1).

13. Of the sherds recovered from the first context (unit 15), 72.3 percent were decorated. Of the sherds derived from the second context (unit 16), 75.4 percent were decorated. Of these decorated sherds, 64.2 percent from unit 15 and 82.6 percent from unit 16 are monochrome-slipped or polychrome vessels.

14. A date obtained from this charcoal sample (AA82093) is A.D. 1359 \pm 36. The calibrated one-sigma date range is A.D. 1314–1399 (68.2 percent) (OxCal 4.1).

15. There is clearly one storage structure near the plaza. Associated buildings may have been used for storage. A date obtained from the Inka storage structure's wooden beam (AA82719) is A.D. 1544 \pm 36. The calibrated one-sigma date range is A.D. 1437–1490 (68.2 percent) (OxCal 4.1). The date is a bit later than expected, perhaps due to contamination of the exposed wood.

16. Radiocarbon measurements were derived from two excavated charcoal samples from both the fill and the ash layer covering the pre-Inka house. These samples yielded AMS dates of 1307 \pm 36 (AA82089) and 1338 \pm 36 (AA82090). The calibrated one-sigma date ranges are A.D. 1291–1386 (68.2 percent) and 1305–1391 (68.2 percent) (OxCal 4.1). Covey (2006a) reports a similar range of radiocarbon dates derived from the wall daub of semicircular and rectangular structures within Wat'a (provenience information from Alan Covey, personal communication, May 28, 2009).

CHAPTER 5

.....

THE REVALUATION
OF LANDSCAPES IN
THE INCA EMPIRE AS
PEIRCEAN REPLICATION

.....

CHARLES STANISH
UCLA

ABSTRACT

.....

Archaeological research on the Island of the Sun in Lake Titicaca reveals a highly structured solstice ceremony marked by an elaborate built landscape, including two towers, buildings, and walls. The solstice towers functioned in a manner similar to those described by Spanish chroniclers for Cuzco, the capital of the Inca Empire. I suggest that the concept of Peircean replication allows us to understand this phenomenon as the instantiation of a cultural ideal present among the Inca political class and used as one strategy in their imperial repertoire. This paper defines Peircean replication and uses it to help us better understand Inca political domination in the rich Titicaca region of their empire.

INTRODUCTION

.....

It is virtually a truism that empires transform or revalue select landscapes as part of their imperial strategies in transforming former enemy states into provincial territories. We have come a long way in the last 30 years in theorizing this process. The ideological transformation of place must be seen as a necessary factor in imperial expansion and not as some kind of incidental or epiphenomenal one. To restate what is now the obvious, you cannot build an empire if you do not manage the ideology

behind that empire in all its various guises. To use an overworn expression, ideological power is an essential component in the overall strategy of empire building. That ideology must be materialized in such a way that the bulk of a nonliterate population can be coerced, seduced, or at least introduced into the new political order that has suddenly entered their world.

In this paper I want to take a closer look at the concept of “managing ideological power,” using an example from the Inca Empire. I suggest a slightly new way of theorizing this process, borrowing from work in semiotic anthropology. I will argue that the concept of Peircean replication, first introduced into archaeological interpretation by Lawrence Coben (2006), can help us understand the transformation of select physical space in the Inca Empire. I focus on one aspect—the construction of solstice observation places across the empire—as a means to reorder the ideological landscape of conquered territory by revaluing the physical one. The Inca built many solstice markers throughout the empire, and they varied in a number of ways. The concept of Peircean replication helps us understand how various social forces came together to alter the solstice observance structure while keeping the essential political message of that observance intact.

PEIRCEAN REPLICATION

The concept of Peircean replication is an alternative way to model a process of the spread of a new art style, architecture, and religion across an emerging expansive state. To my knowledge, it was first introduced into the archaeological literature by Robert Preucel and Alexander Bauer in 2001. It is based upon the semiotic work of anthropological linguists who adapted a theoretical framework created by Charles Sanders Peirce, the nineteenth-century founder of American pragmatism. It was first applied in an archaeological case study, to my knowledge, by my colleague Lawrence Coben (2006) in an article in a book entitled *The Archaeology of Performance*.¹ Coben used the concept to explain the nature of “new Cuzcos” throughout the Inca Empire. Coben argues that new cities built by the Inca around their empire were something other than just imitations of architectural elements of the capital, Cuzco. Rather, the capital itself was constructed “as a physical representation of their [the Inca’s] worldview” (Coben 2006:224). In constructing new provincial capitals, the Inca reordered this worldview through architecture that provided settings for imperial “theater” or spectacles that projected political power as well as inculcated provincials into the new cultural reality they now experienced. The “new” Cuzcos were not copies of Cuzco itself but were replicas of the cultural ideals that embodied Inca concepts of proper political and social organization.

The theoretical details of this concept are beyond the needs of this paper, but the essence of the argument is this: A Peircean replica is not a copy or a series of copies of an original thing. It is rather the manifestation of an *ideal*. Such a manifestation



A good example of Peircean replication is the Christian Mass and its many manifestations throughout the centuries around the world. The nature and structure of

this ritual took some time to develop, but once established, it became an ideal that was manifest around the globe. The Mass itself encodes a series of religious beliefs that are replicated in different social contexts, leading to a huge variety of different forms. Masses are performed in large cathedrals, modest churches, small chapels, grottoes, ships, forts, and just about any conceivable space where the faithful can congregate. Masses are performed in scores of languages by cultures in varied dress and with varied customs. Yet to anyone but the most culturally uninitiated, there is no doubt one is witnessing a Christian ritual. This is no original or “right” Mass. Even the earthly avatar of the Christian creator god did not construct *the* Mass. It was a practice that developed over many generations in the first few centuries A.D., becoming an ideal form coincident with the consolidation of political power by the Catholic Church. It has been replicated around the world for almost two millennia in different cultural contexts. The key feature is that in spite of its variation, it is immediately recognizable to all participants. This ritual is modified by culture, history, and time. But its core features remain, and its core message is transmittable via visual performance among virtually any audience.

INCA CREATION OF VALUED SPACE

A key goal of imperial ideology, of course, is to normalize the abnormal—abnormal being the political circumstance in which a group from afar takes ownership of someone else’s territory and at least part of their identity. Imperial elites must resolve the inherent tensions that derive from occupying a different ethnic territory and controlling the lives of the people who reside there. Traditionally in archaeology, we conceive of the expansive state as imposing some kind of ideological power in a fairly mechanistic way, replicating the core elite’s ideology in the periphery. This ideology is manifest in some kind of material culture, particularly architecture and high-valued religious objects. Simply put, it leads to a methodology where we seek to measure the degree to which imperial installations or artifact assemblages in the provinces are similar to those in the core. Then, as the logic goes, the degree of similarity or dissimilarity represents the degree to which that ideology was faithfully reproduced. Deviations from the “standard,” as found in the core, represent the degree to which local elites resisted or co-opted power for themselves.

The Inca also had such rituals, which were created out of their historical and cultural context. The Inca were master empire builders (Figure 5.1). Beginning in the very late fourteenth or early fifteenth century, they quickly put together a state from their capital city, Cuzco, that rivaled major Old World empires in size and sophistication. They ultimately expanded north into what is modern Ecuador, south into central Chile, and east into the Amazonian forests. They were the masters of the entire coastline, from modern Santiago, Chile, to Guayaquil, Ecuador.

Like all empires, throughout their state, the Inca created sacred spaces that, as mentioned above, normalized the abnormal. The Inca political class revalued (and devalued, in the case of political adversaries) many kinds of spaces. Some were as simple as individual natural features. At the other end, entire landscapes were resculpted into centers of political and ideological power. In revaluing these spaces, the Inca drew from a long tradition in the Andes known as *huaca* worship.² At a superficial analysis, a *huaca* is a material thing, either natural or human made, that represents the animus or soul of a corporate group, be it an *ayllu* (a kin-based landholding unit), a village, a lineage, a town, or a polity. *Huacas* could be stone carvings (Figures 5.2–5.4, *see color plates*), springs, hills, caves, idols, lakes, or just about any prominent feature of the landscape.

A deeper interpretation of *huacas* (e.g., Astvaldsson 1995–1996; Duviols 1979 a,b; Guchte 1990) indicates that the concept, shared by both Aymara and Quechua speakers, refers to divine power and fluid relationships between the natural and supernatural (Salomon 1998). *Huacas* incorporate ancestor worship (time) and real things (material). They represent a highly complex set of psychological and cultural relationships between people and the supernatural, mediated through the material. Cults or devotees take ownership of certain *huacas*. Frank Salomon (1998) provides an analysis in which the *huaca* as a supernatural being is understood as part of a complex performance, both physical and psychological. *Huacas* are not just things but are phenomena that are interwoven to create a distinctive worldview that incorporates the past (ancestors), the present (everyday existential realities), and the future (the supernatural).

The Inca drew off this tradition and amplified it by creating numerous sacred centers and pilgrimage destinations throughout their empire. One of the most important cults in the Andes focused on the sun. Solar worship was a cornerstone of Inca religion and, as we will see, a cornerstone of imperial control.

SOLAR WORSHIP IN THE INCA EMPIRE

Worship of the sun was one of the most important components of official Inca religion. Many rites and ceremonies surrounded this fundamental and core concept of later Andean religion. Most significant Inca sites had temples to the sun along with other deities. Major festivals were celebrated over the vast stretches of empire.³

Marking the solstices of June and December was a particularly important ritual. The early historical data tell us much about the marking of solar time in the Inca capital in Cuzco by the use of stone towers on the hills above the city. One of the earliest accounts of the solar pillars is by the chronicler Juan de Betanzos in 1557. Betanzos, like many others, saw these as merely “clocks,” markers of particular moments in the Inca ritual cycle:

[The emperor] made the clocks in the following way. Each morning and every afternoon of every month of the year he looked at the sun, watching for the times for sowing and harvesting. . . . He had the clocks made of cut stone placed on top of the highest hills at the place where the sun rose and where it went down. . . . As the sun rose, if one stayed where Inca Yupanque stood to look and calculate, the sun comes straight up and goes straight between the pillars, and it did the same when it when down to the place where it sets [Betanzos 1996:68 (1557)].

The near-contemporary chronicler Bernabé Cobo describes stone markers on hills several times in his text (in Rowe 1979). He notes that between 4 and 16 towers in the Cuzco region could be seen up to 15 km away. These chroniclers note that the Inca used the towers to track more than just solstices. They refer to the towers as “clocks,” used to calculate the time of many ceremonies and events. Solstice marking seems to be a particularly important event in the ritual calendar (Bauer and Dearborn 1995).

In an earlier article (Stanish 2010), I noted that the immediate question begged by these historical data was why the Inca used *pairs* of towers and not just one tower to mark the precise solstice from any particular point on the landscape. The obvious answer is that pairs mark a *period* of time, not just a specific moment or event. By setting the towers apart over a hillside, the Inca could mark the sun over a number of days defining a special period of time.

THE ISLAND OF THE SUN SOLSTICE CEREMONY

The Island of the Sun, as the name implies, was the location of a great temple of the sun in the Inca state. Together with the surrounding towns and the Island of the Moon, the Island of the Sun complex constituted a vast sacred area and pilgrimage destination in the Inca Empire. The ultimate point of the pilgrimage was the Sacred Rock or Titikala, a modest red sandstone outcrop on the Island of the Sun (Figure 5.5, *see color plates*). This rock was the mythical birthplace of the founding Inca imperial couple. It was also the birthplace of the sun itself, making it one of the most sacred spaces in the empire.

The region of the Island of the Sun, the Island of the Moon, and Copacabana was a massive reworked landscape, a *huaca* of tremendous proportions, the endpoint of one of the most important pilgrimages in the Inca world. The chroniclers described how the island was repopulated by settlers and how the Inca built a series of buildings and features along the length and breadth of the island. These included roads, *tambos* (Inca way stations), royal residences for the *acllawasi* (chosen women), ritual terraces that grew maize and possibly coca, and *huacas*, including springs, artificial platforms, and special islands.⁴

During fieldwork in the mid-1990s, my colleague Brian Bauer and I surveyed and excavated a number of sites on the Island of the Sun and Island of the Moon in the far south of Lake Titicaca (Bauer and Stanish 2001; Stanish and Bauer 2004).

Our research discovered two towers on a hill called Tikani, located a short distance above the Sacred Rock. These markers are about 600 m northwest of the sacred area. While they were originally recorded as tombs, based upon the calculations of David Dearborn and excavations by Dearborn, Seddon, and Bauer (1998), we soon realized they were solstice markers. If one stands in the center of the Inca plaza in the Sacred Rock area, the most ritually charged spot on the island and in the entire ritual landscape of Collasuyu, the towers mark the winter (June) solstice precisely.

The towers are very similar to those described in the chronicles for Cuzco. They are made of stone and are filled with a solid rubble core. The towers are 32 m apart. Our research also discovered one and only one site that directly abutted the wall (La Raya de los Incas) that separates the sacred area from the rest of the island. Referred to as site 19, this spot also was located perfectly for observing the solstice through the towers.

The solstice markers on the Island of the Sun functioned precisely like those described for Cuzco. They marked a period of a few days during the winter solstice from the front of the Sacred Rock. There is a special spot in the sacred area, near the Sacred Rock, where the sun sets precisely between the two towers.

As my colleagues Dearborn and Bauer note, because the Tikani towers are so close to the Sacred Rock area, the exact spot at which the sun disappears during the solstice changes visibly as one moves about the plaza. This is an extremely important observation. If we view the towers from another perspective, not as markers of time but as markers of space, we can see why a pair is necessary and how a pair of towers could be used to define sacred space in a place like the Titikala sanctuary. Likewise, proximity to people in the sacred spots corresponds to a person's social status. Like virtually all empires in antiquity, the Inca had a caste structure that defined a person's place in society. As pilgrims participated in solstice ceremonies, they would be located, to greater or lesser degrees, near special spots where the Inca nobility were located. The location of a person in the ceremony at the time of the solstice would be directly correlated to his or her social status. Your closeness to the highest-ranking person occupying the special spot would determine your degree of status at that moment. Your status would be created by your proximity to other people and ideologically reinforced by how long you witnessed the solstice passing through the towers.

It is not a simple correlation of status and distance from the Sacred Rock, however. Site 19 also afforded an unrestricted view of the solstice between the two towers. The site location precisely replicates the experience of someone in the sacred area itself, at least in terms of how he or she would witness sunsets during solstice ceremonies. My colleagues Dearborn and Bauer argue quite convincingly that site 19 was built for people who were not permitted access to the actual Sacred Rock area. Cobo writes that common pilgrims did not get close to the Sacred Rock; they were allowed to view it only from a gateway called Intipuncu. It was almost certainly the first gate in the wall leading to the Sacred Rock area.

REPLICATING AN IDEAL

.....

The solstice markers represent an Inca concept of ritual space and time given physical form around Cuzco and then transposed onto the landscape of the southern Titicaca Basin. Until the research on the Island of the Sun, we knew of no other place outside of Cuzco where solstice observances using towers were conducted. (However, we did know that there were many sun temples and other *huacas* associated with the solstices.) Ironically, it is the isolated island with excellent archaeological preservation that provides the minute details of this ceremony. With these data, we can now start to reconstruct an ideal that possibly extended over large sections of the empire. It was based upon marking a set period of time from a fixed place using paired towers and then creating a sophisticated architectural complex that defined space and social place. We can assume that this ritual was found around the Andes where the empire spread, bringing its sun cult alongside its administrators and military.

The archaeological data from the Island of the Sun is a rare instance where we can derive a set of ritual behaviors that are not explicitly written in the chronicles, though tangential references in the histories help us put the puzzle together. We can deduce that the solar pillars were not just timepieces but were orchestrators of ceremonial behaviors. We can deduce that different classes of people viewed and participated in the ceremony in different though shared ways. We can deduce that a person's sociopolitical status was reflected in his or her physical location in the ceremony. We can deduce additional ceremonial actions based upon the position of various architectural elements of the *huaca*. We can deduce as well that this kind of structured ceremony took place in Cuzco on a larger, grander scale. And, using semiotic theory, we can hypothesize that there was an internally consistent practice replicated at least on the Island of the Sun, and we can further surmise that this practice, associated with solar worship, was found elsewhere in the Inca Empire. The highly orchestrated practice represented the instantiation of an ideal concept of the relationship between elites, nonelites, Inca, non-Inca, Quechua, Aymara, and possibly other dualities that we have yet to discover.

By replicating this ideal near the Sacred Rock on the Island of the Sun, the Inca sought to normalize their otherwise abnormal relationship with local non-Inca elite. The Inca took an already highly charged ceremonial landscape and revalued its meaning for their own purposes. Here, the complexities of social status, political tactics, religion, and imperial stresses all were played out during elaborate solstice ceremonies, and they constituted an essential part of Inca expansionist strategies. Using archaeological data and historical texts, we can go beyond the mere observation that the towers were simple markers of time. Rather, these towers represented a cultural ideal—an ideal ritualized and given form apparently throughout the empire. These times and places became profoundly valuable in the Inca state, and those invited to the ceremony received one of the most valuable commodities the empire

could grant: proximity to other elites and participation in a state performance that revalued their social and political status within the complex social and political reality in which they lived.

NOTES

.....

1. Davis (1987) brings in a semiotic perspective in an analysis of Paleolithic art.
2. Also spelled *waka*, *wak'a*, and a plethora of alternative ways.
3. For a richer discussion of the Inca sun religion, see MacCormack (1984) and Wey-Gómez (1998).
4. In spite of the high and cold environment, there are pockets on the Island of the Sun where maize can be grown, even today. Several chroniclers mention that the Inca tried to grow coca on the island as well, though we found no direct evidence for this.

PART II

.....

BODY VALUE

.....

READ ONLY/NO DOWNLOAD

CHAPTER 6

.....

OBJECTIFYING THE BODY:
THE INCREASED VALUE OF THE
ANCIENT EGYPTIAN MUMMY
DURING THE SOCIOECONOMIC
CRISIS OF DYNASTY 21

.....

KATHLYN M. COONEY
UCLA

ABSTRACT

.....

The Twenty-first Dynasty Egyptian mummy provides a case study for changing funerary values among Theban elites. These mummies are particularly illustrative of a new kind of body value within elite social contexts, in which an idealized preserved human body was objectified, commodified, and ultimately transformed into a viable, unique, and defensive container for the soul that could, when necessary, replace the coffin in case of theft or damage. The religious value of the mummy is self-evident. The economic value of a Twenty-first Dynasty mummy must have been high, although we have no prices preserved in the ancient documentation. Finally, the embalmed corpse also held significant prestigious and display value.

INTRODUCTION

.....

At the end of the Late Bronze Age, from the latter part of the Twentieth Dynasty to the end of the Twenty-first, Egypt suffered a profound collapse—imperial, politically, economically, and socially (Broekman et al. 2009; Kitchen 1986; Ritner 2009; Taylor 2000). Egypt’s gold mines and stone quarries weren’t functioning. Official trade routes had collapsed. The Egyptian king pulled his forces out of the

south to defend northern territories being threatened by destructive incursions of Sea Peoples. (For a map, see Figure 6.1.) By the Twenty-first Dynasty, the king was absent from the south altogether; in his place he left a small group of elite Theban families, most with hereditary lineages connected to the powerful Amen priesthood. Throughout Egypt, but best documented at Thebes, political systems moved away from centralization and toward a broader social inclusion based on family hegemonic systems. Displays of centralized power from this time period—that is, depictions of the king—are less visible compared to displays of elite family power, with the Karnak temple’s professional Amen priesthood being an example. Military force also became decentralized, encouraging competitive skirmishes between rival factions or sometimes all-out civil war. Economic scarcity and political instability encouraged the normalization of a number of behaviors previously considered more or less deviant, in particular tomb robbery and the widespread reuse of funerary objects.

Egyptology has often turned toward burial assemblages as indicators of social power within this hierarchical society (e.g., Cooney 2007; Grajetzki 2003; Meskell 1999). Decorated tomb chapels, coffins, tomb furniture, stelae, and pyramids were clearly a part of social display strategies employed by elites during the New Kingdom and before. However, by the end of the Bronze Age, elite funerary demands were complicated within this context of political decentralization, dwindling imperial revenues, the loss of access to materials required for funerary arts production, and a lack of security in the necropolis. In this paper, I will focus on innovative, elite Theban funerary strategies that emerged as responses to crisis at the end of the Late Bronze Age, and I will pay particular attention to the increased value of the ancient Egyptian mummy. Mummification techniques for elites reached an apex in the early Third Intermediate period (Dunand and Lichtenberg 1994; Ikram and Dodson 1998; Smith 1912), and I will treat the changing value of the mummy as a case study for defensive burial adaptations within this insecure political and economic context.

Changes in mummification techniques, based on the thousands of mummies the dry Egyptian sands have afforded us, have been formally typologized and described by Egyptologists (Ikram and Dodson 1998), but they have not been fully problematized within the social context of crisis and concomitant innovation. Since the beginnings of ancient Egyptian civilization, mummification was an integral part of the elite concept of the afterlife, but I would argue that, for the bulk of Egyptian history, the main focus of economic and material funerary investment was *not* the human body but instead the more visible and displayable funerary arts, including decorated tomb chapels, statuary, and coffins. Yet, for a brief period during Egypt’s Bronze–Iron Age transition, comprising nearly 150 years during the twenty-first and early twenty-second dynasties, the mummy’s value skyrocketed among elite groups in Thebes, making it one of the most important and perhaps most expensive elements in an elite individual’s tomb assemblage. The question is why. Why

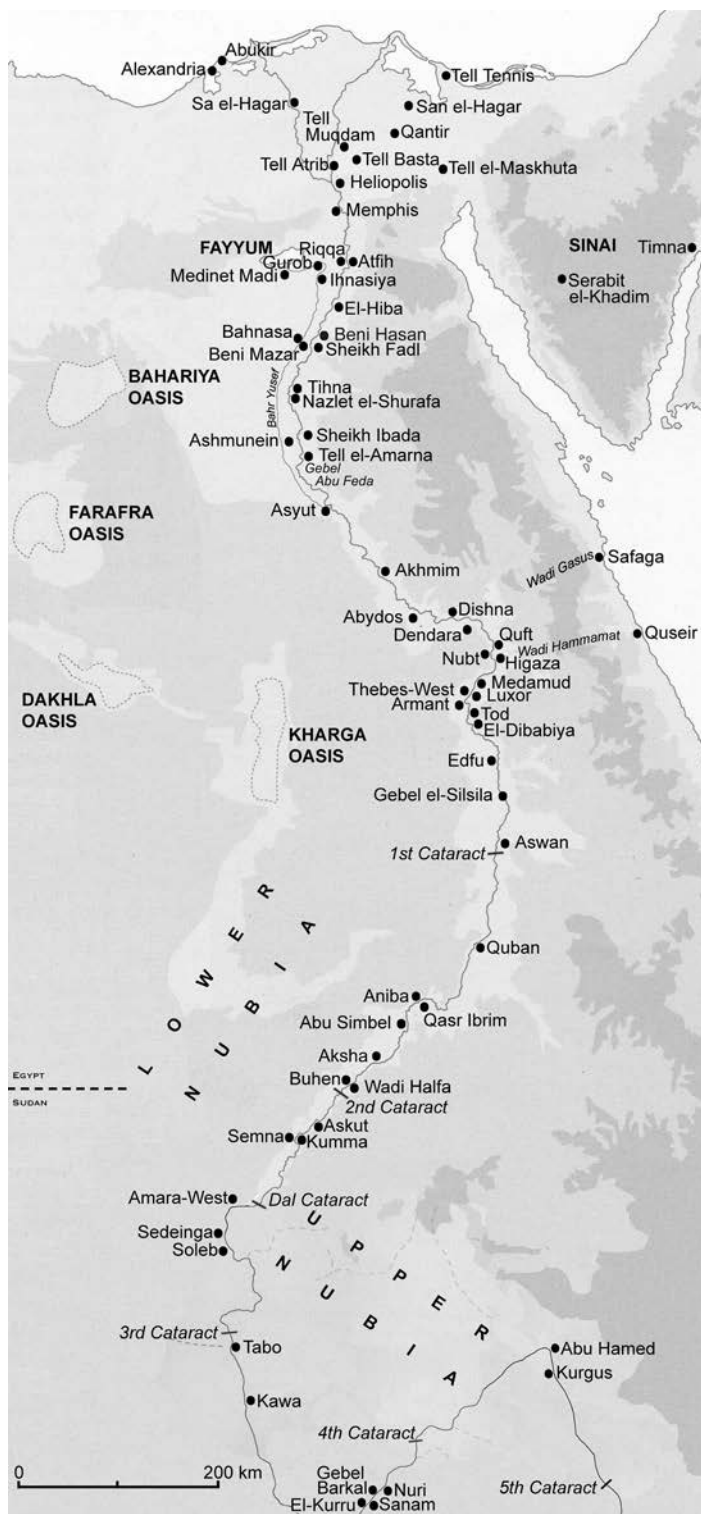


Figure 6.1. Map of Egypt showing Tanis (San el-Hagar), the northern capital, and Thebes (Luxor), the center of the Amen priesthood (courtesy of Aidan Dodson).

did funerary values shift at Thebes? And what did these shifts mean in the larger context of ancient Egyptian social values and strategies?

There is not a rich theoretical literature on value—social, economic, or otherwise—for the ancient Egyptian or Near Eastern world, and my own perspective is informed by Arjun Appadurai’s economist’s perspective that we could be “looking at the commodity potential of all things rather than searching fruitlessly for the magic distinction between commodities and other sorts of things” (Appadurai 1986a:13). From this point of view, the mummified body was indeed a crafted object, the result of the skilled application of resins, oils, and other substances to human flesh and bone. Goods were exchanged for its production, and, presumably, elite consumers engaged in conversations with embalmers about the comparative cost and quality of the procedure, although we have no workshop records or receipts to tell us how the purchase of embalming actually worked, such as whether an elite individual might commission his mummification in advance or if a family focused on this necessity only after death (but cf. Herodotus, book II, chapter 86, for a description of embalming in the fifth century B.C.E.).

David Graeber’s anthropological approach has also served as a foundation for this research (Graeber 2001). Graeber grapples with the different meanings of the word “value”—value in the moral sense, value in the economic sense, and value in the linguistic sense. His main point is that “ultimately, these are all refractions of the same thing” (Graeber 2001:2). Similarly, this study on mummification treats value broadly, including economic, religious, and social aspects of value at the same time. If we investigate the mummy as a material embodiment of such abstract aspects (Graeber 2001:54), then the mummy reflects religious beliefs on the one hand (that is, the ability to have an eternal, bodily existence in the afterlife) and social concepts on the other hand (such as the mummy’s ability to preserve and enhance high elite social status). Elites used mummification as one venue of social display and thus social comparison. Indeed, Graeber demonstrates that “the realization of value is always, necessarily, a process of comparison” and “for this reason it always, necessarily, implies an at least imagined audience” (Graeber 2001:87). And following Graeber (2001:76), the mummy can essentially be understood as the result of a variety of human *actions* in the pursuit of value—social, religious, and economic values displayed in a ritualized but still competitive arena of comparative prestige.

THE FUNERARY CRISIS AND REACTIONS

BY THE THEBAN ELITE

.....

The shift in mummification techniques occurred at the end of the New Kingdom and thus within the context of crisis. We therefore need to start with the economic, political, and social background for funerary behavioral shifts in Thebes. The Theban political regime was run by a group of intermarried Libyan–Egyptian

High Priests of Amen, men who used their professional priestly positions to take control of military and economic systems in southern Egypt (Taylor 2000). This small group of Theban elites had to deal with a new set of challenges when preparing for their high-cost burials. As political systems became more decentralized, access to some raw materials needed for funerary arts, in particular high-quality wood, was threatened. At the same time, security systems for the western necropolis in Thebes eroded, making theft and reuse of older funerary objects not just possible but probable. A variety of evidence points to the wide-scale reuse of older, Ramesside-period funerary arts for Twenty-first Dynasty Theban dead (Niwinski 1988:13; Taylor 1992). Twentieth Dynasty textual evidence from western Thebes¹ suggests that it was common to enter older burial chambers to remove objects of value, including coffins, leaving the mummies behind (Cooney 2012). Many richly painted elite Twenty-first Dynasty coffins found in a variety of hidden coffin caches were *originally* made for Nineteenth or Twentieth Dynasty individuals. This means that during the socioeconomic crisis beginning at the end of the Twentieth Dynasty, many older coffins were *separated* from their mummy inhabitants, removed from their original tombs, replastered, and repainted for new owners.

In Andrej Niwinski's catalog of Twenty-first Dynasty coffins (Niwinski 1988), dozens of coffins are marked as "usurped." Niwinski was most interested in the erasure of names and titles for later owners, even though some Twenty-first Dynasty coffins show obvious evidence of earlier decoration and sculpture underneath. For example, the Twenty-first Dynasty coffin of Tayu-hery in Copenhagen (inventory number 3912) reveals a carved wooden foot, a decorative element common in only the Nineteenth Dynasty, peeking out from broken plaster on the coffin's left side (Figure 6.2). In the museum's label, curators have misinterpreted this foot, seeing it as evidence that the coffin was a stock item, modified for a picky buyer. But other Egyptologists (Niwinski 1988:13) have revised this opinion, categorizing this as an example of widespread reuse during the Twenty-first Dynasty crisis.

The Late Bronze Age crisis of funerary security went so deep that even royal tombs in the Valley of the Kings (the tombs of Amenhotep III and Ramses II, among others) were systematically looted, probably by the very men in charge of the Theban region at the time—the High Priests of Amen—who ostensibly used the riches to fund their political regimes (Reeves 1990; Ritner 2009; Taylor 1992, 2010). Even some Nineteenth Dynasty royal tomb goods made their way into Twenty-First dynasty kings' tombs at Tanis. The most famous example is the Nineteenth Dynasty red granite sarcophagus of Merneptah, which was appropriated for the Twenty-first Dynasty burial of king Psusennes I at his northern temple burial site (Montet 1951). Not only can we conclude that, given limited access to the inactive granite quarries down south in Aswan, reuse of funerary goods was the only option for people at this time of crisis, even kings, but we can understand that there were diplomatic and/or trade links between the kings in Tanis and the High Priesthood of Amen in Thebes.



Figure 6.2. Detail of the coffin of Tayu-hery in the Nationalmuseet, Copenhagen, accession number 3912, showing a Nineteenth Dynasty sculptural foot underneath Twenty-first Dynasty decoration (photo by the author).

THE DEVELOPMENT OF DEFENSIVE FUNERARY PRACTICES

From just these few examples, it becomes obvious that tomb robbery and funerary object reuse were realities beginning around 1000 B.C.E., to which the well-known Tomb Robbery Papyri attest (Peet 1930); these were risks to burial viability with which the elites of Thebes now had to grapple. Starting in Dynasty 20, wealthy Thebans shifted their funerary arts away from visible and ostentatious displays of wealth and power, such as monumental tomb chapels with statuary and painted relief, because their visibility risked the viability of the burial chamber underneath containing the mummy, coffins, and grave goods. The elite moved toward hidden burial chambers, with no aboveground markers. They abandoned decorated nuclear family tombs, opting instead for hidden but crowded multigenerational cache burials shared by hundreds of other individuals in their peer group.

Security systems had broken down in elite necropolises all over Egypt, but the clues are most clear at Thebes, where we have archaeological and written evidence of the phenomenon (Taylor 1992). As the elite tombs changed, we also see shifts in the funerary objects placed within them (Grajetzki 2003). Accessible, aboveground tomb chapels marked a tomb as an easy target for theft. As elite burials were hidden en masse in cache tombs, commissioners had to abandon bulky objects, such as stone and wooden sarcophagi, which would have been difficult to fit in the newer, space-efficient burial chambers.

Objects of daily life such as furniture, linens, and food were already being phased out. Before, in the Eighteenth Dynasty, burial chambers had been stuffed with gilded objects, tables, chairs, shirts, sheets, and all the comforts of daily life, including foodstuffs, oils, wigs, and cosmetics. These items had to be abandoned during the Late Bronze crisis. Not only was there no room for objects like these in the shared tombs, but such commodities created a real threat to the security of the larger group because they attracted tomb robbers and opportunists immediately after burial. Even hundreds of years after interment, most of these objects could be taken and recommodified. In fact, the Twentieth Dynasty inventory texts from western Thebes mentioned above suggest that people could remove objects such as linens, sandals, and metals from centuries-old tombs, probably to be reused or sold (Cooney 2012). The danger of burying the dead with a vast assortment of usable commodities was just too great, and the comfort previously provided by such objects had to be supplied magically through other avenues. This could be one explanation for the increased numbers of shabti figurines meant to labor for the deceased in the afterlife.

As the New Kingdom was ending, the funerary needs of an elite Theban had to be condensed down into one nesting coffin set. Two or three containers that fit within one another were placed into an unmarked and secret shared tomb, sometimes with hundreds of other elites (Grajetzki 2003). No longer did elites embellish their tombs with masonry pyramids or any other markers associated with the decorated tomb chapel, including stelae, offering tables, and false doors, as they had in the previous New Kingdom (Seyfried 1987). An elite funerary ensemble now included only items perceived most essential to an individual's transformation—the carefully embalmed and wrapped mummy, a richly decorated coffin set to enclose it, and perhaps a Book of the Dead papyrus.

The economic downturn profoundly changed how people acquired tomb goods. It encouraged many Egyptians to risk their morality in exchange for funerary commodities (Baines and Lacovara 2002). The trade was probably considered worthwhile and justifiable—if a recently dead relative needed the ritual protection of a coffin, then it was likely considered a good trade-off to disturb the body of a long-dead person and to take the coffin and other funerary arts to help someone who needed them at that present moment. Perhaps the Egyptians believed the older dead individual was already in the afterlife, transformed long before with funerary rituals and rites of passage. After only four or five generations, likely no one on earth really remembered most dead individuals, and offerings in the name of those individuals probably ceased. However, given all that we know about Egyptian funerary religion (Assmann 2005), the elites preparing for death during the Twenty-first Dynasty would have believed they *needed* funerary materiality for a successful rebirth, even if that materiality was stolen, usurped, and recycled. Political insecurity allowed the reuse of coffins and tombs. Economic scarcity of wood for coffins probably demanded it. And the Egyptian *material* approach to

death required the reuse (Cooney 2008a). Demand for coffins by elites who could afford them probably exceeded a very limited supply in Dynasty 21, a supply that could be replenished only if some mummies were removed from their coffins to accommodate new occupants. Otherwise, why would so many high elites be interred in reused coffins?

In the midst of these threats to established New Kingdom funerary behaviors, elite Egyptians never abandoned their perceived need for materiality in connection to the afterlife. Nor did they forgo funerary display, even if that display probably could not take place at the site of the burial chamber for security reasons. Despite the maintenance of these essentially Egyptian funerary behaviors and beliefs, the Twenty-first Dynasty crisis demanded new constructions of funerary arts value, constructions that could maintain ritual functionality and competitive displays simultaneously, even within the context of necropolis insecurity. These new constructions of value attempted to bypass the risks of tomb robbery, on the one hand, while at the same time supporting the religious and social needs of the dead and family members on the other. Defensive-religious functionality was necessary for the competitive displays of a small-scale, hierarchic, hegemonic system of elite Theban families. The end result was the creation of a set of funerary values that were at once defensive, religiously functional, and socially competitive.

Theban elites developed innovative funerary strategies in an attempt to remove risk from their high-cost burials, but what if they started to steal from each other? Archaeological evidence makes it quite clear that even hidden elite burials of the Twenty-first Dynasty were not safe. One mummy board now in the British Museum, BM EA 15659 (Edwards 1938:42), has a restoration inscription on the underside explaining that it was returned to its mummy, thus implying that it was illicitly taken from an elite Theban tomb cache to be reused, that other elites recognized the piece, and that it was forthwith returned to its dead owner in the tomb (Figure 6.3).

Many other coffins from Theban elite caches show chisel marks and missing hands or faces—evidence that people with access to the tomb, that is, fellow elites, had removed valuable gilding, often going after only the inner pieces of a coffin set because the theft could be hidden inside outer coffins in the same set (Figure 6.4). One defensive innovation taken up by elites in response to this kind of theft was to commission coffins without as much, or without any, gilding—not because they couldn't afford it but because they couldn't trust their peers not to steal it. As the Twenty-first Dynasty continued, more and more high elite coffins were finished with paint and varnish alone. Thus, even in one's own elite peer group, there was no security for the materiality of the dead. The elites of the Twenty-first Dynasty were walking a tightrope of constant innovation and negotiation—between the ideal afterlife based on a precious material reality and the practical threats to that funerary materiality.

Ostentatious displays of wealth could be profoundly dangerous, not just to one's coffin but to the corpse, and thus to the very afterlife existence of the deceased.



Figure 6.3. Mummy board of a chantress of Amen in the British Museum, London, accession number EA 15659, Twenty-first Dynasty, with restoration inscription on the underside (photo courtesy of the British Museum).



Figure 6.4. Mummy board of the High Priest of Amen Masaharta in the Mummification Museum, Luxor, accession number 26195, Twenty-first Dynasty, with gilding removed (photo after Daressy 1909:plate XXXVIII).

The Tomb Robbery Papyri tell us that many thieves simply burned coffins, with the mummies still inside them (Peet 1930). Burning was an efficient means of obtaining a coffin's gilding and the precious amulets from the mummy's wrappings in one step, allowing thieves to collect valuable materials from the ashes. In the midst of all this mutual mistrust and opportunism, the elites of Thebes developed not only burial assemblages with less gold but also new coffin decoration that was incredibly dense and complicated, able to absorb all the functions once performed by the tomb chapel, statuary, stelae, and false doors. And along with these changes, they also developed innovative methods to preserve and embellish the embalmed corpse—just in case the dead body was left without any protective container. This is the object at the center of all this preparation and adaptation: the Twenty-first Dynasty mummy.

THE TWENTY-FIRST DYNASTY MUMMY AS PART OF A DEFENSIVE FUNERARY ENSEMBLE

Most of my past research has dealt with the value of funerary materiality—coffins, tombs, and other objects (Cooney 2007, 2008b), but I have begun to treat the embalmed corpse as a funerary commodity as well (Appadurai 1986a). The mummy is the core reason for all ancient Egyptian funerary material; without a dead person to protect, surround, and transform, there was no purpose for any additional objects. The embalmed corpse is the object at the very center of ancient Egyptian funerary materiality (Taylor 2010:11). It was believed to be the most important vessel for the soul, morality, and personality of the dead. The nesting coffins, masks, mummy boards, funerary papyri, and worker figurines all extended from the embalmed human body, yet I would argue that for most of Egyptian history, elites spent much more on the funerary objects *surrounding* the body rather than putting a great deal of wealth toward embalming. Spending by Ramesside elites on tombs, coffins, pyramids, and stelae almost certainly outweighed spending on mummification (Cooney 2007).² But as we move into the Twenty-first Dynasty, elites were spending much more on their mummification techniques in order to fit into a particular context of socioeconomic crisis and elite competition.

The Twenty-first Dynasty is known to Egyptology as the apex of mummification technique for a reason. For the first time, elites developed an interest in the preserved body's *discrete* self-sufficiency (Smith 1912:95; Taylor 2010). At the close of the Bronze Age, we see a number of changes in the embalmer's art. First, it became the norm to return internal organs to the body after preservation rather than interring them in separate canopic jars and chests. Twenty-first Dynasty mummies were not split into different containers. Instead, when the embalmed organs were returned to the mummy, the corpse was intact and whole—that is, self-contained (Ikram and Dodson 1998). There were a number of other innovations: The natural and full appearance of the body was now restored. The mummy of Nodjmet, for example, a Twenty-first Dynasty high elite woman, has packing under her cheeks to restore the fullness of the face, as well as external padding on the body to restore the lifelike quality of torso and limbs (Figure 6.5). Previously, in the New Kingdom, a mummy's skin was left slack and drawn, allowing desiccated flesh to sink into bones. Now a more lifelike face was desired. Twenty-First Dynasty embalmers also repaired any defects in the body and skin. They painstakingly repaired tears with leather patches and plaster. They even fixed anatomical problems with additional limbs of wood. The skin of the mummy was finished with a coating of plaster plus red or yellow paint, depending on the sex of the deceased. The mummy of the woman Maatkare, for instance, is plastered and painted with a mixture of yellow ochre and gum, and powdered resins were sprinkled over her face. Her fingers even show deep grooves from the string once tied around her nails to hold them



Figure 6.5. Mummy of Nodjmet, in the Egyptian Museum, Cairo, accession number CG 61087, Twenty-first Dynasty (photo after Smith 1912).



Figure 6.6. Mummy of Maatkare in the Egyptian Museum, Cairo, accession number CG 61088, Twenty-first Dynasty (photo after Smith 1912).

in place during the desiccation process (Smith 1912:99–101) (Figure 6.6). We also see significant hair extensions for the first time on these mummies—lifelike wigs of real human or artificial hair. The mummy of Hennatawy, for example, has a wig of spirals made of black string, parted in the middle. Embalmers stuffed her cheeks and her right foot with a “curious cheese-like mixture of fat (butter) and soda.” Hennatawy’s eyes were inlaid with stone. Her face was painted yellow and her lips red (Smith 1912:103) (Figure 6.7).

Embalmers of this period were interested in making the deceased look alive. The mummy of Djedptahiuefankh, for example, has incredibly realistic-looking eyes, made of white stone with a circle of black, inserted under half-closed lids (Smith 1912:114) (Figure 6.8). Egyptologists have suggested that this new treatment of the eyes was meant to represent the embalmed body as if it were a funerary statue, aware and ready to interact with the world (Smith 1912:95; Taylor 2010).



Figure 6.7. Mummy of Hennatawy in the Egyptian Museum, Cairo, accession number CG 61090, Twenty-first Dynasty (photo after Smith 1912).



Figure 6.8. Mummy of Djedptahiuefankh in the Egyptian Museum, Cairo, accession number CG 61097, Twenty-first Dynasty (photo after Smith 1912).

By placing realistic artificial eyes into empty sockets, craftsmen were in fact making the mummy look *awake*, a critical shift from previous dynasties, when the custom was to present the embalmed individual as if asleep, with closed eyes.

All these new embalming treatments were expensive. We do not have any prices for mummification—from this period or any other—but the Twenty-first Dynasty mummified body was now subject to the application of more expensive materials, such as resins and oils, and more time-consuming techniques—in other words, labor value—than ever seen before. Although all these characteristics of Twenty-first Dynasty embalming are well known to Egyptology, if we put these innovations into a context of economic and religious adaptation during a time of crisis, one could argue that elites were manipulating the flesh of the dead to act as stand-alone funerary objects, capable of functioning *without* protective coffins if they were removed by later opportunists. If we examine the mummy art historically and economically—as something that can be manufactured and conformed to high elite demands—it is also possible to see this dead flesh and bone as a commodity, one that is crafted within a defensive funerary preparation to be religiously and socially functional for its owner.

I would even take this argument a bit further. It seems that Theban elites were commissioning mummies that mimicked the appearance of the deceased as they were depicted on their coffins. In fact, the link between the anthropoid coffin and the mummy seems key to the development of a self-contained and lifelike corpse during Dynasty 21. In previous dynasties, it was the *coffin* that created an eternal, lifelike, imperishable body for the deceased, surrounding the vulnerable body with protective and lasting wooden material. The words for mummy and coffin are actually almost the same in Ramesside socioeconomic texts (Ancient Egyptian “*wt*”), the only difference being that the word for coffin has a determinative of wood. Therefore, the ancient Egyptian word for coffin actually meant something like “an embalmed body made of wood” (Cooney 2007:19). From this lexicographical evidence, the coffin and mummy seem to have had the same religious functionality.

The Twenty-first Dynasty coffin was therefore a kind of abstraction of the deceased’s body (Figure 6.9). It remade the corpse as an Osirianized and solarized version of itself—represented as fully awake and activated in the next life with open eyes, idealized facial features, and crossed arms—all in a wooden package covered with religious iconography, scenes, and Book of the Dead texts. For most of Egyptian history, the coffin was meant to be a better, more ideal representation of the mummy inside (Assmann 2005), and in the New Kingdom, elites likely spent much more on their coffin sets than they did on mummification.

The coffin was believed to be a highly functional funerary object (Taylor 1989; Walsem 1997), but in times of economic and political uncertainty, relying primarily on the coffin to transform the deceased became a serious drawback. As an abstraction, the coffin could be *reassigned* very easily. The name of the previous owner could be painted over to make room for a new one, or the entire coffin might be



Figure 6.9. Coffin lid of Muthotep (a) and detail of reuse (b), British Museum, London, accession number 29579, Twentieth Dynasty (photos by the author).

replastered and redecorated in a different style for another person. For example, the Twentieth Dynasty coffin of Muthotep in the British Museum shows the earlier Nineteenth Dynasty decoration of a reused coffin underneath (Cooney 2007) (Figure 6.9).

In the light of such commonplace coffin usurpation, elite Theban families chose to invent intensified and expensive treatments for the preserved human corpse. When the body was worked into an imperishable coffin-like object depicting the idealized deceased, it was not an abstraction. Instead, it was the body the dead person had used in daily life, not only manufactured into a form that would not decay but also fashioned into a youthful and perfected manifestation of the deceased with open eyes, lifelike full features and limbs, and full and lustrous hair. As other Egyptologists have suggested, this intensified mummification was akin to creating a lifelike statue or mummy mask of the deceased (Smith 1912:95; Taylor 2010:232), much like the ideal *coffin* representation of the deceased. This lifelike image used the human body itself to create a functional image of the dead using flesh and bone as the main media (Figure 6.10). And like a Ramesside or Twenty-first Dynasty coffin, the mummy includes a full wig; open, idealized eyes; smooth, youthful skin the color of yellow or red ochre; eye paint; and lip paint, as well as a full and idealized body. In other words, the Twenty-first Dynasty focus on these embalming techniques



Figure 6.10. Mummy of Nesikhonsu in the Egyptian Museum, Cairo, accession number CG 61095, Twenty-first Dynasty (photo after Smith 1912).

indicates that the overall object value of the mummy was actually *increasing* as the value of other funerary objects, such as coffins, was *decreasing*. Generations of elite Twenty-first Dynasty Thebans responded to tomb robbery and economic insecurity by returning their focus to the most essential part of the burial—the human body. Theban elites decided to invest less of their considerable resources for burial in tombs and gilded coffins and more in high-quality preservation techniques for the corpse.

Egyptologists discuss funerary arts and mummies primarily from the point of view of religious meaning and stylistic dating.³ We know that Twenty-first Dynasty ancient Egyptian elites were investing more wealth in their mummies than people at any other point in history, but the reasons for this increase in value have not been fully formed yet. If we treat the mummy as a commodity and examine the problem through a socioeconomic lens, one obvious reason the mummy's value shot up during this time of crisis was because it was not an exchangeable object. Although one could embellish the corpse with valuable materials, such as resins and oils, human hair, plaster, and paint, these commodities could not be recycled after application. In a way, the mummy absorbed them, took them into itself, making them impossible to re commodify. The mummy as a crafted commodity had only “value in use” and no “value in exchange,” unlike every other funerary object in the

Twenty-first Dynasty ensemble, including coffin sets, shabtis, Books of the Dead, amulets, and jewelry, which could all indeed be exchanged and reused, even after ritual use in burial. The new treatment of the mummy had the extraordinary result of creating tremendous use value while at the same time cutting out any exchange value, the latter being the most dangerous element of expensive and desirable funerary arts such as coffins, which could be abstracted for another owner.

The increasing value of the mummy was therefore inherently defensive: any investments in mummification could not be recycled or returned to the economy, thus removing many risks to the viability of the body. This economic reasoning is not mutually exclusive to more abstract religious-ritual motivations because investments in mummification provided an adaptation during times of social and political instability by granting a new psychological security within the very flesh of the deceased perfectly preserved.

The mummy's most vulnerable feature was also its most defensive characteristic: it was irreplaceable to its owner. It was inherently unique to the person who inhabited it and could not be abstracted and occupied by another dead soul. It was of value to one individual and one individual only—which made it the perfect element of focus during a time of socioeconomic insecurity and funerary innovation. This element of irreplaceability added *value over time* for the mummy's perceived inhabitant. When tomb robbery was functioning, the *ritual value* of a given funerary object held precedence over its value over time. In other words, if a coffin could be reused by another owner, people probably felt it had already served its primary purpose to the original owner by ritually protecting the body during opening-of-the-mouth rituals and other transformative funerary rites. The reasoning may have been: a reused coffin could justifiably be put back into service for the necessary ritual use of another person who needed it at that very moment. The crafted mummy, on the other hand, may have been a core part of funerary rituals, but it was of no *ritual value* to anyone else.

During times of prosperity, such as the eighteenth and nineteenth dynasties, eternal value was probably taken for granted by the elite population with regard to their burial goods. But as insecure political and economic conditions descended, careful embalming of the body was one of the cleverest ways to ensure both the ritual value of a container of the soul and its presence with the deceased over time. By adding more economic—and ritual—value to the embalmed body, Twenty-first Dynasty Theban elites transformed the mummy into something coffin-like that they believed could stand on its own, as the primary religious vessel for its owner for all eternity, bypassing many risks associated with theft and reuse.

In addition, the mummy acted as a funerary commodity, something that could be used as a tool for competition among Theban elites. David Graeber explains that the construction of value always had a social context:

Society is not a thing at all: it is the total process through which all this activity is coordinated, and value, in turn, the way that actors see their own activity as meaningful as part of

it. Doing so always, necessarily involves some sort of public recognition and comparison. This is why economic models which see those actions as aimed primarily at individual gratification, fall so obviously short: they fail to see that in any society—even within a market system—solitary pleasures are relatively few. The most important ends are ones that can only be realized in the eyes of some collective audience [Graeber 2001:76].

This collective construction of value adds a clear political element to the intensification of mummification in the Twenty-first Dynasty (Graeber 2001:88). It is important to remember that all instances of such enhanced embalming come from one particular social group: the intermarried, highly competitive, Egyptian–Libyan families associated with the High Priesthood of Amen at Thebes. The royal mummies from the Tanis royal tomb were too poorly preserved for us to determine if Egyptian kings' bodies were also subject to the same techniques, but it remains likely. I think it is fair to say that only individuals with high elite links, Theban or Tanite (Figure 6.1), were capable of, and interested in, the creation of lifelike, intensely prepared corpses for burial. In the end, this kind of mummification set all such elites apart, not only from the rest of the Egyptian population but from other competitive elites. Only highly placed individuals would have had access to the knowledge and skilled labor needed to have such mummies commissioned, and likely only they had the privileged access to view the carefully preserved bodies of their relatives and peers up close.

This access created a knowledge base that allowed comparisons to be made between mummies, even though they were surely separately displayed at each funeral, opening up discourses of evaluation and competition between elites. We can only guess at the details of the social interactions. Who viewed the unwrapped mummies and where? How were they compared? How did elite competition manifest? In the end, I think we can at least conclude from the archaeological evidence that elite Thebans felt a profound need to participate in the new intensified mummification—not just for defensive reasons, not just for economic reasons, and not just because it provided a new religious functionality in a time of crisis, but because it also allowed them to compete with fellow elites in an exclusive arena of comparative display.

Some of the more nefarious actions of Theban elites may even help us locate the source of inspiration for intensified mummification. If Theban elites, in particular the High Priesthood of Amen, were in fact the same men who systematically looted and dismantled tombs of the New Kingdom kings in the Valley of the Kings (Reeves 1990; Taylor 1992), then these men would have seen firsthand the impeccably preserved mummies of these kings.

Egyptologists have found clear signs that royal mummies were carefully unwrapped at some point after their burial (Smith 1912), ostensibly to remove all objects of value found on the corpses—things like amulets and jewelry of solid gold. If we implicate the Amen priesthood in the methodical removal of the kings' riches, which I think we can do as early as the end of Dynasty 20 (Ritner 2009:104–109),

then these Theban elites would have stood face to face with skillfully preserved mummies belonging to kings such as Seti I. Not only would these New Kingdom royal mummies have represented the highest levels of embalming yet achieved in ancient Egypt, but they may have served as the inspiration for a new construction of value in mummification.

The Amen priesthood probably conducted its unwrappings in secret, within a small community of peers, in confined, confidential conditions. After the thorough removal of all amulets and precious objects, the High Priests rewrapped the royal mummies in fresh Twenty-first Dynasty linens, the wrappings in which archaeologists found them. The priests eventually placed the kings in the same secret caches as themselves (Ritner 2009:99, 114, 158), and this is another important shift in elite funerary values: the movement of the kings' bodies to some elite tomb caches granted the High Priests of Amen and their families a new proximity value by locating their own eternal existences with the great kings of Egypt.

The very act of personally viewing the unwrapped and naked bodies of Egyptian kings may have been formative for innovative mummification practices. Perhaps visible access to these well-preserved bodies encouraged Theban elites to intensify their own embalming techniques, so that their own bodies would last into eternity like the kings of old. Or maybe seeing such well-preserved bodies in the midst of social chaos and the mass looting of the Theban necropolis convinced elites that intensified embalming was an excellent defensive practice that they should mimic, because it ostensibly allowed an eternal existence even without expensive coffins or any other funerary objects. But we should not forget the social arena of mummification innovations. Only high elites had access to these New Kingdom royal mummies, granting them membership in an exclusive club of knowledge and proximity. The Theban rich participated in innovative mummification techniques, intensified amid heightened social competition within the small, intermarried, inward-looking community of the High Priests of Amen. Having gone through this argument, the actual methods of inspiration do indeed remain conjectural, but the possibility of such influence is very real.

THE END OF INTENSIFIED MUMMIFICATION

The reasons for more intense mummification in the Twenty-first Dynasty become even more complicated when we take into account what a short period of activity this represents—it was essentially a blip on the radar screen—an anomaly confined to the elites of the early Third Intermediate period. These embalming techniques did not last long beyond the early Twenty-second Dynasty among Theban elites, even though most of the same economic, social, and political conditions prevailed. Curiously, the early Third Intermediate period remains the *only* time period in all Egyptian history when mummification intensification held such economic, aesthetic,

religious, and social value. This high level of embalming lasted only 150 years—from the end of Dynasty 20 to the beginning of Dynasty 22. If there are such clear economic, religious, and social reasons for the increased value of the mummy, why did these techniques not last?

The evidence is clear that the carefully mummified body was abandoned in Dynasty 22 (Ikram and Dodson 1998), even though economic scarcity and necropolis insecurity were key drivers for funerary arts during the rest of the Third Intermediate period (Taylor 2010). From mid-Dynasty 22, it became common for elites to have their family members' bodies treated in a more perfunctory way. Organs were still removed, and the body was still dried out in natron; however, there was no interest in creating a realistic and lifelike corpse with inlaid eyes, stuffed face and limbs, and painted features. Instead, Twenty-second Dynasty elites were primarily interested in a corpse that would not rot.

This is a return to the norm: a body that evaded decomposition was the standard for elites throughout most of Egyptian history, particularly during times of prosperity such as the eighteenth and nineteenth dynasties. So why did Twenty-first Dynasty mummification intensification fall away, even if many of the same conditions prevailed? An answer might be found if we add another social element—what I call display value—to the equation. The focus on the mummy cut out a very important element of *public* social display for the Theban elite. It is important to remember that these Twenty-first Dynasty mummies are currently unwrapped only because twentieth-century archaeologists performed intense examinations, leaving the bodies naked and exposed (Smith 1912). In ancient times, access to an unwrapped mummy would have been allowed for only a very short period of time, before the body was enclosed in complicated linen bandages and shrouds. The perceived vulnerability of the mummy disallowed an intimate view of the body tissues or facial features of any given corpse by the public. Instead, the susceptible mummy needed to be carefully wrapped for any larger displays during funerary rites.

Ancient Egyptian ritual scenes do not show mummies on display during funeral ceremonies without outer protection, such as wrappings, a mask, or a coffin. Because Twenty-first Dynasty *unwrapped* mummies were likely only viewed by family members or close associates who may have been invited to the embalming workshop before the bodies were bandaged and shrouded, elite Thebans would not have been able to show expensive mummification treatments publicly. In other words, elites could not have benefited from the display of the crafted corpse, into which they had invested so much money, to a larger audience. Mummification intensification worked as tool of social display for only a very small, more inward-looking society of elites. It may have been an ideal competitive platform for the extended family groups and complicated kinship lines of the High Priesthood of Amen, but it was a nonstarter if one wanted to make a larger, more public statement. Elite family members could ostensibly discuss the value of a particular mummy with people outside their circle, letting others know of the expensive treatments hidden from

their eyes, but this process would likely have had no visual drama, nor would it have created any larger public intrigue. In the end, a large investment in funerary materiality was invisible. All the expensive and time-consuming craftsmanship was impossible to publicly display in any way. The intensification of the Twenty-first Dynasty mummy was a creative way of defensively reacting to risk when engaging in exclusive social competition, but this innovation could not create broader social display value for elite Egyptians.

Ancient Egyptian funerary materiality always needed to fulfill multiple functions for the deceased simultaneously (Cooney 2007), including religious protection for the dead, ritual use in funeral ceremonies, and a social functionality of prestige and display for the family of the deceased. In other words, value, whether economic, religious, or social, must be visible to its audience so that it can be shared, consumed, and realized. As already noted, value demands public recognition, which then allows comparisons of value (Graeber 2001:76–77). This leads us to a possible explanation for the shift away from mummification intensification—that the audience for determining value had become larger, broader, and more public by Dynasty 22. During the Twenty-first Dynasty, the potential audience for viewing and comparing mummification value was a small, inward-looking group connected to the Amen priesthood. However, as we move into Dynasty 22, the potential audience in Thebes must have changed, making new demands on elites with regard to visibility and the display of their funerary arts.

We do know that the makeup of the Theban high elite began to change in Dynasty 22, when King Sheshonq I at Tanis appointed his own son as the High Priest of Amen at Thebes, interrupting the patrilineal hereditary succession that had been the norm for the Amen priesthood during Dynasty 21 (Ritner 2009). The introduction of new elite players into the Theban landscape may have demanded new social innovations with regard to funerary behaviors. If we keep in mind that the high elite Egyptian funeral had the potential to act as a social tool of public display and prestige, then it makes sense that expensive but nondisplayable mummification innovations would be quickly discarded in favor of something else. In other words, elites decided that their money could be better spent elsewhere.

And so in Dynasty 22, a period with many of the same socioeconomic stresses, we see much less emphasis placed on high-cost embalming. This shift in demand actually occurred in conjunction with a new type of body container made of cartonnage (Grajetzki 2003; Taylor 1985). Cartonnage is a variety of papier-mâché, not a high-value material like wood but an inexpensive and easily manufactured medium (Cooney 2007:24). Cartonnage containers were very hard to remove from corpses; they were tight fitting and laced up the back. Both the low material value and the tight fit made this object very defensive—that is, difficult to reuse and not expensive enough to make theft worth one's while. But crucially, the painted cartonnage cover provided a new possibility to display the embalmed corpse for purposes of social prestige, in both a defensive *and* lifelike, idealized manner. The Twenty-first

Dynasty mummy may have provided *internal* security during a time of crisis, as well as the opportunity for exclusive social comparisons, but the value of public social display was probably too important for this innovation to last for long.

CONCLUSION

Egyptologists typically tie shifts in funerary style to religious developments and internal theological debates (Assmann 2005), but rarely do we attribute shifts in funerary materiality to social, economic, and ritual value constructions. Only occasionally do we consider the object as returning an investment in social display. However, because of the functional materiality (Cooney 2008a) involved in preparation for the afterlife, and because of the considerable investment required to transform and protect the dead, crisis must be seen as having had a profound effect on the construction and abandonment of certain funerary values in ancient Egypt.

NOTES

1. Ostrakon British Museum 5624; Ostrakon Deir el Medina 828 plus Ostrakon Vienna H. 1; Ostrakon Florence 2621; Ostrakon Madrid 16243; Papyrus Berlin P. 10496; Papyrus DeM 26.

2. There are no prices for mummification from the New Kingdom or Third Intermediate period, but there are many prices for tombs, coffins, and other funerary objects from the Ramesside period. Nonetheless, I think it can be argued that, proportionally, the cost of mummification was a smaller part of the overall burial ensemble during the Ramesside period. In addition, the quality of mummification for elites during the Ramesside period is lower than that of Twenty-first Dynasty elites. Finally, if we could estimate the average cost of embalming labor, plus the cost of resins, waxes, natron, and other embalming materials required for elite Ramesside-period mummies, it would probably compare to the cost of one or two nesting coffins of the period. The latter statement is the most hypothetical, but the point remains: out of the entire burial ensemble, the cost of mummification would almost certainly not have been the most expensive element. During the Twenty-first Dynasty, on the other hand, the proportional cost of embalming probably reached its highest point.

3. John H. Taylor is one of the few scholars to attempt some kind of reasoning for Twenty-first Dynasty mummification intensification: "The motivations for these changes are not immediately apparent from written sources, and can only be speculated on. Was the greater self-sufficiency given to the dead a measure of compensation for the decline in the practice of mortuary ritual at the tomb? Was there also a practical reason for the placing of all crucial organs within the body—to prevent their loss in the event of the mummy being transferred from one resting place to another, a phenomenon characteristic of the time?" (Taylor 2010:232).

CHAPTER 7

.....

FROM VALUE TO MEANING, FROM THINGS TO PERSONS: THE GRAVE CIRCLES OF MYCENAE RECONSIDERED

.....

SOFIA VOUTSAKI
UNIVERSITY OF GRONINGEN

ABSTRACT

.....

Any discussion on object value has to start with Marcel Mauss's famous dictum: "To give something is to give part of oneself. To give away is to give part of one's nature and substance, to receive something is to receive a part of someone's spiritual essence." A large bibliography deals with the fusion between subjects and objects in gift exchange or with the simultaneous and mutual definition of the value of things and the prestige of persons. I have argued previously that the conspicuous consumption of objects establishes a different relation between persons and things. While gift exchange brings about a dispersal of personal identity beyond bodily boundaries, through time and across space, consumption allows one to absorb and appropriate transitory gifts, with all their associations of distant places, famous previous owners, and exotic value systems. In this paper I would like to elaborate this point further by discussing the (re)definition of personhood in mortuary ritual and by examining the use of (valuable) objects in bodily practices (such as body modification, adornment, anointment, grooming, arraying, and disarticulating). While conspicuous consumption at death is often discussed as a purely social strategy of display and aggrandizement, or at best as symbolic exchange with the ancestors, I argue that it has a much deeper cultural significance: it is a crucial attempt to contain the drift of meaning and value and to counteract the disintegration of personal identities—during the very process that dissolves persons into ancestors.

These ideas will be applied to a specific case study: the grave circles of Mycenae.

INTRODUCTION

.....

In the conference that inspired this volume, we were asked to reflect on the way value was constructed, understood, and experienced in the premodern world. Value is a central concept in social theory, as it lies at the intersection of economy and politics, the individual and society, personal desire and collective values, the subject and the object. However, value is at the same time a difficult and diffuse notion that contains different but closely interrelated facets: *economic* value, *social* value, *cultural* value, and *ritual* or *symbolic* value. If we have difficulties understanding and defining this concept, can we ever hope to apply it in the study of premodern societies?

Thirteen years ago I wrote an article (Voutsaki 1997) on the creation of value and prestige in premodern societies, with particular emphasis on the practice of conspicuous consumption. The main question I addressed in that article was: How do things acquire value? The conclusion, that an object's value is created not only through labor at the moment of production but also during its circulation within gift exchange networks and through its consumption (destruction, deposition) in ostentatious ceremonies, has by now become commonplace. But my point was to go further and to understand the differences between gift exchange and conspicuous consumption, two forceful strategies for the creation of value and prestige. Following a vast literature on the topic, I argued that in gift exchange, value accrues to objects through their constant circulation. This value is, however, a) transitory, because it's inalienable; and b) ambivalent, because it's inseparable from the transaction and from the status of the transactors. What distinguishes consumption from exchange is that consumption establishes a totally different relation between the subject and the object. The transitory and ambivalent value of the gift is appropriated and fixed when the object is removed from circulation, withheld, and manipulated by the individual. Through consumption, value becomes fixed in a system of material values—that is, a system of difference. The reciprocal relation is abolished. Consumption is therefore the primitive mode of accumulation (albeit in symbolic form) and an important mechanism for social differentiation. There is nonetheless an important difference between total destruction, for example, at a potlatch ceremony, and the deposition of goods, particularly in graves. Both may be public acts designed to convert economic value into social distinction, but by depositing valuables with their ancestors, mourners can retain a symbolic “ownership” of the goods, even while seemingly giving them away, sacrificing them, and denying their materiality. Thus, paradoxically, the deposition of goods can constitute the basis for the “wealth differential”, an element totally opposed to the reciprocal obligations of the gift exchange system. The initiation (and indeed the institutionalization) of conspicuous consumption is therefore an important strategy in a) *creating* rather than *destroying* value; and b) *creating* rather than simply *expressing* or *legitimizing* asymmetrical relationships.

I should place my argument in its context—that is, in the theoretical debates of the 1980s and 1990s. One of the first arguments of the postprocessual critique against New Archaeology was that energy expenditure (Saxe 1970; Tainter 1975), proposed as an objective and universal measure of value, failed to take into account the symbolic significance of objects and the role of ideology in transforming social reality (Hodder 1982a). In their turn, early postprocessual studies, written under the influence of the neo-Marxist approach (Parker Pearson 1984; Tilley 1984), were criticized for presenting social practices as the epiphenomenal legitimization of power relations ultimately rooted in the social relations of production. The endorsement of Bourdieu's (1977) theory of practice and Giddens's (1979) notion of agency brought a shift to a more overtly poststructuralist position, where social practices, such as gift exchange or conspicuous consumption, were seen as forceful strategies creating symbolic capital.

At the same time, in anthropological and social theory, critique was mounting against Marx's seminal definition of (exchange) value as embodied labor: labor could not be a measure of value in premodern societies because it was not a commodity to be bought or sold and had no monetary equivalent (Baudrillard 1975). In general, anthropological theory at the time was becoming aware of the "productivist bias," the undue emphasis on production and supply reigning in economic anthropology (Berthoud and Sabelli 1976). Indeed, during the 1980s, under the influence of decisive studies (Appadurai 1986b; Baudrillard 1975, 1981; Douglas and Isherwood 1979) interest shifted from production to exchange and consumption and from supply to demand. It was generally accepted that value is not an inherent property of objects but a judgment about them made by subjects (Appadurai 1986a:3) and that politics provide the link between value on the one hand and production, exchange, and consumption on the other (Appadurai 1986a:56–58).

If we want to summarize the developments in the discussion of value in archaeology we can reconstruct the following (admittedly rather schematic) stages in the discussion: In the 1960s and 1970s, value was defined as labor and was used as a direct indicator of status. In the 1980s the emphasis moved to exchange and consumption as forceful practices expressing and legitimating status, while in the 1990s consumption was seen as a strategy to fix value and create personal identities.

Having explained the theoretical background of my argument, it is time to reflect on my own approach to value. Writing thirteen years later, I believe that my argument still largely holds. However, its scope is rather restricted and does not do justice to the complexities surrounding the creation of value. To start with, my focus on consumption was at the time perhaps justified, but scholarship on production and technology has in the meantime moved away from narrow functionalistic or economic approaches. Studies such as those by Helms (1993) and Gell (1998) viewed production as a process of symbolic transformation, which involves both technological knowledge and magical skills. At the same time, a whole series of studies on gift exchange (Helms 1988; Strathern 1988; Weiner 1992) have given us further

insights into the ways value accrues by circulation and by association with distant places, renowned people, and exotic value systems. It is nowadays emphasized that we should study the entire life cycle or cultural biography of objects (Appadurai 1986a; Kopytoff 1986). Nevertheless, in this short paper I would like to focus once more on consumption and explore ways I could take my argument further.

In my original argument, I saw value as becoming fixed and codified at the moment of consumption within a system of difference. By emphasizing the diacritical and relational nature of value, I effectively retained a structuralist definition, whereby each element within a system derives its value from its relation with all the other elements of the system (Graeber 2001:13). This definition has been criticized for not taking into account the cultural or symbolic significance of objects—that is for failing to understand the interconnection between *value* and *values* (Graeber 2001:13–16). I would like to argue here that value is relational but is also created within a cultural tradition. To put it differently, value feeds on but also transforms traditional cultural values and moral norms.

Another aspect of my discussion that I would now criticize is my privileging of status, power, and prestige over other aspects of personal identities—for instance, age and gender. Here I want to redress the balance by examining the process of social differentiation alongside emerging age and sex divisions but also by focusing on the connection between value systems and gender ideologies.

In general, my reading of conspicuous consumption *at death* as a social strategy for the creation of value and prestige betrays a certain social reductionism. Treating burial practices as simply another arena of social competition rationalizes the mortuary context and strips it of its special significance (Tarlow 1999). People do not only compete, display, or negotiate their position during funerals; they also mourn, and they cope with personal loss and with the terrible intrusion of death upon social life. Tarlow (1999:34) has stressed that personal emotions and cultural attitudes regarding death need to be taken into account in our interpretation of mortuary practices. While I remain skeptical of the idea that we can reconstruct *individual* emotions in the (prehistoric) past, and even doubt whether we should try to do so (for reasons I have discussed elsewhere: Voutsaki 2010a:67–68), I strongly feel that we cannot discuss mortuary rites unless we discuss attitudes to death. We cannot interpret treatment at death unless we explore the moral prerogatives that define proper respect to the dead. Nor can we restrict our discussion to the social function of mortuary practices; we also need to understand their meaning. To do so, we need to pay attention to the form and context of mortuary practices, the sequence of rites, the manipulation of the body, and the standardization and repetition of ritual gestures. We need to explore the theatrical nature (Parker Pearson 1998) and sensory dimensions—the sounds, gestures, smells—of ritual performance if we want to understand how value is created and sanctioned. Finally, we need to be aware of the specificity of the mortuary context: Mortuary rites take place in a different realm, at the intersection between the living and the dead, and may therefore follow

different rules than the ones that govern everyday reality. Consequently, if value emerges in the mortuary realm, it may reverse the traditional norms and existing principles of social organization.

Let me summarize my argument: The creation of value should be discussed not only in connection with status but also with other facets of personal identity, such as age and gender. By exploring the meaning and not only the social function of mortuary practices, we can understand how value is created from within a set of cultural values by means of ritual performance.

THE PROBLEM: VALUE, WEALTH, AND THE TRANSFORMATION OF MIDDLE HELLADIC SOCIETY

Let us return to the historical problem I addressed in the 1997 article: the transformation of the largely egalitarian, kin-based, materially austere and culturally introverted Middle Bronze Age (or Middle Helladic: MH) societies of the southern Greek mainland into the competitive, expansionist, and cosmopolitan polities of the early Mycenaean (or Late Bronze Age, Late Helladic: LH) period (Table 7.1). This transformation is particularly obvious in the mortuary sphere that witnesses the widespread adoption of new burial practices and forms.

Table 7.1. The MH and LH periods in the Argolid.

Period	Approximate Dates	Developments in the Argolid
MH I	2100–1900 B.C.	Period of poverty, social regression, and relative isolation. First hesitant signs of change in MH II?
MH II	1900–1800 B.C.	
MH III	1800–1700 B.C.	Pervasive social and cultural transformation begins. The grave circles of Mycenae come in use.
LH I	1700–1600 B.C.	Grave circle B is abandoned. Grave circle A reaches its peak. Increasing prosperity, interaction, and stratification in the mainland. Rise of Mycenae.
LH II	1600–1400 B.C.	Grave circle A abandoned at the very beginning of the period. Emergence of Mycenaean polities. Further rise of Mycenae.
LH IIIA	1400–1300 B.C.	Emergence of palatial system. First palace built in Mycenae.
LH IIIB	1300–1200 B.C.	Consolidation and peak of palatial system. The palace at Mycenae modified; the citadel strengthened. Grave circle A rearranged.

I'll first present a brief summary of the situation in the MH I–II Argolid (Figure 7.1). During the early phases of the MH period, there is no pronounced site hierarchy or any signs of clear differentiation within communities. The dead are buried in intramural graves below or between houses, although the first extramural cemeteries appear around MH II. By far the majority of the burials are single, contracted inhumations, although there is some differentiation among the burials: the dead may be buried in burial jars, cists, or pits; from MH II onward, one or two burial mounds (tumuli) appear in the extramural cemeteries. The dead usually receive no offerings but may be accompanied by one or two vases or a few simple

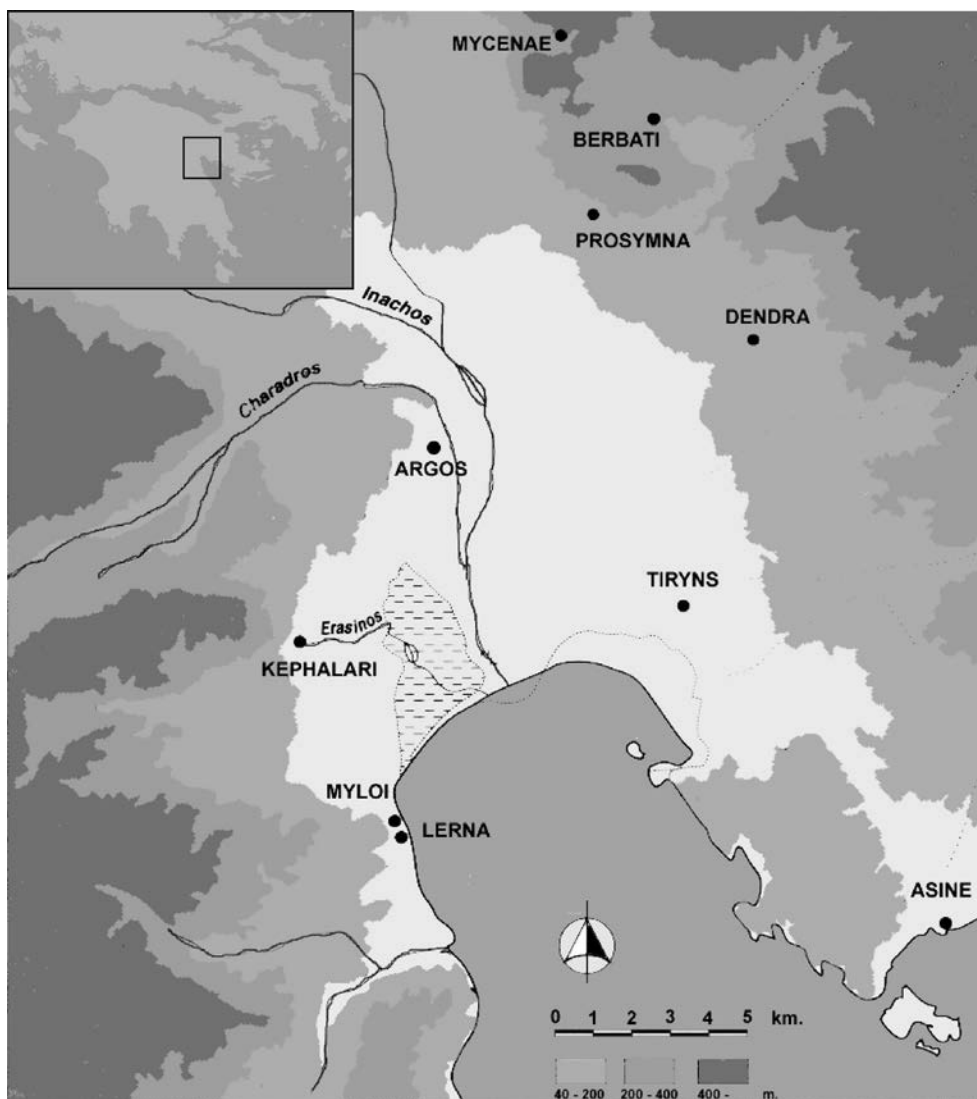


Figure 7.1. Map of the MH Argolid, with main sites mentioned in the text.

ornaments made of bone, stone, or paste. Metal finds are quite rare; precious metal (gold, silver) is virtually absent. Differentiation in the mortuary sphere is therefore rather minimal and subtle (Mee and Cavanagh 1984:61; Milka in Voutsaki et al. 2006:65–66), though differentiation between sex and especially age groups can be observed (Voutsaki 2004:356–357; Milka in Voutsaki et al. 2006:65–66). It has therefore been suggested that MH I–II communities were not divided into distinct social ranks but were organized primarily along age, gender, and kinship lines (Voutsaki 2010b:92).

However, the situation changes during the last phase of the MBA and the transition to the LBA (MH III–LH I). This period is characterized by the adoption

of extramural cemeteries, the gradual introduction of larger or better constructed tombs, the adoption of extended position and more complex mortuary rites involving reuse of tombs and secondary treatment, and, finally, a general increase in mortuary wealth and a growing emphasis on status, gender, and age divisions.

These trends find their most dramatic manifestation in the grave circles of Mycenae, a site that in this period emerges as an important regional center and will later develop into one of the most powerful palatial centers. We are dealing with two groups of graves, separated from the rest of the cemetery by circular enclosures (hence grave circles A and B; Figure 7.2), both located in the foothills of the steep hill on which the contemporary settlement was located. Both precincts were made conspicuous with the circular enclosures but also with sculptured grave markers (stelae) (Figure 7.3). They were further distanced from the rest of the community by the use of shaft graves—that is larger and deeper tombs with an elaborate roofing system, especially designed for reuse, the adoption of more complex ritual surrounding the disposal of the body, and, of course, the unprecedented amount of wealth deposited with the dead (Voutsaki 1999).

The shaft graves of Mycenae provide an excellent entry to a discussion on the creation of value. They mark the spectacular appearance of large quantities of beautifully crafted and exotic valuables in the hitherto austere mainland. They signal the emergence of a social elite and the dramatic ascent of Mycenae in the political landscape. They represent, in a most condensed form, the broader cultural crisis that swept the southern mainland at the end of the MH period. To conclude, they allow us to raise several questions related to value: How do objects acquire value? How is value created? How do notions of value and wealth emerge? But also: How is value sanctioned? How is value accepted?

My discussion on value will be structured alongside the four themes adopted in this volume:

1. Place value: the creation of the mortuary domain
2. Body value: bodily practices at death
3. Object value: subjects, objects, and images
4. Number value: singularization and accumulation

Needless to say, the discussion cannot easily be compartmentalized into these themes. My final argument will be that the creation and emergence of value is a complex process that involves the fusion of places, bodies, objects, and images.

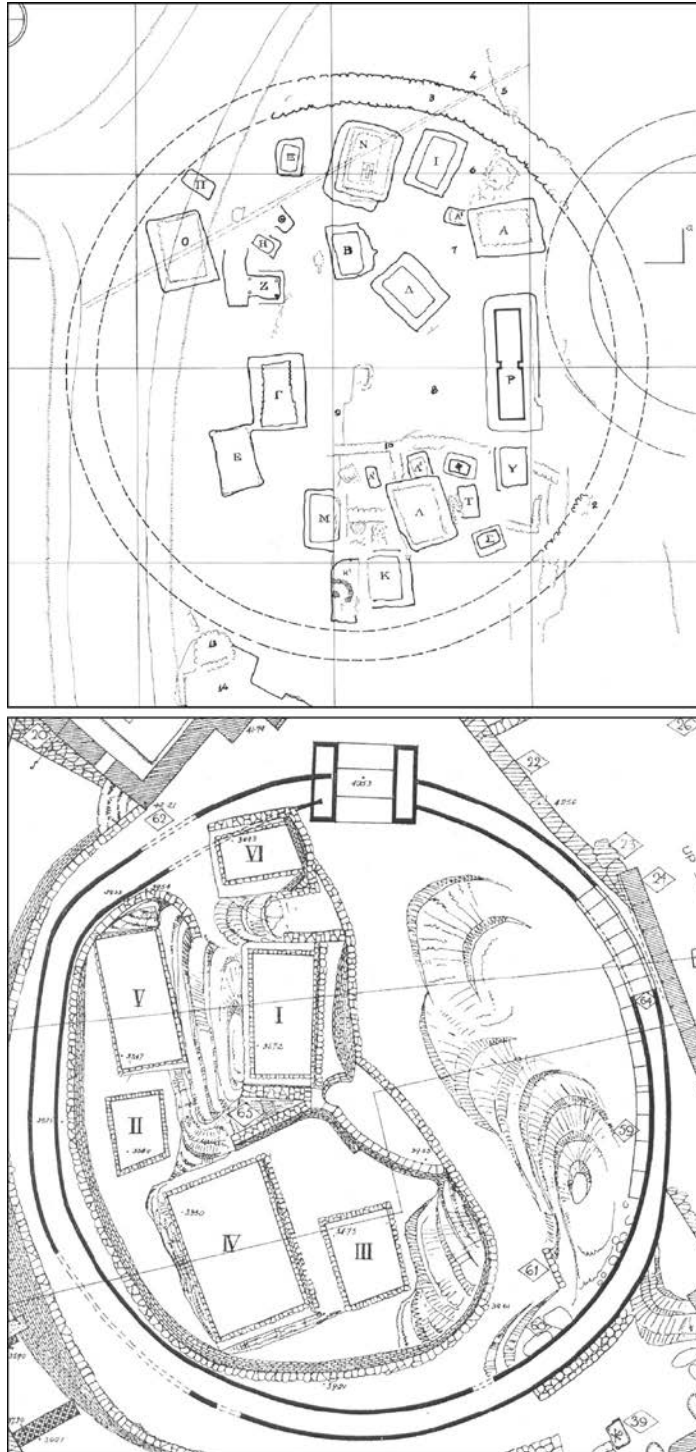


Figure 7.2. Grave circle B and grave circle A of Mycenae (from Mylonas 1972:plate 1 and Karo 1930–1933:figure 2, respectively).

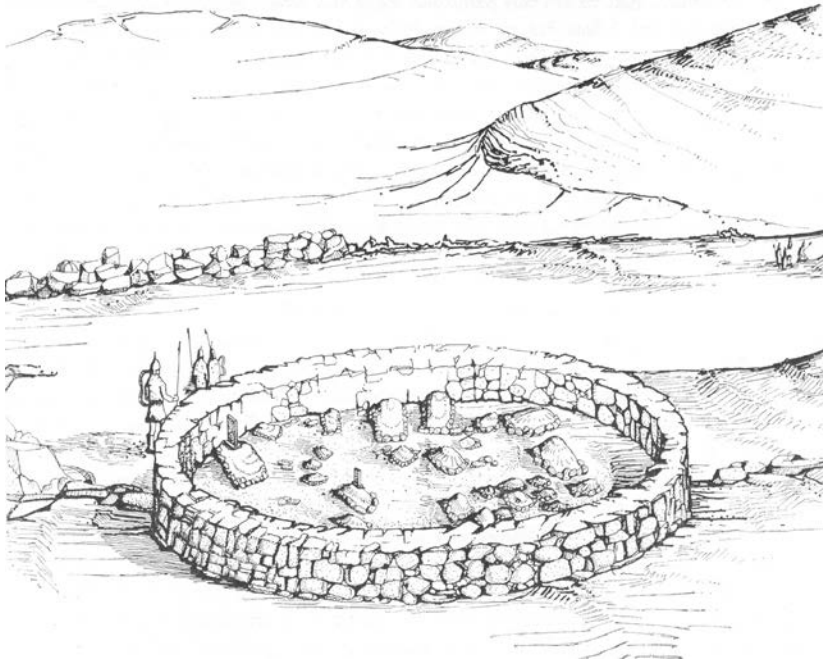


Figure 7.3. Reconstruction of grave circle B (from Mylonas 1972:figure 29).

DISCUSSION: THE CREATION OF VALUE IN THE GRAVE CIRCLES OF MYCENAE

Place: The Creation of the Mortuary Domain

During the MH period, graves are placed inside the settlement, among or under houses. Until recently, it was thought that burials were generally placed under the floors of houses in use, although some scholars (Nordquist 1979:20) pointed out that graves were often placed in disused parts of the settlement. Our own reexamination of cemeteries in the Argolid (carried out by the Ph.D. student E. Milka as part of the Middle Helladic Argolid Project) concluded that graves had opened into destroyed and abandoned houses since MH II (Milka, 2012). There is therefore already a certain separation between the domain of the living and the domain of the dead in this period. However, these grave clusters are subsequently built over by houses, which in turn are destroyed or abandoned; new graves are subsequently opened into their ruins and so on. Therefore, the dead and the living are connected in a scheme of cyclical alternation rather than spatial division. The separation between the living and the dead becomes more complete and acquires a physical dimension perhaps in MH II but certainly in MH III–LH I, when formal cemeteries appear in several sites across the southern mainland. These cemeteries are placed at a distance

from the associated settlement, though usually near routes that led to the settlement. The cemetery at Mycenae is a characteristic example, as it occupies the lower slopes of the hill on which the contemporary settlement was located and extends along the natural path that ascends toward it. Unfortunately, the complex history of the Mycenae excavations, the long occupation of the site, and the extensive terracing and remodeling of the landscape during the erection of the Mycenaean citadel have obscured the extent and limits of the MH settlement (Shelton 2010). Nevertheless, it is certain that the grave circles of Mycenae (more on them below) are part of an extended cemetery (the so-called Prehistoric Cemetery; Alden 2000). This cemetery of pit and cist graves, containing usually single, contracted primary inhumations (though cases of multiple and secondary burials also occur), was in use from MH III until the early phases of the Mycenaean period (LH II–LH IIIA), when the use of new collective graves became the norm. The two grave circles (Figure 7.2) were erected within a small distance of each other, though they are not absolutely contemporary: grave circle B is slightly earlier (primarily MH III, but it goes into LH I), while grave circle A is built at the very end of MH III and is used primarily during LH I, until the very beginning of the LH II period. Grave circle A was discovered by Schliemann (Karo 1930–1933; Schliemann 1878), and grave circle B was excavated in the 1950s by Greek archaeologists (Mylonas 1972). My contextual observations (see below) will be based primarily on circle B, as it is much better documented.

The two grave circles mark a departure from earlier practice not only because of their ostentation and the introduction of new tomb types and complex ritual practices but also because of their spatial demarcation by means of circular enclosures. The enclosures (*perivoloî*) and the elaborate sculpted funerary markers (*stelae*) not only separate the specific burial groups from the rest of the community but also make them into conspicuous features marking the physical landscape of Mycenae.

The two grave circles may have been conspicuous, but only one of them became a permanent locus of commemoration. The divergent history of the grave circles gives us interesting insights into the construction of place value and social memory (Table 7.1). Grave circle B was reused during LH II (Mylonas 1972:211–225), when a large built tomb was inserted among the earlier graves, thereby destroying some of them. Afterward, however, the burial precinct was forgotten, covered under sedimentation, and encroached upon by later tombs. The contrast with the much more magnificent and exclusive grave circle A could not be greater. The area of grave circle A was not built over for more than three centuries. In fact, the precinct became the object of veneration, as evidenced by the later (LH IIIB) rearrangement and monumentalization of the enclosure, the re-erection of the *stelae*, the evidence for animal sacrifices, and a possible altar above the graves (Schliemann 1876:plan F; see Gallou 2005). Its significance became even more emphasized by means of the spatial connection between the remodeled grave circle, the cult center of Mycenae to its southeast, and the palace on top of the hill. Within the space

of a few centuries, selective commemoration and erasure altered the physical and mental landscape and reshaped collective memory.

The erection of the grave circles amounts to more than just the demarcation of a new ritual locus or the inauguration of a *lieu de mémoire*. The tension between segregation and elaboration is replicated in the design of the new tomb types adopted in the grave circles. While shallow and relatively small pits and cists are used throughout the MH period, in the grave circles of Mycenae, a new tomb type is introduced: the shaft grave. Shaft graves are larger, deeper, and more complex in construction than pits and cists. The grave consists of a deep shaft ending in the grave with stone-lined walls, a complex roofing system consisting of wooden beams, turf, and slabs; and a floor strewn with pebbles. The increasing depth and demarcation of the graves, the complex roofing system, which had to be dismantled and put back into place every time the multiple grave was used (see below), and the filling-in of the shaft after every burial emphasize a concern with boundaries, separation, and restriction of access. This is emphasized by a series of rites taking place at the opening of the tomb, collectively referred to as “funerary meals” (Mylonas 1972:265) but that might have consisted of sacrifices, libations, offering of foodstuffs at the grave, or communal feasts. We see, therefore, that graves are larger and more elaborate but at the same time buried deeper into the ground; they are conspicuous and yet hidden from view. This tension between segregation and elaboration implies that dangerous forces (moral pollution) were seen as emanating from the graves or contact with the dead (Voutsaki 1998).

Therefore, the adoption of formal cemeteries does not involve merely the displacement of graves away from the settlement but a deeper transformation of attitudes toward death, the newly dead, and the ancestors. It also involves the creation of a separate mortuary domain, ridden with tensions and conflicts. Cosmological divisions are thereby affixed into physical space, with the cemetery and the grave becoming the boundary, the liminal space between the world of the living and the world of the dead. This space is emphatically placed apart from everyday experience, demarcated and surrounded with ritual. It is in this new liminal domain, where customary practices can be inverted and norms redefined, where “the world is turned upside down,” that valuables make their first appearance and value is created. After all, accumulation and even the elaboration of material culture are notions alien to MH sumptuary behavior. A break with tradition could be accepted only if it took place in this liminal space, hedged with heavy ritual prescriptions.

To summarize: the adoption of formal cemeteries, enclosed precincts, and complex tombs creates not only a new locus of commemoration but also a liminal space where normal practices can be inverted and a break with tradition made possible.

Body Value: Bodily Practices at Death

Let us now examine another aspect of the creation of value: bodily practices. The modification of the (dead or living) body gives us invaluable insights into how personhood is constructed (Meskell and Joyce 2003:58–65; Treherne 1995; for general discussions Hamilakis et al. 2002b).

The body must have been first trussed, undressed, and washed, although no traces of these initial rites can be found in the archaeological evidence. The body was subsequently dressed, as the recovery of pins in the area of the shoulders attests. The hair must have been groomed, as indicated by hair rings sometimes found near the head; and combs were at times given as offerings to the dead. Interestingly, tweezers are found in some graves (for example, grave iota; Figure 7.4), implying that the removal of facial or bodily hair was part of the preparation of both men and women in death and/or life. It is possible that bodies were also anointed, as the funerary offerings also include small closed shapes, for example *alabastra*, which become a standard

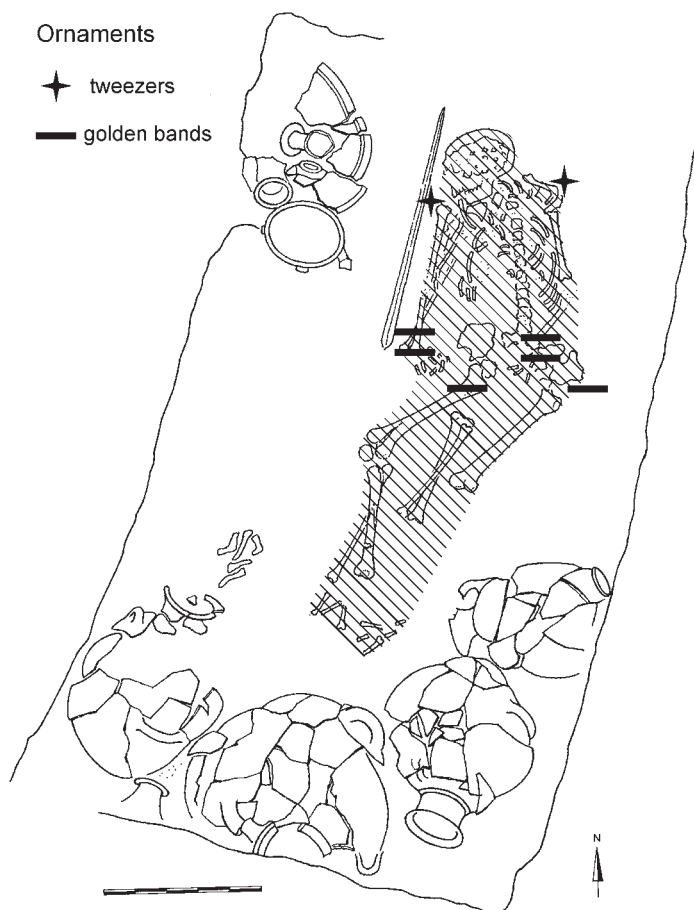


Figure 7.4. The positioning of ornaments (grave iota; based on Mylonas 1972:figure 13).

component of the funerary assemblage in the Mycenaean period. The shaft grave dead, especially those of grave circle A, were also adorned with a wide array of ornaments (earrings, necklaces, armbands), mostly of gold, which are sufficiently solid and could be worn in life. The most striking features, however, are the large quantities of gold foil ornaments, which may have been intended solely for funerary use.

Before we discuss the meaning of adornment, we need to reflect on the choice of gold as the main material used. Gold is of course used lavishly for other types of objects—for example, gold cups or gold intaglio rings. However, the quantity and diversity of gold foil ornaments, found not only as bands and diadems, in all sorts of different shapes and combinations, but also as cutouts representing many different animals or plants, as round discs with various decorative motifs, and as buttons decorated with complex spirals and so on, is really astounding. The significance of gold is discussed in other papers in this volume (Renfrew, Donnan). Gold has indeed certain intrinsic qualities, primarily its shine and attractive color (Renfrew 1986). It cannot be emphasized enough that gold is exceedingly rare during the earlier phases of the MH period; even during the MH III–LHI period, when more rich graves appear in different sites in the southern mainland, no other cemetery displays a similar quantity, diversity, and elaboration of gold ornaments as the shaft graves of Mycenae. Gold may not have been available in the central and southern Aegean at that time and was certainly a scarce material. The craftsmanship of gold ornaments (and gold objects in general), the experimentation with different forms and decorative techniques, and the widespread use of gold foil to cover less valuable materials such as leather and wood leave little doubt that gold had high value (Renfrew 1986). But what is perhaps more interesting for our discussion on value is the way gold ornaments are used: the better documented burials of grave circle B (Figure 7.4) show that gold bands were worn as diadems, armbands, necklaces, or belts; they were all affixed to the body or sewn onto garments. Despite Schliemann's rather sketchy description, one can imagine the effect of the richest grave circle A burials, which were effectively covered with gold. Of course, adornment is precisely about this, the fusion of ornaments into the personality of the man or woman wearing them. Interestingly, grave circle B skeletons adorned with gold bands are placed in an extended position (Figure 7.4), while contracted burials do not carry funerary jewelry. Valuables do not only need to merge with the wearer's identity; they need to be visible, to reach out to the viewer, to bring about fusion not only between subject and object but also between the person and society at large.

Gold in the mortuary context may have been chosen not only because of its sensory qualities, or its suitability as a medium of display, but also because of its durability. Here the use of bands and diadems to cover the body, and especially the use of gold masks placed on the face of the deceased (and in one case pieces of gold foil covering the entire body of a child), must have had a special meaning. They must have been intended to hide, and ultimately to deny, decay and the decomposition of the body.

To return to the positioning of offerings around the body, we have seen that ornaments were placed on the body (Figure 7.4), as they were during the MH period (Milka 2012). Objects such as combs and tweezers were placed in proximity. Weapons were placed close to and more or less parallel to the body, always on its right side (Figure 7.5). Interestingly, weapons were also placed to the right of the skeleton in one of the first (MH II) rich tombs on the mainland, the Kolonna built grave on the nearby island of Aegina (Kilian-Dirlmeier 1997). In contrast, eating and drinking vases (made of clay or precious materials) were as a rule placed farther away, usually opposite the head (Figure 7.6) or (depending on the number of vases) down along the body or against the feet, following a pattern observed throughout the MH period (Milka 2012). Larger containers (amphorae, *stamnoi*, and so on) were placed farther away, against the wall or corners of the grave (Figure 7.7).

It is interesting to observe that while valuables appear effectively in MH III–LH I, they belong to classes of funerary offerings that existed (of course, in much

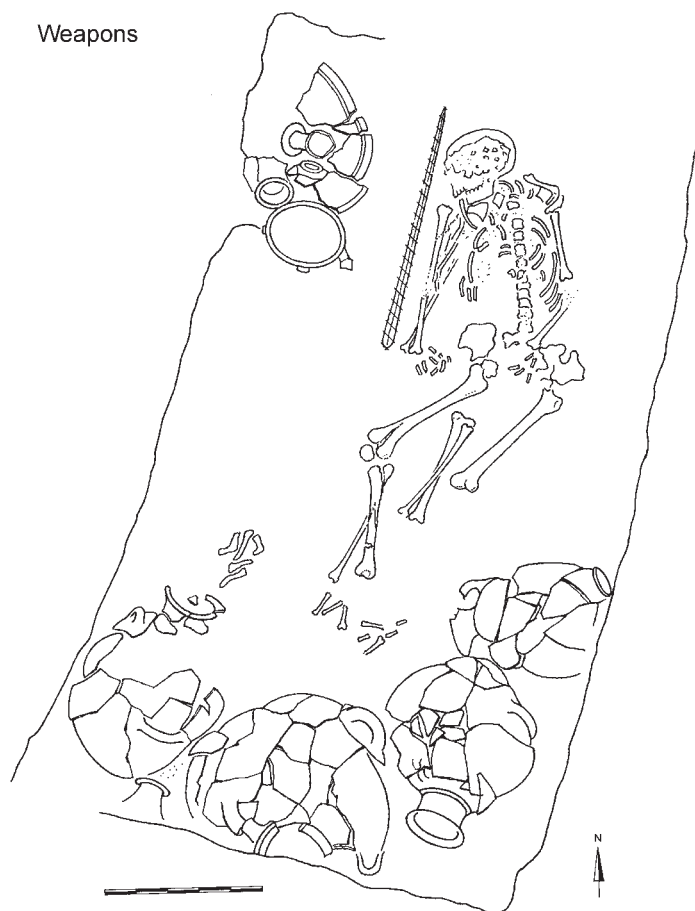


Figure 7.5. The positioning of weapons (grave iota; based on Mylonas 1972:figure 13).

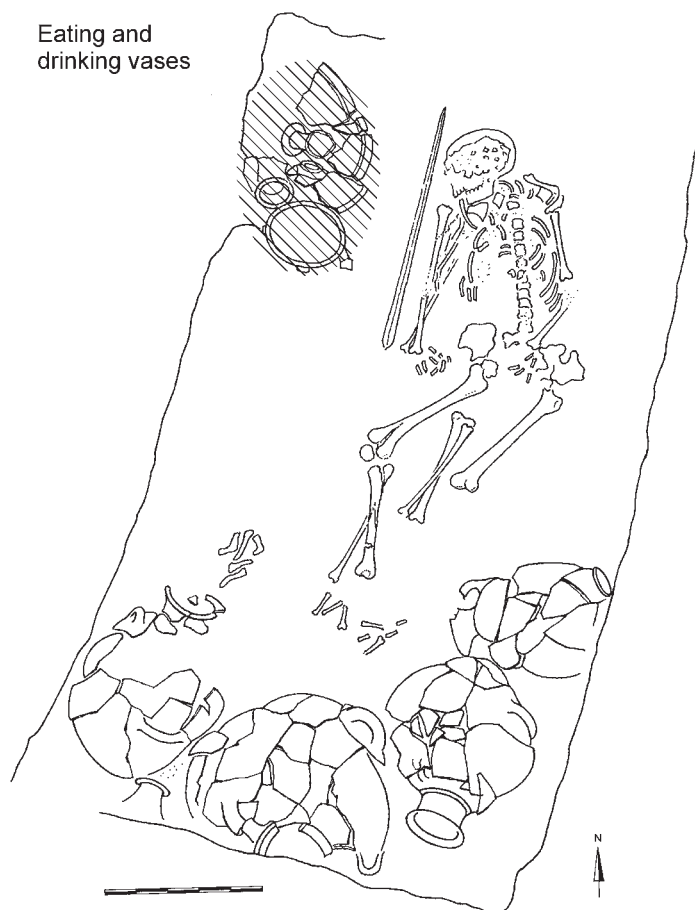


Figure 7.6. The positioning of eating/drinking vases (grave iota; based on Mylonas 1972:figure 13).

smaller quantities and made of humble materials) since the earliest MH period: eating and drinking vases, larger containers, ornaments, weapons. What is more, the positioning of vases follows rules that exist throughout the MH period. These rules are adhered to in the shaft graves much more closely and seem to be performed in every grave in a series of ritual, repetitive gestures. Offerings are ordered in well-defined zones around the body, sometimes in specific positions (for example, weapons always to the right). On the one hand, objects that appear for the first time are thereby inserted into familiar categories. But on the other, positioning and ordering the funerary offerings is not simply a neutral act that follows preexisting systems of classification. Rather, it is an essential component of the very process of classification and valuation, of the creation of a still fragile system of material values in a period that sees the sudden influx of new classes of valuables. Graeber (2001:61) illustrates the relation between practice and abstract systems with a useful example: “Mathematics . . . is not derived from the ‘idea of number’ but from the practice of counting.”

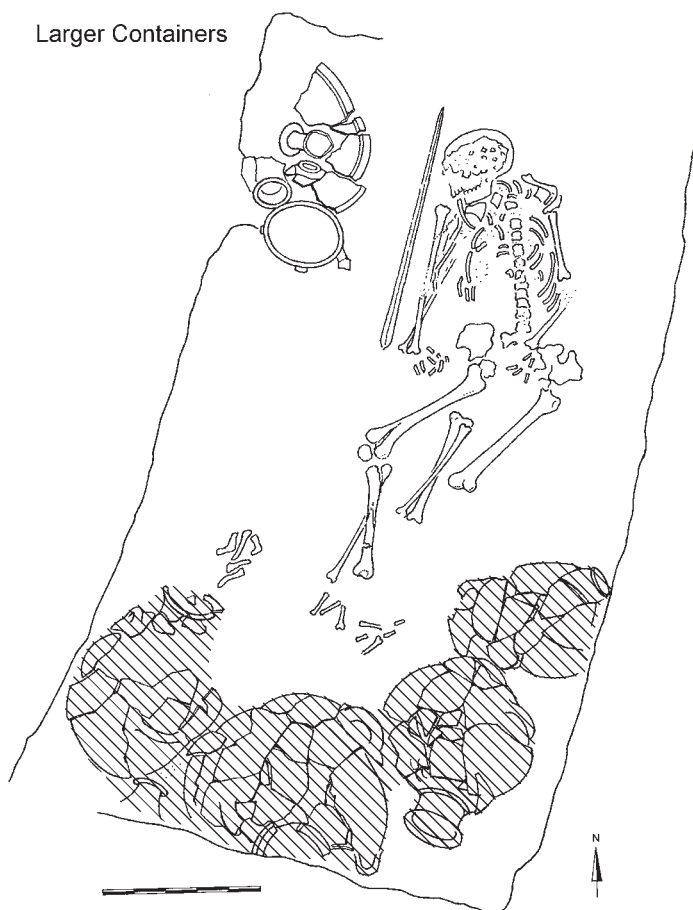


Figure 7.7. The positioning of larger containers (grave iota; based on Mylonas 1972:figure 13).

To return to the sequence of funerary rites: after the careful positioning of the body and the offerings in the grave, the roof of the grave was put back into place, the shaft was filled in, and in some cases a sculpted funerary marker was erected above the tomb. The recovery of animal bones, seashells, broken pottery, and so on just above the grave implies that some kind of ritual took place after the closing of the tomb (Mylonas 1972:265). Whether it involved libations, sacrifices, and offerings of food to propitiate the spirits and thereby emphasized the liminal character of the cemetery area, or whether a “funerary meal” took place, reasserting the social ties among the mourners and thereby marking the rites of reintegration, is not possible to say—both are equally possible.

But mortuary rites do not end here. After a certain amount of time elapsed, perhaps when another member of the family died, the grave was reentered. This was of course possible only after the stele was removed, the shaft emptied, and the roof dismantled. The mourners or ritual officers descended into the grave proper to

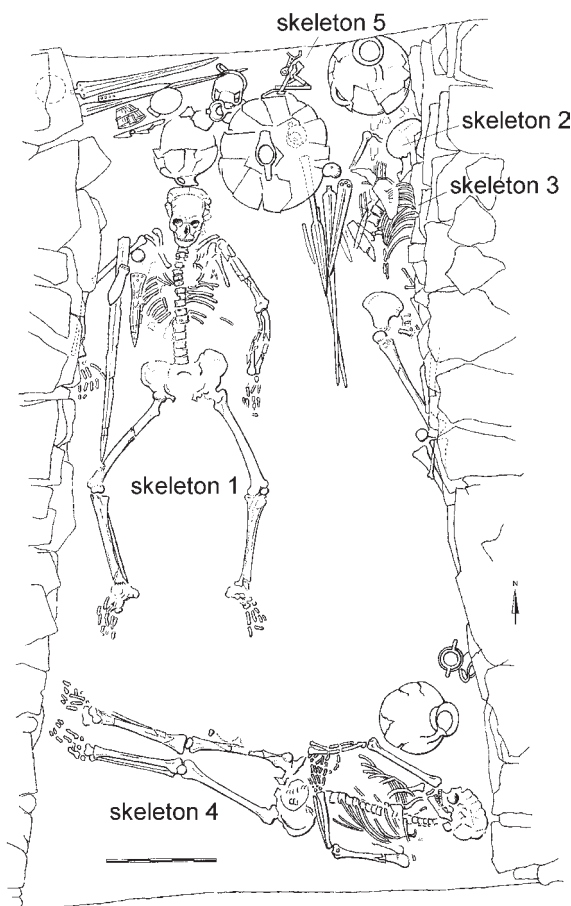


Figure 7.8. Primary and secondary burials in grave gamma (based on Mylonas 1972:figure 5). (Skeletons 1 and 4 are primary burials; skeleton 3 is a secondary, only partly disarticulated burial; skeletons 2 and 5 are fully disarticulated secondary burials, pushed into a heap.)

deposit the new burial. Earlier burials were either left intact or disarticulated partly or fully (Figure 7.8); they were gently displaced or pushed against the walls of the grave, assembled into a compact heap in the center, scattered across the grave, or sometimes even removed from the grave (as findings of human bones in the shaft or just above the grave testify). Offerings met the same varied fate. Some were carefully placed next to or on the heap of bones. For instance, gold ornaments were placed on top of a heap of bones (Figure 7.9), thereby retaining the fusion between ornament and the deceased *and* the emphasis on visibility even after disarticulation. But other offerings were broken and scattered, and some (ceramic vessels but also valuables) were even removed from the grave. This must have been an eerie experience—being in a deep, dark tomb, surrounded by the smell of decomposing bodies, feeling the proximity of death.

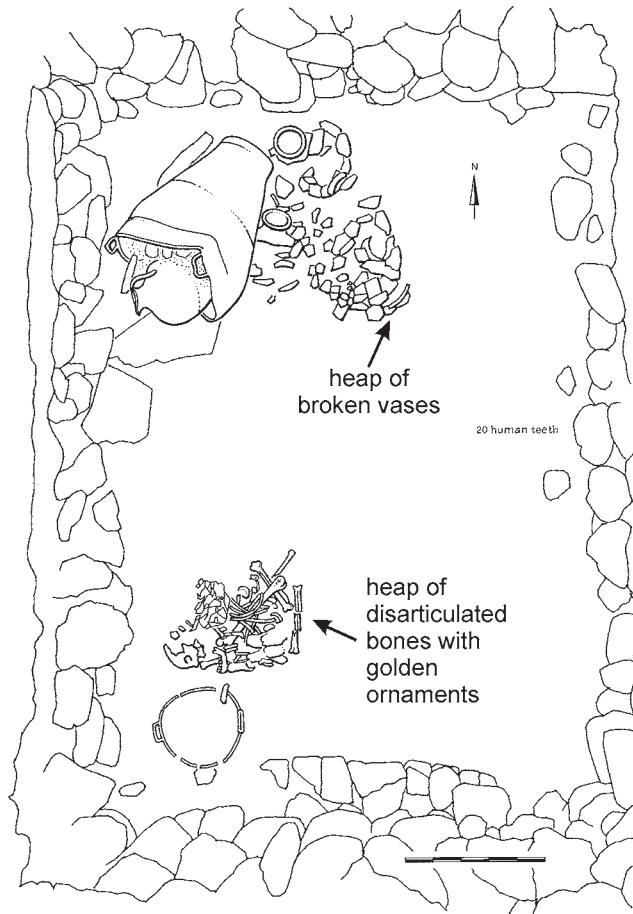


Figure 7.9. Secondary burial in grave epsilon (based on Dietz 1991:figure 34).

We can immediately recognize that the sequence of rites—primary burial, decomposition, secondary burial—reproduces Hertz’s (1960 [1907]) tripartite structure of mortuary rites as *rites of passage*. By means of this elaborate ritual sequence, death becomes part of a predictable, cyclical scheme of continuity and renewal. The secondary treatment therefore marks the end of the mourning period and the moment of reintegration of the mourners to society, and integration of the deceased into the ancestors. In contrast to other cases, however—for example, the Malagasy mortuary ritual described by Bloch (1971)—the different forms of secondary treatment in the shaft graves bring about only a partial and uneven dissolution of personal identities.

To conclude: value is created by means of bodily practices, through the manipulation and fusion of bodies and objects in carefully orchestrated ritual performances.

Object Value: Subjects, Objects, and Images

I discussed object value and the fusion between subjects and objects in the previous section. However, I will now examine another aspect of this fusion: the creation of different facets of identity, such as age and gender, by the selection, omission, combination, and manipulation of funerary offerings.

Table 7.2. Demographic composition in the Mycenae cemeteries.

	Description	Neonates, Infants, Children	Adults
Grave circle B	Elite burial precinct	7	23
Prehistoric Cemetery, Mycenae	Clusters of more modest graves surrounding the two grave circles	56	8

Starting with age, we should first note that the group buried in grave circle B contains many more adults than children (Table 7.2). In contrast, neonates, infants, and children predominate among the more humble graves (the so-called Prehistoric Cemetery) surrounding the grave circles (although it should be noted that only a small percentage of the skeletons, belonging to one cluster of graves, are still preserved because of the later occupation and the complex history of excavations in the area). It can therefore be concluded that children are more or less excluded from this elite burial ground (as they are in all extramural cemeteries). Age divisions could be observed already in the earlier MH phases (MH I–II) in the grave types used. For example, burial jars are used exclusively for infants and children, while cist graves are more often used for adults. However, both children and adults are found in intramural graves (for example, in Lerna; Figure 7.1), and children did not receive special offerings (although the vases they received were in general smaller than those accompanying adults; Milka 2012). The separation of age groups in the mortuary sphere therefore becomes more marked in the later period.

Nevertheless, some children buried in the grave circles were accompanied by rich offerings, although child burials were never as wealthy as adult burials. Children receive eating and drinking vases (usually of small size), larger containers (rarely), and ornaments (fewer and of simpler forms) but do not seem to receive weapons. One child burial, found in grave circle A, was covered with gold foil, but the foil was not decorated; nor did the fragment covering the face carry facial features (unlike gold masks used for adults).

To conclude: age relations in grave circle B are characterized by increasing separation, exclusion, and more marked asymmetry, but subadult identity is also expressed by the choice of offerings and the more limited assemblage.

If we examine the gender composition of the group buried in grave circle B, many more men than women are found (Table 7.3). Unfortunately, only a few of

the adult skeletons in the Prehistoric Cemetery could be sexed (Triantaphyllou in Voutsaki et al. 2007:89).

Table 7.3. Gender composition in the Mycenae cemeteries.

	Men	Women
Grave circle B	17	6
Prehistoric Cemetery, Mycenae	?	3

A new development in the grave circles is a much clearer segregation of male and female assemblages and roles (Kilian-Dirlmeier 1986; Voutsaki 2010a:81). Men are buried with weapons and metal vases, especially drinking cups, but also with ornaments and precious containers. Women are accompanied by elaborate jewelry, precious containers, and clay cups but receive neither weapons nor cups in precious materials. Gender norms are therefore constructed by means of the mortuary ritual, through the selection or omission of classes of offerings. In the case of men, military abilities, participation in male-only drinking ceremonies, beauty, adornment, and wealth are emphasized. In the case of women, beauty, adornment, and wealth are also emphasized, but women do not seem to hold the exclusive rights to any artifact category. In contrast, they seem to be denied access to certain prerogatives of high status and to be excluded from activities such as fighting, hunting, drinking, and perhaps feasting. What is more, these male activities are given special emphasis during the mortuary ritual; some men, especially the richest burials in grave circle A, are buried with masses of weapons and precious cups, many of them finely crafted and decorated. The male and female domains are therefore not only separated; they are also differentially evaluated. Interestingly, the stelae that seem to have stood above male burials were decorated with fighting and hunting scenes, while the (fewer) stelae erected above female burials may have been either plain or decorated with abstract geometric motifs.

This segregation of assemblages and differential evaluation of gender activities departs from earlier practice. During the earlier MH period, there was very little gender differentiation in the mortuary assemblage: in Lerna, ornaments were perhaps found more often in juvenile female burials, and tools in male burials (Milka 2012). However, these are tendencies rather than absolute rules—and we are anyway dealing with few cases, since early MH graves are rarely accompanied by many offerings. On the other hand, two of the (very rare) rich MH II male burials contain a combination of drinking vases and weapons (Lerna J 4B; Blackburn 1970) or drinking vases, weapons, and ornaments (Kolonna built grave; Kilian-Dirlmeier 1997; see above). Therefore, it can be suggested that the segregation of gender assemblages in MH III–LH I feeds on preexisting subtle variation, though differential evaluation seems to be a new phenomenon. As I have argued elsewhere (Voutsaki 2004:62–63), gender relations become skewed at the very moment social inequalities are emerging. Although age and gender divisions are redefined as part of

a deep social transformation that sweeps through the southern mainland, valuables refer back to local idioms and cultural traditions.

So far I have been discussing object value in terms of the mortuary ritual: the manipulation of bodies and offerings, the construction of facets of personal identity, especially age and gender, through the selection, omission, and combination of classes of offerings. But I have still not reached the core of the problem: valuable objects are more than anything else beautiful, desirable, captivating, semantically rich and complex (Gell 1998).

The best way to demonstrate this point is to concentrate on the figurative scenes decorating many of the funerary offerings. The concentration of figurative scenes is yet another feature that differentiates the Mycenae shaft graves from most contemporary burials. It should be stressed that the MH period is virtually uniconic; in the MH III–LH I period, depictions of the human figure, plants, and animals appear in the southern mainland but are exceedingly rare outside the shaft graves of Mycenae.

It is interesting to see which classes of offerings are decorated with figurative scenes. These are primarily ornaments, especially gold engraved rings, stone seals, weapons, and drinking cups, which, as we have seen, were closely connected with personal and gender identities and were deposited on or in proximity to the body.

Figurative art in the shaft graves is interesting not only because we presume it was considered beautiful but because it is largely *about* beauty. To demonstrate this point, I would like to discuss the depiction of the human figure, with special attention to gender differences. Age differences are written out of the idealized world of the shaft grave iconography, where neither children nor old people are depicted and where all people are portrayed in a state of eternal youth and vigor.

The portrayal of men and women on the grave circle assemblage allows us not only to demarcate male and female domains but also to discuss gender norms and ideologies of the emerging elite at Mycenae. A striking feature of figurative art in the shaft graves is the rarity of women; Figure 7.10 contains all depictions of women in the grave circle assemblage. The way women are portrayed is interesting: the pinhead (Figure 7.10d) and the cutout ornament (Figure 7.10b) imitate the Minoan representation of women with bare breasts, tight bodices, and flounced skirts. On the other two cutouts, women are represented naked, with birds perched on their heads and shoulders (Figure 7.10a–b)—a *unicum* in the figurative art of the southern mainland and probably the result of Near Eastern influences. The representation of women in the shaft grave assemblage appears therefore ambiguous and tentative and lacks a coherent local idiom. In a more complex scene, women are placed in a secondary and marginal position; in the relief scene decorating the silver Siege Rhyton, a libation vase depicting the siege of a city (Figure 7.10e), women are shown gesticulating behind the walls of a fortified and besieged city, looking at the men fighting in the foreground.

In contrast, scenes depicting men (of which Figure 7.11 shows only a selection) are much more common and coherent. Men are always engaged in violent activities



Figure 7.10. Depictions of women on the grave circle assemblage: (a), (b), (c) cutout gold foil ornaments; (d) head of golden and silver pin; (e) detail from the Siege Rhyton (courtesy of the National Museum, Athens).

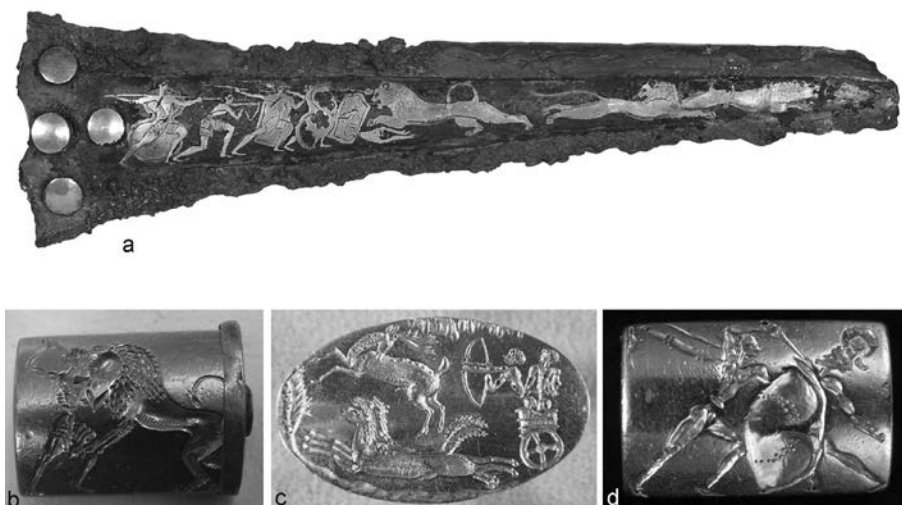


Figure 7.11. Selected depictions of men on the grave circle assemblage: (a) the Lion Hunt dagger; (b), (c), (d) engraved gold rings (courtesy of the National Museum, Athens).

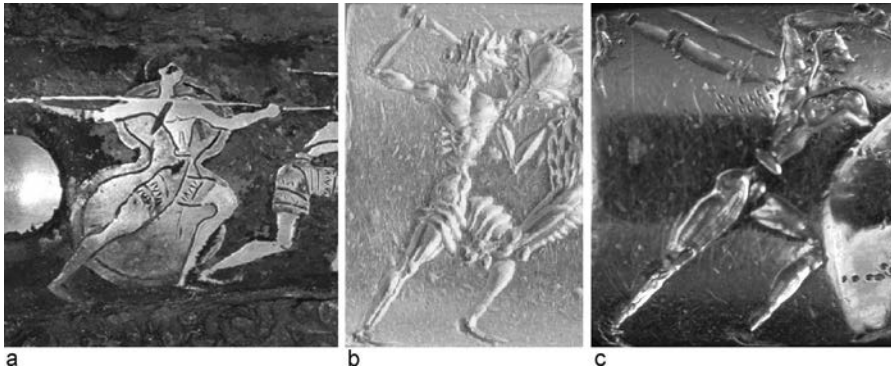


Figure 7.12. Selected depictions of the male body on the grave circle assemblage: (a) detail of figure 11a; (b) detail of figure 11b; (c) detail of figure 11d (courtesy of the National Museum, Athens).

such as hunting and fighting. The obsessive repetition implies that these are not simply depictions of everyday life but loaded images that impose ideals about masculinity and (male) excellence. These competitive scenes do not attempt to depict individuals but depict abstracted and idealized persons. For instance, on gold rings with depictions of duels, the musculature of the male figures (Figures 12b and 12c) is rendered in amazing detail, but the faces are very schematic. These images materialize the *body beautiful*, the contemporary elite male ideal of the young and beautiful hero/warrior. While women are represented in a frozen and immobile (ritual?) stance or at most as onlookers to action, men are engaged in dramatic battle, duel, and hunting scenes. Men are therefore the central actors in complex narratives in the visual equivalent of stories and legends that circulated widely and resonated in people's memories. The funerary assemblage engenders men and highlights facets of male virtue (for a similar discussion, see Treherne 2005). Men have to be beautiful, young, perfectly proportioned, athletic, muscular, strong, and courageous and have to feast, hunt, and fight in the company of other elite men.

We see, therefore, that the localized and exclusive adoption of figurative art is closely involved in the materialization of aesthetic principles, gender ideologies, and moral norms. Value emerges as a discourse about beauty, excellence, and aggression. To put it differently: value emerges when objects enchant and persuade (Gell 1998), when they become *art*.

Number Value: Singularization and Accumulation

So far I have been discussing funerary offerings in general terms, as functional categories or classes of artifacts. It is time to discuss another aspect of the creation of value: the deposition of unique offerings, of sets of offerings, and of offerings in large numbers. The shaft graves are distinguished not only by the quality or diversity of the funerary assemblage but also by the sheer quantities deposited with the dead—including large numbers of unique objects of fine craftsmanship or exotic provenance.

If we begin with these unique objects, only a couple have been found in grave circle B. The best known example is a rock crystal bowl, with a handle in the form of a duck's head, (probably) accompanying an adult woman (found in grave omicron, one of the richest graves in this circle). The situation is different in grave circle A, where a whole range of unique objects is found—for example, two libation vases in the form of a bull's and a lion's head, a silver stag rhyton, and many others. However, most of these unique objects are once more found in the richest graves of the circle. It is beyond the scope of this paper to discuss the exact provenance or place of manufacture of these objects, which anyway matter little for my argument. Whether these objects are imported or locally produced, they are the outcome of specific transactions, either with distant elites or with imported artists, themselves presumably brought to the mainland as part of diplomatic exchanges with these same distant elites. Their deposition ensures their singularization (I borrow the term from Kopytoff 1986:73), prevents others from owning or copying them, and increases their value. But these objects also draw together and reassemble the social relations, transactions, and obligations of the deceased. Their deposition absorbs the transitory value of these gifts, with all their connotations of distant places, famous previous owners, magical skills, and exotic value systems, into the personality of the dead in a (vain) attempt to condense all his or her achievements, to fix his or her identity, and to deny his or her transience.

While unique objects are not (as far as we know) copied or imitated, certain other offerings are deposited in sets. Even then, a close examination reveals that in many cases these sets consist of similar but not identical objects. One example will suffice to make this point: four cross-shaped gold ornaments, carefully placed on a secondary burial in grave epsilon (Figure 7.9), appear very similar but actually differ in terms of size, shape, execution, and quality of the repoussé decoration. It is obvious that these ornaments were not hammered on one mold but were made individually. Many more examples could be found, especially among the multitude of funerary ornaments accompanying the dead. Even sets, therefore, represent individually crafted or independently acquired objects and may therefore refer to more than one social transaction.

The main characteristic of the grave circle assemblage, however, is the quantity of offerings accompanying the dead. Let us compare three graves: grave iota (Figures 4–7), probably the first grave in grave circle B to be accompanied by rich offerings, contained two burials, five clay cups, one silver cup, three jugs, three larger clay vessels, one sword, one knife, and four gold ornaments. Grave gamma (Figure 7.8), one of the richest graves in grave circle B and later in date than iota, contained five burials accompanied by four bronze swords, three daggers, three knives, one spearhead, one bronze cup, two gold cups, three gold bands, one electron mask, two necklaces made of various semiprecious materials, and one ivory comb. Grave IV, possibly the richest among the grave circle A burials (and later than the grave circle B graves), contained five burials, three gold masks, two gold

crowns, eight gold diadems, at least 27 swords, at least five daggers, 16 knives, five razors, one large silver shield, five gold vases, 10 or 11 silver vases, 22 bronze vases, three alabaster and two faience vases, two gold and three silver rhyta, two ostrich egg rhyta, two engraved gold rings, two silver rings, three gold armbands, at least one gold necklace, amber beads, one gold and ivory comb, one faience and crystal gaming board, and more (Karo 1930–1933). The total number of valuables is enormous, but numbers in the individual classes are equally impressive. The constant, almost logarithmic increase in the number of offerings indicates that the deposition of mortuary wealth was undergoing considerable inflation, implying an unstable social situation and unrelenting competition between emerging elites. Different strategies—singularization, replication, multiplication, accumulation—are used to withstand inflationary tendencies and to retain the high value of prestige objects.

To conclude: the manipulation of numbers constitutes yet another strategy for the creation and maintenance of value.

CONCLUSIONS

The main question I tried to address in this paper is: How is value created and sanctioned? In my original argument (Voutsaki 1997), I argued that value is not defined at the moment of production but is created in and through the process of exchange as a fusion of the subject and the object. This transitory value is fixed only when objects are consumed, appropriated, and thereby transformed into signs of difference and status. As the emergence of the notions of value and wealth run counter to traditional sumptuary behavior based on reciprocal exchanges, value can emerge only in a domain separated from everyday reality, in a liminal space where traditional norms and principles can be inverted. (In the case study I examined, this was the mortuary domain.) But value can emerge only in the form of symbolic accumulation, of ostentatious disposal and deposition with the dead (or sacrifice, or dedication to gods, spirits, or ancestors). Value can emerge only at the moment it is destroyed.

I have also argued that value is created through the fusion of subject and object, which comes about by means of performative rituals and the manipulation of objects and bodies: objects are valued by being positioned and ordered around the body, while facets of personal identity are constructed through the selection, combination, or omission of funerary offerings. Each of these objects brings with it the memory of previous owners or distant places, and it presences the social transactions that brought them to the deceased. Therefore, conspicuous consumption in the mortuary sphere is not (only) a social strategy of display and ostentation but an agonizing attempt to reassemble, fix, and objectify personal identity and personal history at the face of death and decay. Objects, images, stories, past transactions are all gathered in a last effort to counter the disintegration of identity and the loss

of memory during the very process that dissolves the newly dead and members of one's own family and community to distant ancestors.

Having said that, the lavish destruction and deposition of valuable goods is undoubtedly a forceful strategy that creates status and transforms power relations. But social distinction needs to be formulated in an idiom that is acceptable, which refers back to cultural traditions, moral norms, and criteria of excellence—while simultaneously transforming them.

Value therefore emerges in the tension between departure from and adherence to a cultural tradition. Value can be understood only if we understand the values within which it emerges. This is what was missing from my earlier argument.

ACKNOWLEDGMENTS

I would like to thank the organizers of the conference for inviting me to this very stimulating meeting, as well as for their hospitality in Los Angeles and for their patience. My thanks also to Shauna MacCartea for taking care of all the practical details.

This paper is based on research carried out as part of the Middle Helladic Argolid Project, a five-year multidisciplinary project financed by the Netherlands Organization for Scientific Research and the University of Groningen. For the aims and methods of the project, see <http://www.MHArgolid.nl>. I would like to thank Mrs A. Banaka, head of the Fourth Ephorate of Prehistoric and Classical Antiquities; the Department of Conservation, Greek Ministry of Culture and Tourism; the American School of Classical Studies; and the British School at Athens, as well as Professor M. Wiencke, Dr. C. Zerner, Professor E. Banks, and Dr. E. B. French for granting us permission to examine and take samples from the human skeletons from Lerna and the prehistoric cemetery in Mycenae. I am also grateful to the Archaeological Society at Athens for giving us the permission to study the skeletons from grave circle B at Mycenae. The personnel in the museums of Argos, Nauplia, and Mycenae were extremely helpful; I thank them all. Finally, I am grateful to the Photographic Archive of the National Museum at Athens for permission to reproduce objects from the grave circles of Mycenae.

CHAPTER 8

.....

DRESSING THE BODY
IN SPLENDOR:
EXPRESSION OF VALUE BY THE
MOCHE OF ANCIENT PERU

.....

CHRISTOPHER B. DONNAN
UCLA

ABSTRACT
.....

Moche civilization flourished on the north coast of Peru between approximately A.D. 100 and 800. Although the Moche had no writing system, they left a vivid artistic record of their beliefs and activities in beautifully modeled and painted ceramic vessels, many of which portray high-status adults dressed in elaborate clothing and ornaments. By studying these artistic depictions and comparing them with examples of clothing and ornaments found in elite Moche tombs, it is possible to identify the values that governed how the objects were made and how they were meant to function when worn by high-status individuals.

*The Moche put a high value on precious materials, extraordinary craftsmanship, the use of color, and the creation of shiny surfaces. They also valued forms derived from nature and objects that rattled and shimmered in reflected light—features that gave the objects an animated, lifelike quality. Finally, the Moche valued the way dressing an individual in a full ensemble of precious ornaments and garments transformed the person into someone more special.**

INTRODUCTION
.....

Moche civilization flourished on the north coast of Peru between approximately A.D. 100 and 800. Although the Moche had no writing system, they left a vivid artistic record of their beliefs and activities in beautifully modeled and painted

*See color plates for figures 8.1–8.10.

ceramic vessels, many of which portray high-status adults dressed in elaborate clothing and ornaments (Figure 8.1a–c). Elite Moche tombs have yielded numerous examples of the clothing and ornaments depicted in Moche art (Alva and Donnan 1993; Donnan 2007). Analysis of how these objects were made and how they functioned when worn provides important insights regarding what the Moche valued in dressing high-status individuals. This paper first describes and illustrates the types of objects that constituted high-status attire and then discusses the values that governed their manufacture and function.

NOSE ORNAMENTS

In Moche art many high-status males are shown wearing nose ornaments suspended from the perforated septa of their noses (Figure 8.1a, 8.1c). Some nose ornaments have a simple crescent form (Figure 8.1a), while others are more elaborate (Figures 8.1c and 8.2a–f). One, made of flattened gold bands, depicts an owl head (Figure 8.2a). Originally the eyes had been inlaid with colored stone or shell. The beak is an alloy of gold and silver, which is whiter than the gold. The gold nose ornament in Figure 8.2b is X shaped, with a monkey head in the center. Flanking the X are mythical creatures known as Crested Animals. The tabs that suspend the ornament from the nose are serpents.

Many nose ornaments combine gold with silver (Figure 8.2c–d). The one in Figure 8.2c has a gold center section, a double-headed serpent in silver, and suspended animal heads in gold. The owl head nose ornament in Figure 8.2e is made of gold and has remarkable eyes, each consisting of a ring of green stone, a ring of gold, and a pupil of lapis lazuli. The beak is an alloy of gold and copper, which is redder than the gold.

A gold nose ornament in the form of a crab (Figure 8.2f) has eye stems of gold topped by half spheres of blue-green stone. Gold discs are suspended from gold bands attached to the crab's shell. Residue of oxidized silver indicates where similar silver disks originally were suspended from silver bands. The gold and silver disks and the crab's tail, which is suspended from two gold wires, would have been in constant motion when the nose ornament was being worn.

NECKLACES

In Moche art many individuals wear necklaces (Figure 8.1a–b). Most necklaces found in elite Moche tombs consist of large, hollow beads made of gold, silver, or gilded copper sheet metal, with front and back pieces soldered together around the periphery. Inside each bead are metal pellets or hollow metal spheres that make the bead rattle.¹

One Moche tomb contained a necklace of gold feline head beads with inlaid teeth of red *Spondylus* shell (Figure 8.3a). It originally had inlaid eyes of shell or stone. Another tomb contained several necklaces, one of which consisted of gold owl head beads (Figure 8.3b) similar to those on the necklace worn by the individual in Figure 8.1a. The eyes of the owls are inlaid with green stone, while their beaks are made of an alloy of gold and copper, which is slightly redder than the gold. A second necklace from this tomb consisted of gold monkey head beads (Figure 8.3c), each with a nose of lapis lazuli and eyes of green stone. The monkey beads originally would have had two bands of shell teeth supported by the four prongs that extend up and down from the front of the mouth. The upper part of the tongue was inlaid, possibly with a piece of pink *Spondylus* shell. A third necklace consisted of gold turban shell beads (Figure 8.3d), and a fourth consisted of human head beads with faces made of lapis lazuli (Figure 8.3e). The lapis face was attached with mastic to a wood backing and was then encased with sheet gold depicting the individual's hair and ears.² The eyes were inlaid with green stone and gold. In another tomb, there was a necklace of gold human head beads with silver eyes (now corroded) and lapis lazuli pupils (Figure 8.3f). One Moche necklace was made with 10 large gold beads, each depicting a spider whose body is in the form of a human head (Figure 8.4a). Each spider's legs are attached to an intricate web that forms the front of the bead. The back of each bead is a dish of sheet gold with a low-relief design of spiraling bird heads (Figure 8.4b). The spider legs and webs are superbly crafted of evenly wrought gold wire. Inside each bead are three gold spheres that rattle when the beads are moved.

Another Moche necklace is made of hollow peanut-shaped beads (Figure 8.4c). It consists of two strands, each with 10 beads—5 of gold and 5 of silver. The beads on the outer strand are larger than those on the inner strand. Thus each large peanut bead is paired with one of the same metal but of smaller size. The result is a magnificent necklace, balanced in elegant harmony, with each side forming the complement of the other.

BACKFLAPS AND BELLS

Moche warriors are usually shown wearing a backflap—a large object suspended from the back of the belt (Figure 8.5a, 8.5c). In Moche art, backflaps are frequently half-dark and half-light (Figure 8.5a), apparently to indicate that they were half-silver and half-gold, like the one shown in Figure 8.5b.

Other Moche backflaps are decorated at the top (Figure 8.5c). These are similar to the one shown in Figure 8.5d, which was made of a single folded sheet of gold. What would become the upper portion of the backflap was first hammered into a circle, with twenty half spheres surrounding two standing figures connected across the tops of their headdresses. The sheet portion was then folded in half so that

the half spheres and the standing figure on one side matched the half spheres and figure on the other side. A pellet of copper was put inside each sphere, creating a ten-chambered bell.

A similar construction was used to produce bells that are often seen hanging from men's belts (Figures 8.1a and 8.5e). These were made from a circular sheet of metal and then folded in half to form spheres, in which pellets were placed (Figure 8.5f).

BRACELETS

Nearly all high-status individuals depicted in Moche art wear bracelets (Figures 8.5a, 8.5c, and 8.6a). Similar bracelets found in Moche tombs are made of hundreds of tiny beads that are kept in parallel strands by metal spacer bars—long narrow bands of metal or bone with perforations along their lengths. Strings passed through these perforations, keeping the beads in close, parallel rows. The rows were further kept parallel by being sewn together with fine thread.

One Moche bracelet is made with two copper spacer bars (Figure 8.6b). It has a wide central panel of blue stone beads, flanked on each side by a row of spherical gold beads, then a narrow band of shell beads, and finally another row of spherical gold beads.

Another bracelet is made with gold spacer bars (Figure 8.6c). Using a combination of red, green, and blue stone beads, as well as tubular gold beads, the bracelet is divided into four panels, each depicting a catfish. The colors alternate from one panel to the next, creating a remarkably vibrant appearance.

The stone and shell beads used for making bracelets are often extremely small, sometimes measuring as little as 1 mm in diameter and .3 mm in thickness. They were biconically drilled, probably with a chert or flint drill (Gwinnet and Gorelick 1989). The tiny gold beads, whether spherical or tubular, are hollow and were made in two halves that were subsequently soldered together.

PECTORALS

Pectorals are large bib-like ornaments, often worn by high-status individuals (Figure 8.6a). They cover the chest, extend up over the shoulders, and are tied behind the neck. Several pectorals have been excavated in Moche tombs. One of the most elaborate consists of multiple strands of small beads strung with copper spacer bars, creating a pattern of narrow triangular rays (Figure 8.6d).

Another Moche pectoral is in the form of an octopus (Figure 8.7). It consists of nearly 100 separate parts, each carefully crafted of two gold or silver sheets that were shaped and then skillfully soldered together. Inside each part is a pellet to make it rattle. Measuring 90 cm across, it would have completely covered the chest and

shoulders of the wearer, whose head, surrounded by large curved tentacles, would have become the head of the octopus.

HEADRESS ORNAMENTS

The headdresses worn by high-status individuals often had large decorative frontlets like the one in Figure 8.8a. Several headdress frontlets, including the gold ones in Figure 8.8b–f, have been found in Moche tombs. One has the form of an octopus, with a central deity head and extended claws (Figure 8.8b). On the large flaps that extend forward above the deity's eyes, gold bands suspend trapezoidal gold platelets that shimmer in reflected light.

Another headdress frontlet consists of a crescent with a central deity head and human hands, flanked by Crested Animals (Figure 8.8c). Again, the deity head has large flaps above his eyes, with trapezoidal platelets suspended from gold bands.

A third frontlet has an X shape, with creatures both flanking and above a central human head (Figure 8.8d). It also has small elements suspended from bands, including trapezoidal platelets along the front edge of the visor, trapezoidal and circular platelets on the cheeks and chin, and disks representing the pupils of the eyes. Another X-form frontlet depicts a deity holding a trophy head in each hand (Figure 8.8e). A knife hangs from each of his wrists, while two condors perch above him and two others appear to be pecking at the heads he holds in his hands. As with the other frontlets depicting deities (Figure 8.8b–d), there are large flaps above the eyes, with trapezoidal platelets suspended from them.

Finally, a magnificent headdress frontlet depicts an owl with wings extending outward under a large gold crescent (Figure 8.8f). The head of this owl is nearly identical to the owl head nose ornament (Figure 8.2e), which came from the same tomb. Like the nose ornament, the owl's beak is an alloy of gold and copper, which is slightly redder than the gold. Each of the owl's eyes consists of a ring of greenstone, a ring of gold, and a pupil of lapis lazuli. Perhaps the owl nose ornament and the owl headdress frontlet were meant to be worn together. The frontlet has numerous moving parts. The wings have gold disks and the tail feathers have silver disks, each suspended from bands. Along the bottom edge of the wings are silver feathers, each suspended with two gold wire loops. Red and green pigments on the owl's torso indicate feathers, and red pigment accentuates the talons.

In addition to headdress frontlets, Moche males often are depicted with large crescent-shaped ornaments attached to their headdresses (Figures 8.1a, 8.1c, 8.5a, 8.5c, and 8.5e). Crescent-shaped headdress ornaments that have been excavated are made of either gold or an alloy of silver and copper. A copper shaft is riveted to the ornament's bottom edge, which facilitates attaching it to the headdress.

EAR ORNAMENTS

Elaborate Moche ear ornaments consist of a large circular front piece with a tubular post attached to the center of the back (Figure 8.9a). Posts were inserted through an enlarged perforation in each earlobe, extending back beside the wearer's neck, while the ornamental front pieces flanked the wearer's face (Figure 8.9b).

The ear ornaments in Figure 8.9a depict deer, using a beautiful combination of gold, turquoise, and shell inlay. A separate gold ring with hollow gold spheres around its periphery encircles the outer edge of each ear ornament.

Another ear ornament depicts an anthropomorphized bird (Figure 8.9c). The use of pale green stone for the background, combined with darker green and blue stone, red and white shell, and gold, creates a colorful mosaic image. The ear ornament in Figure 9d, covered with gold disks suspended from gold bands, would have had a shimmering appearance when worn.

The ear ornament in Figure 8.9e depicts a warrior in frontal position flanked by warriors in profile. Meticulously detailed, the frontal warrior holds a war club in his clenched fist. His crescent-shaped nose ornament swings freely from the septum of his nose. Crescent-shaped bells like the one in Figure 8.5f are attached to his belt. He wears a necklace of owl head beads. His ears are adorned with gold and turquoise ear ornaments.

GARMENTS COVERED WITH METAL PLATELETS

Moche art frequently depicts men wearing garments covered with metal platelets. Occasionally the platelets are round (Figure 8.1c), but more frequently they are rectangular (Figure 8.9f). Similar platelets found attached to garments in Moche tombs are gilded copper, so individuals wearing them would have appeared to be dressed in shimmering gold.

THE FULL ENSEMBLE

Moche ornaments and garments can be appreciated individually for their remarkable quality, but each was meant to be part of an ensemble. When worn together, they would have imparted a grandeur and elegance far greater than the sum of the individual objects. Although high-status Moche tombs often included multiple sets of objects (for example, three sets of ear ornaments, nine nose ornaments, and so on), it is possible to select objects from a single tomb to compile an ensemble of clothing and ornaments that could have been worn together. The life-size mannequin shown in Figure 8.10 is dressed in exact replicas of objects chosen from one tomb. He wears a long tunic, which is completely covered with rectangular platelets

of gilded copper and has gilded copper cones attached to the hem. On his wrists are beaded bracelets of turquoise, shell, and gold. His chest and shoulders are covered with a beaded pectoral, and around his waist is a belt that supports crescent-shaped bells and a warrior's backflap. A crescent-shaped gold nose ornament, suspended from the septum of his nose, covers his mouth and the lower part of his face. In his earlobes he wears large ear ornaments inlaid with gold and turquoise, and on his head he wears a helmet with a large, crescent-shaped ornament of gold. Such a spectacular array of objects worn as an ensemble seems rather ostentatious to our eyes. Yet in Moche art, high-status individuals are clearly depicted in such attire.

EXPRESSION OF VALUE

The ornaments and garments used to dress high-status individuals must have been very precious to the Moche people. As far as we know, they were the most precious portable objects the Moche ever produced. What made them so precious were the values involved in the way the ornaments and garments were made and in the way they were meant to function.

The Value of Precious Materials

The Moche made the ornaments and garments of valuable and exotic materials. *Spondylus* shell was not available along the Peruvian coast and would have been obtained from what is now Ecuador, hundreds of miles to the north. Similarly, lapis lazuli was unavailable locally and would have been imported from what is now Chile, hundreds of miles to the south. The green and red stones may have been available to the Moche locally, but they were of very high quality and must have been very carefully selected. Gold and silver were widely used. Although they could have been obtained locally, they were of great value.

The Value of Extraordinary Craftsmanship

The ornaments and garments exhibit an astonishing level of artistic and technological virtuosity. There is no evidence that they were mass produced. On the contrary, they appear to have been made by individuals who had no concern for the time required or the difficulty of the task. One senses that they were working to meet very high expectations and were understandably proud of what they were creating.

The Value of Color

The ensemble of garments and ornaments worn by high-status individuals was not meant to be monochromatic. On the contrary, it exhibits a keen appreciation of color. This is most clearly expressed in the beaded bracelets (Figure 8.6b–c) and ear ornaments (Figures 8.9a, 8.9c, and 8.9e) but is also seen in the beaded pectoral

(Figure 8.6d) and the colorful inlay of eyes and teeth (Figures 8.3a–c, 8.3e–f, and 8.5f). It is also seen in the masterful combination of gold and silver in nose ornaments (Figure 8.2c–d), the peanut necklace (Figure 8.4c), the backflap (Figure 8.5b), and the octopus pectoral (Figure 8.7). Also noteworthy is the colorful combination of gold and lapis in human head beads (Figure 8.3e). A more subtle expression of the appreciation of color can be seen in the depiction of owls, where the beaks are a slightly different color than the other gold (Figures 8.2a, 8.2e, 8.3b, 8.8f).

The Value of Shiny Surfaces

The surfaces of Moche ornaments are almost always shiny. The stone and shell used for beads and inlays tend to be highly polished, and metal objects usually have a mirror-like surface. These surfaces clearly required a great deal of time and skill to produce, indicating that they were highly valued by the Moche.

The Value of Shimmering Light

In many cases, gold and silver circular and trapezoidal platelets with shiny surfaces were suspended from bands so they would shimmer when in movement (Figures 8.2f, 8.8b–f, 8.9d). Similarly, the tail of the crab nose ornament (Figure 8.2f) and the feathers on the owl headdress frontlet (Figure 8.8f), which were suspended from wire loops, would have been continually moving when these objects were worn. The shimmering and sparkling of shiny metal was also achieved by covering garments with platelets of highly polished metal (Figure 8.10).

The Value of Forms Derived from Nature

The ornaments nearly always have forms derived from nature. Octopuses, turban shells, catfish, crabs, serpents, peanuts, and spiders are portrayed, along with humans, birds, felines, and monkeys. They are depicted with varying degrees of abstraction, but all are clearly recognizable and demonstrate a keen observation and appreciation of the natural world.

The Value of Sound

Virtually all hollow metal beads contain metal pellets or spheres that make them rattle (Figures 8.3a–d, 8.3f, 8.4a–c). This is also the case with bells (Figure 8.5e–f) and some warrior's backflaps (Figure 8.5c–d). The octopus pectoral (Figure 8.7) was also made to rattle, with pellets inserted into each of its parts. Moreover, pellets were put in each of the gilded copper cones sewn to the hem of the garment in Figure 8.10. The ornaments and garments would have created sound with every movement of the wearer.

The Value of Animation

In Moche art, many inanimate objects are animated by the addition of human arms, legs, and heads. In Figure 8.11a, for example, animated lima beans with human arms, legs, and heads hold clubs and shields. They wear backflaps and conical helmets with crescent-shaped headdress ornaments. In Figure 8.11b reed boats are animated with arms and legs and with heads at both prow and stern.

Clothing and ornaments are also animated, as shown in Figure 8.11c. In the upper left is an animated nose ornament. To the right of it, a fox warrior is grasping an animated conical helmet with a crescent-shaped ornament. Beneath the fox warrior is an animated beaded pectoral. In the upper right is an animated backflap, and in the far right is an animated tunic with rectangular platelets along its hem. Artistic depictions such as these suggest that the Moche believed the garments and ornaments used to dress high-status individuals were animate rather than inanimate objects. Perhaps the reason the Moche included forms derived from nature, shiny surfaces to create the appearance of movement, and pellets to create sound was to infuse these objects with lifelike qualities.

The Value of an Enhanced Surface

An individual dressed in a full ensemble of ornaments and garments may have been seen as transformed into something more special, just as gilding a copper object gives it the appearance of being gold and thus more precious.³ Moche metalworkers were extremely skilled at gilding metal (Lechtman et al. 1982). They used a technique known as depletion gilding, in which an object of copper and gold, or copper, silver, and gold, underwent repeated hammering followed by annealing until the surface was depleted of copper and silver, leaving it almost pure gold. When the object was further heated, the gold spread smoothly across the surface, completely covering the less valuable interior metal.

Another gilding technique involved dissolving fine grains of gold in an acid solution. When a copper object was dipped into this solution, its surface was uniformly coated by electrochemical replacement with a thin film of gold, thus covering the less valuable interior metal. With both depletion gilding and gilding by electrochemical replacement, a metal object acquired a golden surface, becoming something more special. The Moche may have dressed high-status individuals to achieve the same result—essentially “gilding” their surface in precious objects to transform them into something more special.

The nine values listed above characterize the garments and ornaments worn by Moche individuals of high status. The values were inherent in the way objects were produced, as well as in how they were meant to function. While each garment or ornament is impressive for its extraordinary artistic and technological quality, when worn together as an ensemble, they truly dressed the body in splendor.

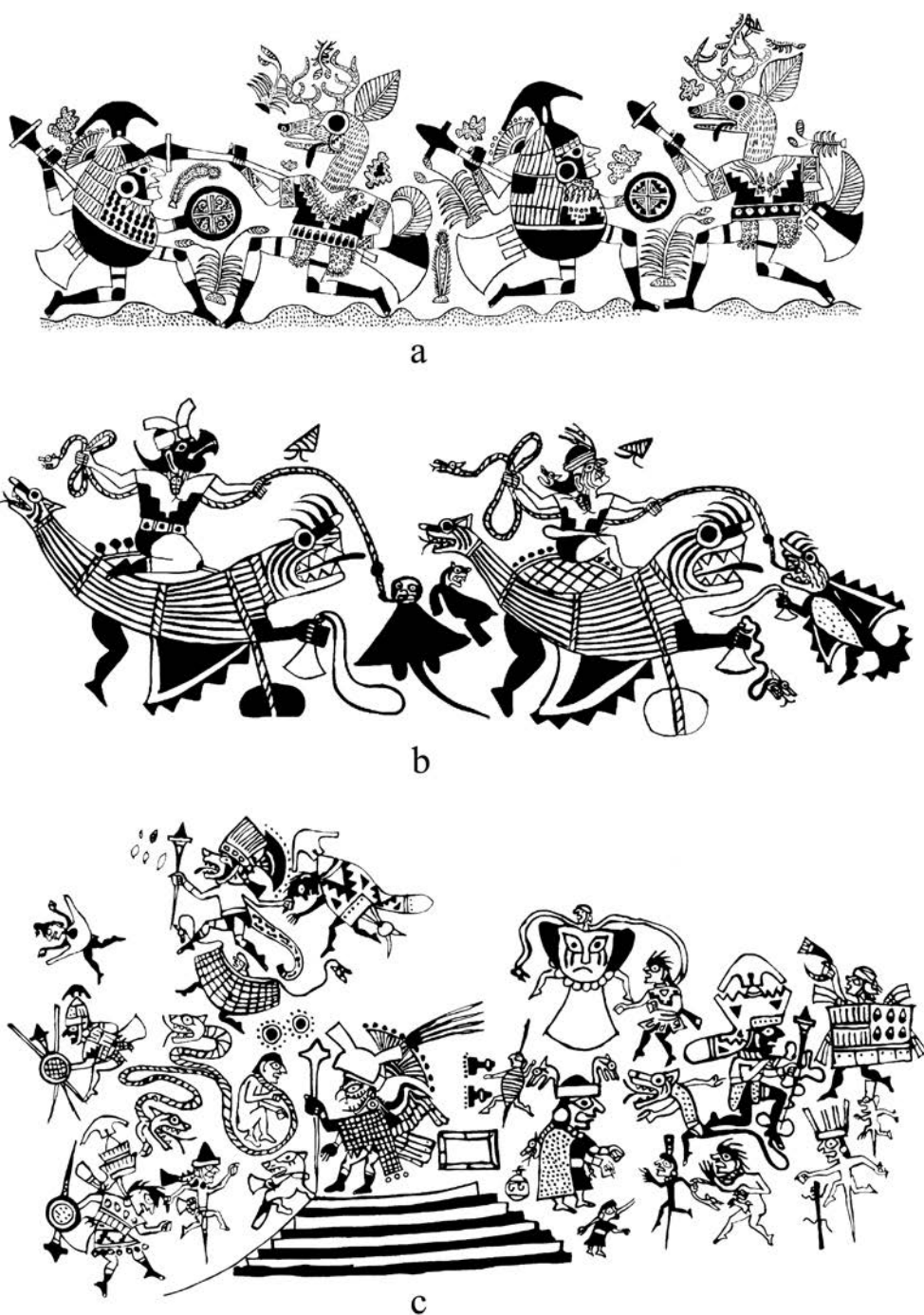


Figure 8.11. Rollout drawings depicting animated objects (drawings by Donna McClelland).

NOTES

.....

All photographs are by the author unless otherwise noted.

1. The sheet metal was hammered over solid copper or hardwood forms into the shape of the finished bead. This made it possible to produce efficiently multiple sheet metal beads of almost identical size and form (Donnan et al. 2008).

2. The gold portion was made in two halves—a right side and a left side that fit together over the face and wood backing—and was held in place by small gold nails.

3. This idea was suggested by Heather Lechtman (1984b) in an article on the nature of Andean metallurgy.

CHAPTER 9

.....

INTERPRETING THE
PARACAS BODY AND ITS
VALUE IN ANCIENT PERU

.....

LISA DELEONARDIS
JOHNS HOPKINS UNIVERSITY

ABSTRACT

.....

The question of how the body was valued and understood in the past is approached by examining practices that the Paracas (ca. 800 B.C.–A.D. 1) devoted to shaping and constructing the body. In my analysis, I underscore process and context: prolonged efforts to attend to the body and the contexts in which attitudes about the body are expressed. I examine the permanent and impermanent modifications made to the corporeal body and offer interpretations about their respective meanings. There are good indications that some bodies, or body parts, were more highly valued in specific situations than others, encouraging us to consider a situational value or value gradient in our evaluation. In assessing body value, it is evident that its materiality and conceptual manifestations are closely integrated. This is apparent in the attention dedicated to the appearance of the corporeal body and the pictorial representations, object placements, and ritual behaviors that repeat and reinforce ideas about it.

INTRODUCTION

.....

The Andes have long served as an ideal context for the study of the ancient body, owing to long-held beliefs that the body should be preserved and to evidence for elaborate efforts to achieve the preserved bodily form. Death is understood to be a stage along life's continuum, and what Salomon (1995:324) refers to as a code of reciprocity linked the living and dead in constant social interaction. In the absence

of textual referents, we may also view the ancient body as Sofaer (2006:1) does, as the past personified. Such a history demonstrates that preservation of the body was intentional and valued and that its decay was undesirable or chaotic (Classen 1993:89).

In assessing how body value is understood and represented, a broad temporal range and spatial distribution of body types and treatments are apparent. The artificially mummified Chinchorro of the eighth millennium B.C. (Arriaza 1995; Rivera 1995), the naturally preserved bundles of seventh-century Ancón (Reiss and Stübel 1880–1887) (Figure 9.1, *see color plates*), and the early sixteenth-century Inka provincials of Puruchuco-Huaquerones (Cock 2002) are but a fraction of the sources to consider. These “hard bodies” have yielded a wealth of hard facts about age and sex, health and disease, population size, and ethnic identity, and these essentials in turn provide us with a broad perspective on who the living were and what they prioritized. But in evaluating how body value was assessed, our analysis must also consider that body value is situational. The body, or particular aspects of one’s identity, was especially valued in specific contexts and moments. A subject of the solemn Inka human sacrifice, or *qhapaq hucha*, was selected for his or her youth. The imperial Inka mummy, very much alive, as Felipe Guaman Poma de Ayala (1615–1616) shows us (Figure 9.2), was kept above ground, displayed during imperial celebrations, consulted, and guarded. Such bodies were never intended for the afterlife. Designed for perpetual life, they continued to occupy and enlarge their territories and to wield economic and political power (Bauer 2004:159–184; Isbell 1997:38–68; MacCormack 1991:68–70; Mills 1997:44; Sillar 1992). As clergy would later attest (e.g., Arriaga 1968 [1621]:27), these portable bodies were slow to disappear. For decades after the Spanish conquest (1532), they continued to be fed, clothed, housed, and venerated.¹

In this discussion, I approach the question of how the body was valued and understood in the past by examining the practices and material culture associated with the Paracas (ca. 800 B.C.–A.D. 1) of south coastal Peru. Paracans purposefully intervened in the appearance of the corporeal body in life as in death. At birth, head shape was permanently modified through the practice of cranial deformation. Through life, the body’s appearance was defined and redefined by hairstyles, tattoos, ornamentation, and attire. At death, burial processes and practices attest to the intentional effort devoted to body preservation. The enveloped body, itself the object of veneration, the surrogate body or head, and the partial body all received due attention in formal burial grounds or as dedicatory offerings in and around architecture. There are good indications that some bodies were more highly valued in specific situations than others, encouraging us to consider a situational value or value gradient in our assessment. My analysis of value diverges slightly from an archaeology of death and burial in which burial patterns are exclusively emphasized. I underscore the concept of process: a prolonged effort to attend to the body’s appearance and its attendant meanings, and to how these meanings were repeated and reinforced in a number of contexts, including visual representations.

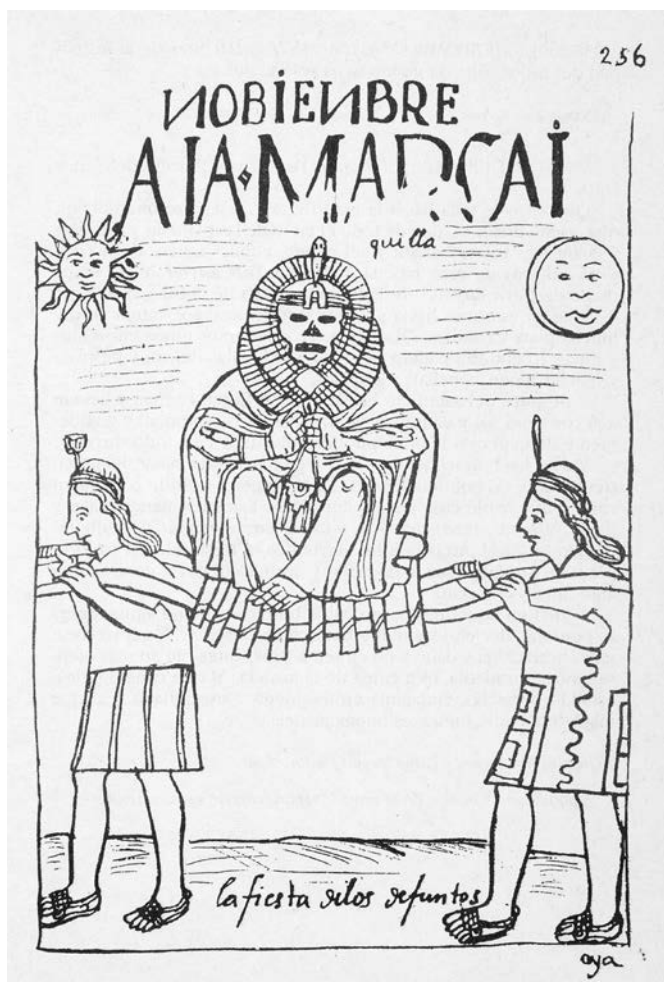


Figure 9.2. The Inka mummy was considered to be alive and capable of wielding considerable power. *Noviembre, Aia Marcai Quilla, la fiesta de los difuntos* (Guaman Poma de Ayala 1987:256 [1615–1616]).

Recognizing that practices and meanings change over time, I reference the Nasca (ca. A.D. 1–700) in my analysis for points of comparison and to include a temporal depth to the study. I assert that the Paracas body demonstrates a dynamic and agentive effort on the part of the living that exposes wider societal concerns beyond what Csordas (1994:1) would call the “brute facts of nature.”

THE PARACAS BODY

In many respects, the study of Paracas has been driven by a focus on the body. Excavations of the Paracas Peninsula cemeteries by Julio C. Tello in the 1920s introduced the world to hundreds of well-preserved mummies, and the mummified body came to symbolize Paracas culture. Bundled in spectacular embroideries, enormous

in size and weight, these bodies were freighted to international destinations for display in museums, for study by physicians and scientists, and as traveling ambassadors of goodwill (Daggett 1991:57; 1994:60–67; Paul 1990:7). Nearly a century later, the “body as mummy” remains an object of sustained interest, although our research questions have changed and our view of the peninsula cemeteries as resting places has been challenged.

Today, scholars recognize Paracas to be a constellation of cultural materials styles, burial practices, and perhaps ethnic groups in a geographic range encompassing five major river drainages (Figure 9.3). The nature of the peninsula cemeteries—densely packed interments in pits and subterranean caverns (Cavernas) or bundles, intrusive to stone architecture (Necropolis, Cabeza Larga/Arena Blanca)—is recognized as a distinct phenomenon within a broader temporal range and spectrum of body

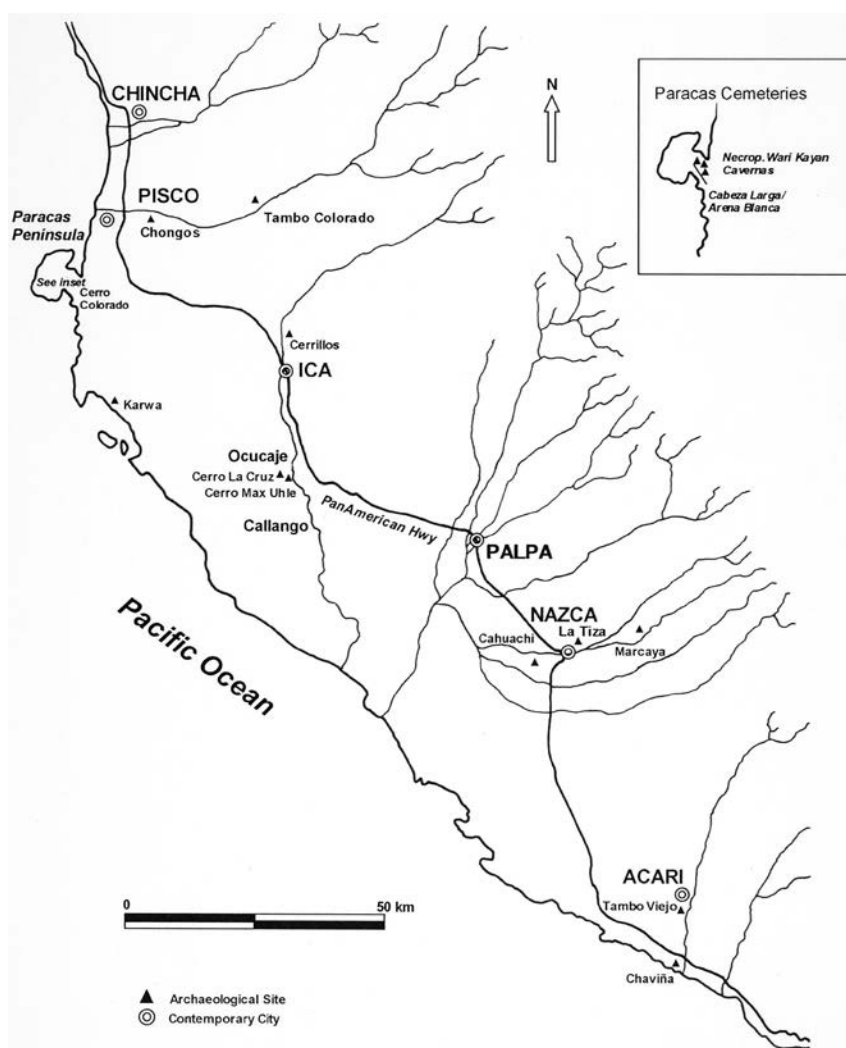


Figure 9.3. South coastal Peru showing the geographical extent of Paracas sites mentioned in the text.

treatments and placements. As the cemeteries continue to be analyzed, mummies unwrapped, and chronologies refined, the pattern that emerges is one of an earlier Cavernas occupation followed by a transitional period of related societies (Paracas–Topará–Nasca) in intense social interaction just prior to the decline of Paracas (ca. 200 B.C.) and the emergence of Nasca on the south coast. This transition corresponds to the regularized practice of bundling human remains and to wider changes in Paracas society. Population increases, shifts in settlement patterns and leadership competition, and technological and iconographic changes in the visual record are evidenced throughout the Paracas sphere of interaction.

Attitudes toward the body are equally informed by analysis of burial patterns and body treatments, over time, in the surrounding river valleys. Table 9.1 summarizes these patterns. Broadly speaking, early burials are placed in earthen pits with grave offerings around or atop the body. The body is interred singly (including adults of both sexes and children) in an extended position and wrapped in cloth. Later, children are separated from adults and interred in large earthenware urns (ollas), a trend that continues for the Nasca. In late Paracas, variable patterns give way to bundled, seated and flexed bodies interred individually or in multiples in deep pits, caverns, or chambers. Many interments are roofed with slanted or horizontal logs (*barbacoa*), a feature common to Nasca burials. In the transitional period, the mummy bundle interment becomes more frequent—until the earlier phases of Nasca, when seated and flexed bodies are wrapped in simple cloths, as in the earlier Paracas tradition. Some bundles in Ocucaje (Ica) and Chongos (Pisco) are marked by mummy masks—painted cloth stuffed with cotton or fiber and attached to the outer wrappings with feathers (Dawson 1979). *Pacae* leaves (Figure 9.4) and other unspecified vegetal fibers are frequently mentioned as materials in tomb construction or as a ground cover on which the body is placed.

In specific subregions, such as Palpa, unique body treatments have been observed. Isla (2009:125) reports an early Paracas stone-lined chamber at Mollake Chico that

Table 9.1. Paracas burial patterns: river valleys.^a

	Individual Extended Pit Wrapped	Multiple Extended Pit Wrapped	Individual Extended Chamber	Multiple Flexed Chamber Wrapped	Individual Flexed Pit Wrapped	Multiple Extended Chamber	Individual Seat/Flex Urn	Multiple Seat/Flex Chamber Bundled	Individual Seat/Flex Chamber Bundled	Individual Seat/Flex Pit Bundled	Individual Seat/Flex Pit
Early Paracas	X	X	X	X							
Middle Paracas	X										
Late Paracas	X		X		X	X	X				
Transitional							X	X	X	X	X
Early Nasca	X						X	X	X	X	X

^a Sources: Engel 1957, 1966, 1981; Isla 2009; Isla et al. 2003; Kaulicke et al. 2009; Kroeber 1944; Kroeber and Strong 1924; Pezzia 1969; Rubini 1957; Strong 1957.

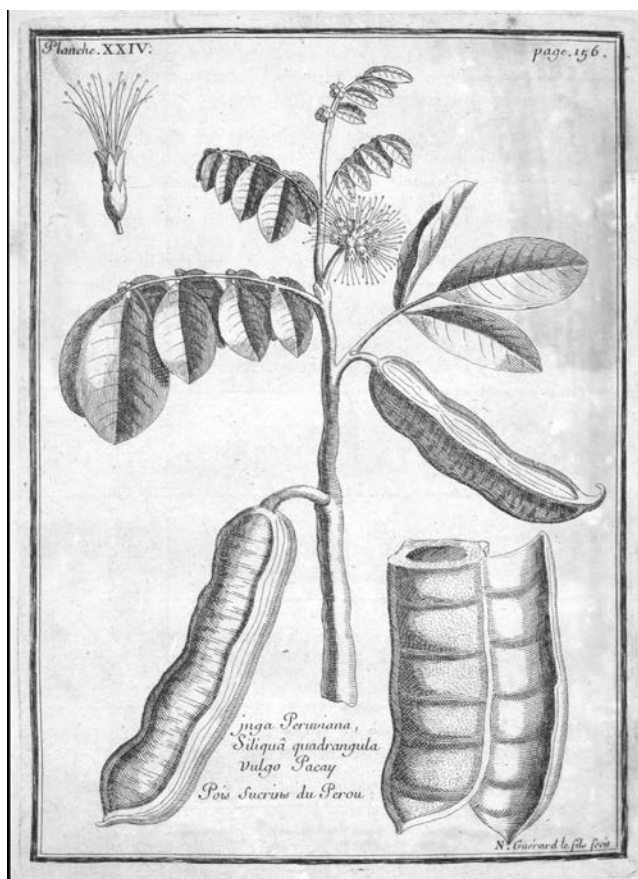


Figure 9.4. The leaves of the *pacae* tree (*Inga feuillei*) are found in association with the interment of the dead and with disembodied heads (Frézier 1717:plate 24; copyright © Dumbarton Oaks Research Library and Collection, Rare Book Collection, Washington, D.C.).

contained the burned, incomplete remains of 17 individuals (adults and children). Since this is the first recorded incidence of this body treatment, no comparisons are possible. It is uncertain whether this was a situational treatment of the body or a pattern that may emerge for the treatment of some Paracas burials. High-status grave offerings, including a gold ring and obsidian, were recovered with the bones. At Pernil Alto, a rare multiple burial is recorded for early Paracas. It consists of two bodies in an extended position interred in the same tomb (Isla 2009:125; see also Kaulicke et al. 2009).

In comparison to its contemporaries, the Paracas Peninsula group is the largest and most crowded, and it shows the most consistency of human remains interred in bundles. Spread across undulating hills that face the Bay of Paracas, the mortuary landscape contrasts with that of the river valleys, where cemeteries are often placed on the margins of cultivation. Although Tello believed there to be three discrete cemeteries—Cavernas, the Necropolis of Wari Kayan (Necropolis), and

Arena Blanca/Cabeza Larga—some overlap in burial types is evident among the three. Cavernas burials, thought to be the earliest group, are intrusive to former burial space that Tello believed to be of the same “age and culture” (Tello and Mejía 1979:73, 105). Bundles are largely simple constructions of coarse cotton cloth enveloping the body, with a few objects within the wrap. Pit burials, tombs, and subterranean caverns accommodate individual and multiple bundles. One cavern, the much-cited Cavernas tomb V, contained 37 bundles of adults, children, and infants. According to field notes in the Archivo Tello (Museo de Arqueología y Antropología 2009:121–190), some bundles enclosed partial skeletons, and these bundles contained more than one body (for example, mummy 4). Double-body bundles from this cavern include a boy and an infant (mummy 27) and an infant and a fetus (mummy 10). These secondary burials suggest different processes at work. Not all age or sex groups were interred as secondary burials. The relatedness of the bodies placed within a single cavern is yet unknown, but judging by the inclusion of adults and elders, and children and infants of both sexes, as seen in Cavernas tomb V, it appears to be familial. Other contexts are not as clear. Yacovleff and Muelle’s (1932:39–46) cist excavations showed the disarticulated remains of adults superimposed over a child mummy (tomb 2). A second cist contained two adult men and one adult woman (tomb 3), with no children present. Frequent are references to human remains found in fill, indicating a consistent displacement of bodies.

At the Necropolis of Wari Kayan and at Arena Blanca/Cabeza Larga, bundles are also imposed in habitation debris in and around existing stone architecture. Tello classified the better-constructed bundles found here as large, medium, and small (categories I, II, and III, respectively). The greatest number of large bundles was recovered from the Necropolis (33), but small bundles outnumbered the three sizes at both cemeteries. Unlike the amorphous shape of bundled remains from Cavernas, bundles are characteristically conical in shape and are enveloped by a coarse outer cloth, which is sewn shut. At Arena Blanca/Cabeza Larga, 135 mummy bundles of all sizes were recovered. Some were lined up along stone walls, while others were stacked or interred singly. Typically, each bundle contained one body. Bowls and other offerings were placed around the medium and large bundles, which were marked by a feathered staff. In contrast to the Arena Blanca/Cabeza Larga cemetery, more than 400 bundles were clustered, stacked, and densely packed at the Necropolis of Wari Kayan. The largest bundles are recognized to be the most sumptuous for their layers of finely woven and embroidered textiles and for the gold and funerary offerings found within them. These bundles contained the most prestigious men and women of Paracas society.

Over a broad time span, attitudes toward the body can be inferred from burial practices and body treatments that range from single and multiple interments in pits, tombs, and caverns to the interment of secondary and partial bodies to the interment of intentionally shaped bundles. It is clear that the Paracas valued the body at death, and attitudes are thought to reflect upon the living and the concerns

of society at large. Absent from this brief introduction are additional layers of interpretation to consider: status, gender, health, and funerary rites relative to the body and its significance. In the remainder of this essay, I factor these and other questions into our understanding of body value.

CORPOREAL BODIES

As a living organism, the Paracas body was shaped by its genetic makeup and equally conditioned by cultural practices and its environment. The climatic factors that favor natural mummification likewise afford excellent preservation of skeletal remains and tissue for study. Analysis of physical remains provides a picture of the body's state of health or ill-health and the effects of diet, disease and infection, occupational stresses, and trauma. Informal observations about health were frequently made by archaeologists in the course of fieldwork, and formal studies that have addressed health, disease, and demography (e.g., Allison 1979, 1984; Tomasto 2009; Verano 1997, 2003; Weiss 1932), provide an overview.

There are yet no population estimates for the Paracas, but approximations have been attempted for specific subregions. Based on his excavations of architecture at Arena Blanca, Engel (1966) proposed that 2,500 to 5,000 Paracans occupied the village over time. Massey (1986:168–173) estimated about 800 persons living among nine sites in the upper Ica Valley, on the basis of architectural remains and residential areas. These subregions represent a small fraction of the areal extent and density of settlements known to have existed. Judging by site densities in the middle and lower Ica Valley, the Pisco Valley and the Nazca Drainage, it is feasible that the Paracas numbered upwards of 10,000.

Paracas mortality rates fall within the typical range for early Andeans. Child mortality rates were high—50 percent before the age of 15 years (Allison 1984:518). Tomasto's (2009:146) regional analyses point to spikes in mortality rates for children ages 1 through 7 and 15 through 20, which are unusual and merit comparison with other regions. If a child survived past 15, he or she could expect to live a life span of over 40 years (Allison 1979:77). Many Paracans lived well into their seventies (e.g., Del Pozo 1988). Demographically, adult males outnumbered females by roughly 5 percent (Del Pozo 1988; Tomasto 2009:148), a factor possibly linked to complications stemming from childbirth.

Tomasto's (2009) comparison of Paracas health to earlier (Archaic) and later groups (Nasca, Wari) indicates an overall poorer outlook, one also suggested by the work of Allison (1979, 1984) and Weiss (1932). In his analysis of skeletal material from Cavernas, Weiss (1932) observed osteoporosis, spina bifida, and head lesions indicative of other diseases. Allison (1979, 1984) and Verano (1992) cite respiratory illnesses as the most common cause of death. Tooth decay was also common, a factor associated with the high starch diet of most sedentary, agricultural societies.

In comparison with other ancient Andean groups in Palpa, Tomasto (2009:149–150) notes that spongiosclerosis, linked to anemia, was highest among the Paracas, and that physical stature was lowest. Men’s height averaged 1.54 m, and women’s 1.42 m.

We cannot be sure about the cultural perspective on illness and disease—for example, whether it was thought to result from a breach of custom, or a curse—but there are strong indications that Paracans recognized pathologies and sought cures. The practice of trephination (or trepanation)—surgically scraping, cutting, or drilling the skull for healing purposes—demonstrates an intimate knowledge of human anatomy and underscores the skill of specialists, who operated at great risk. The Paracas are recognized as the earliest society in the ancient Andes to perform cranial surgery (Verano 2003:224). Tello believed that up to 40 percent of Paracas skulls were trephined, an observation based on peninsula burials such as Cavernas tomb II in which over half the crania showed the procedure (Tello and Mejía 1979:240,133—137). Verano’s (2003:227) study demonstrates that the procedure was applied to men (65 percent), women (30 percent), and children (5 percent). A high percentage (36.2) of Paracas trephined skulls resulted in long-term healing, an impressive number considering the gaping size of the cranial vault that was removed and the risk for infection. Roughly 7 percent of the trephinations are associated with skull fracture (trauma), a low percentage compared with other Andeans. Surgical tools (obsidian knives and scalpels) have been recovered from the peninsula cemeteries. Their interment underscores their value and coincides with the end of the practice of trephination by the Paracas.

THE BODY AND IDENTITY

Paracas social identity was established through permanent and impermanent modifications to the body, fundamental to the expression and shaping of identity. The visible appearance and form of the body mattered, and the process of attending to its appearance began shortly after birth. Head shape, hair length and style, tattoos, and attire marked gender and age, and social and occupational status. Body morphology and its attendant meanings are reinforced in visual representations. The body—the human body and its parts—becomes a more common representational theme by late Paracas.

The Paracas devoted particular attention to the head. Outwardly, it was made visibly prominent through head shape, hairstyle, facial paint, cloth, and ornamentation. In some contexts the head was subjected to severing for mummification and display. Paracans also had a keen understanding of the head’s plasticity and limitations as the many trephined skulls demonstrate. For the Paracas, the head was central to one’s identity and personhood.

The Value of Head Shape

From infancy, the Paracas permanently altered the natural appearance of the head through cranial deformation. Although the practice was not universal, it was widespread—more so than for other ancient Americans, who limited head shape to social status or rank (Houston et al. 2006). On the basis of crania he observed from the cemeteries of Cerro Colorado, Weiss (1932:90) believed cranial deformation to be the norm rather than the exception. It is unclear when the practice originated on the south coast, but by late Paracas it is pervasive.

Both men's and women's skulls were deformed, and several shapes are evident. We can broadly distinguish between an annular, elongated head characteristic of Paracas (Figure 9.5, *see color plates*) and a squarer shape for the Nasca (Figure 9.6, *see color plates*), but within these broad categories are several subshapes (for example, tabular oblique, tabular erect, pseudocircular, annular, and bilobal). Quantifying head shape to clarify possible gender or ethnic affiliation with one shape or another is hindered by consistency in classificatory schemes, a problem also noted by Williams et al. (2001:9). Moreover, since many mummy bundles from Necropolis and Arena Blanca/Cabeza Larga remain unopened, shape comparisons between the peninsula cemeteries are difficult.

A sample of crania has been systematically analyzed by Del Pozo (1988). His sample consists of 64 skulls held in the Regional Museum of Ica (Museo Regional de Ica), together with 90 skulls held in the National Museum (Museo Nacional de Antropología, Arqueología y Historia). The results of his analysis are shown in Figure 9.7. The groups labeled “Cavernas” and “Necropolis” refer to the cemeteries where the skulls originated. In some cases, I have been able to cross-reference the tomb contexts (for example, Cavernas V, Necropolis mummy 89) noted by Del Pozo by comparing his inventory numbers with Tello's (Tello and Mejía 1979). The “Regional” category refers to skulls obtained from Paracas sites in the south coast region exclusive of the peninsula. According to Del Pozo's (1988:203–327) photographs, the sites are Chongos (Pisco Valley), Ocucaje (Ica Valley), and Cahuachi (Nazca Drainage).

Del Pozo's (1988) sample indicates that pseudocircular (or annular) deformation is most common to males and females in the three categories. Tabular oblique is the second most common type for Regional males and females. Tabular erect is more common to females in Cavernas and Necropolis. The sole bilobal shape is attributed to a 30-year-old female from the Necropolis of Wari Kayan. The photograph accompanying Del Pozo's notes (1988:196) identifies the skull as belonging to mummy 89. Paul's (1991a:172–173) analysis of the mummy bundle indicates that it was one of the large bundles opened by Tello but not published. Tello (e.g., Tello and Mejía 1979:75–76, 118–121) believed the bilobal form to be an earlier type, but it is described in the same report for Necropolis and Arena Blanca/Cabeza Larga

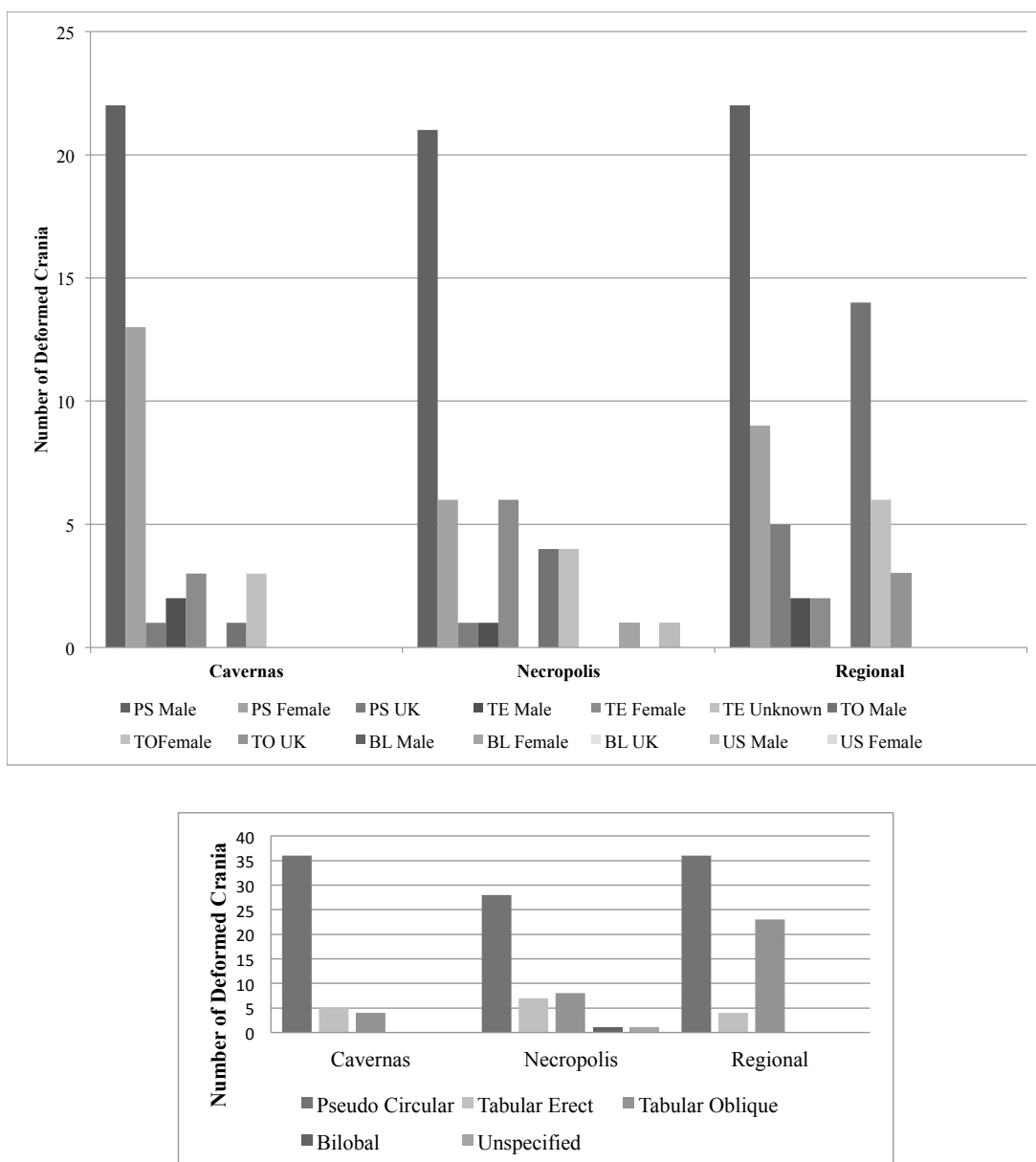


Figure 9.7. Graphs showing distribution of Paracas cranial deformations by sex and region (after Del Pozo 1988).

burials of men and women. The bilobal form is distinct for its pronounced bulges on the parietal lobes of the skull.

A greater number of crania identified as male are indicated by Del Pozo's (1988) sample, a pattern that will be worthwhile to compare once the peninsula cemetery crania have been fully analyzed. What his data do not show are the number of skulls that were not deformed. In this respect, it is unknown if gender factors into the small percentage hypothesized to be unmodified or if there are other factors

at hand—sampling error, or fewer females in Paracas society, as population data suggest.² His categories of head shape differ from those employed by Tello (Tello and Mejía 1979:75–76) and Weiss (1932, 1962) and are based on cranial deformation method.³

Overall, Del Pozo's (1988) data show greater variation in head shape for men and women at the Necropolis. Hypothetically, this may hint at the intense interaction of groups there during the transitional period. By comparison, head shape appears to be more evenly distributed among the Cavernas and Regional groups.

Head shaping was achieved by resting the infant against a cradleboard and applying pressure to the soft skull with cloth strips and cotton pads. The resulting shape depended on where pressure was applied to the skull and on the intensity and duration of that pressure relative to bone growth. What I find intriguing is that cradleboards in the peninsula cemeteries and Ica Valley are interred as mummies—bundled in cloth as if human (Engel 1991; García 1996; Kroeber and Strong 1924:125; Tello and Mejía 1979:477–478, Figure 131). Several questions arise: Are we to interpret these bundles as surrogate burials? Is the cradleboard serving as a substitute for the body? Or are the bundling of the cradleboard and its interment sacralizing practices? I return to this point below.

Early on, Tello (1959:v; Tello and Mejía 1979:499) suggested that the word *Paracas*, or *para-ake* in Jaqaru, a paleo-Aymara language, signified an elongated head. Based on Aymara origin myths, Carrión-Cachot (1949) linked the elongated head shape to the conical form of the volcano. Although neither view is well accepted, it should be noted that a body-landscape relationship has long been intertwined in Andean myth and language. There is a consensus that cranial deformation is a socioaesthetic practice bound to one's identity and that the practice and resulting shape were socially valued. Whether substyle is indicative of gender, familial identity, or ethnic group identity has yet to be determined and requires a much larger, controlled sample than presently exists. We can say with confidence, however, that the most visible part of the Paracas body, the head, was shaped from birth, which would have permanently altered one's appearance and firmly constructed one's identity through life.

Head shape and its variations are represented in figural sculpture (Figures 9.6 and 9.8, *see color plates*; see also Tello 1959:figure 11; Tello and Mejía 1979:figure 77). In Nasca ceramics, particularly in the later phases, a greater number of visual representations of cranial deformation equated with rank are evident.

Value in Hair

Human hair was valued for its aesthetic properties, as a natural and symbolically charged fiber for weaving, as a visible qualifier of identity and rank, and as a symbolic-genetic expression of shared identity. The most elaborate hairstyles were adopted by prestigious men and women, and there is good evidence for hair knots

and buns and for intricate braiding worn naturally, woven into cloth, or fashioned into wigs.

The length of one's hair corresponded at least in part to age. Weiss's (1932:91) study indicates shorter hair for children and longer styles for adults. He observed that hair was burned at the ends, understanding it to be a means of "cutting" the hair and posing the suggestion that hair burning may have been part of funerary ritual (1932:92). Tello (Tello and Mejía 1979) noted a consistency in hair length and style for adults interred at Cavernas. He describes two long braids for men and women and as many as 20 short minibraids, or *trencitas*, for children.

In a number of archaeological contexts, hair is found in small cloth packets that were interred as offerings, placed with the dead, or ritually destroyed or "killed" (Silverman 1993; Splitstoser 2009; Tello and Mejía 1979; Yacovleff and Muelle 1934a). These contexts suggest that hair was thought to possess a potent quality, perhaps the essence of a person.

Human hair was clearly valued as a weaving material, much like cotton or camelid fiber. Its integration into cloth, largely considered the most highly valued material in the ancient Andes, is significant. Hair locks and braids were enveloped by cotton and camelid fibers to create coils and hair turbans. Some head attire ranges between a hat (Paul 1991b:figure 5.19) and a human hair wig (Tello 1959:figure 44). Such wigs were possessed by men and women found in the large, sumptuous bundles at the Necropolis and at Chongos. One question raised about wigs and hair-woven turbans is whether the hair is that of the possessor of these items or that of his or her kin. For example, Carmichael's (1995) analysis of Nasca hair bundles in adjoining graves at Cahuachi indicates familial ties between the deceased. Hair sharing or, more actively, offering a portion of one's hair at death was an act of substantiating blood ties between the living and dead. Studies of this kind for Paracas would greatly amplify our perspective on the meanings attributed to hair, its use in funerary ritual, and its possession and use by the leading members of society.

Hairstyles and wigs are represented in various mediums, including ceramic sculpture (e.g., Tello 1959:figure 40) and embroidered textiles. In Nasca figural ceramics, hairstyle and length are good indicators of gender (Figure 9.6, *see color plates*).

Objects and Personhood

.....

The creation of visual representations of the body was one means of conveying the valued aspects of the body and of reinforcing identity. Further attention was drawn to the body, particularly the head and face, through ornamentation. In addition to head shape, hairstyles, wigs, and hair-woven turbans, ornaments made of gold, animal hide, feathers, and fur distinguished particular individuals while communicating shared concepts about the Paracas social order (Figure 9.9, *see color plates*).

At death, nose rings (whisker ornaments), diadems, earrings, and headdress plumes were placed in position with the body, as they were worn in life, or were

contained within the layers of the burial shroud. Tello and Mejía (1979:460–462) identified finely hammered gold ornaments in both Cavernas and Necropolis and asserted that 50 percent of the Necropolis mummies they had unwrapped at the time contained metal offerings (Yacovleff and Muelle 1934a:137). Diadems, bracelets, and discoid ear ornaments are common, as are cut fragments of gold foil. Hammered gold also filled the trephination scar of at least one Necropolis cranium (Tello and Mejía 1979:lámina XIIc). Gold was highly valued by the Paracas, but compared to their contemporaries to the north (see Donnan, this volume) it is found in smaller amounts in burials and across a range of bundle sizes. Tello and Mejía (1979:461) believed that gold was the substance of ancestral heirlooms passed down from fathers to sons. Diadems, earrings, and whisker ornaments are mirrored in the iconography of embroidered textiles and painted ceramic offerings. Here they are typically depicted as worn by supernaturals or human impersonators.

Well-preserved face, forehead, and crown ornaments are also known from late Paracas tombs in Ocucaje. Two forehead ornaments serve as provocative examples for their brilliant color, texture, and inclusion of animal heads. One is shaped like a bird with outstretched wings, a form commonly represented in hammered gold. A small stuffed oriole's head bearing mica eyes protrudes from the axis of the wings and tail (Sawyer 1960:plate IIa). The second example (Sawyer 1960:plate IIIa) is created from the head skin of a fox and is covered with yellow, blue, and brown feathers. The centerpiece of the ornament incorporates the snout and teeth of the fox.⁴ Both the bird and fox are important icons in the pantheon of Paracas visual imagery (Sawyer 1977). The bearer of these forehead ornaments, presumably a leader, would distinguish him- or herself while communicating a visual language shared by the audience.

The examples from the Necropolis and Ocucaje indicate that certain objects—what we call ornaments—held specific value for their relationship with the body. The mediums from which they were created, and their respective meanings, amplify our view of this association. This body-object relationship is also expressed in the bundling of the body, discussed below.

THE APPROPRIATED BODY

Bundling of the human body reached heightened expression in late Paracas, as exemplified by the “stratified hills of cloth” of the Necropolis (Paul 1990:115). These constructed bodies were conditioned by a number of social, economic, and political factors, the full import of which is beyond the scope of this essay. Some Necropolis bundles, the largest and most elaborate, are clearly effigies—socially constructed bodies that served purposes beyond interment. In earlier work, George Lau and I called attention to ancestor veneration and the manipulation of certain entombed bodies, the subjects of tomb revisiting and object renewal (DeLeonardis

and Lau 2004). We perceive the chaotic clustering and superimposition of Necropolis bundles to reflect strategic action on the part of the living to improve upon the position and status of their dead. A bundle may be an actual ancestor or a body appropriated as an ancestor, a move aimed at achieving a better place for the descendants in society. In this respect, the body is valued as an object of a sociopolitical discourse that privileges the efforts of the living.

Independently of ancestor venerator, or perhaps complementing it, is the practice of creating body doubles. We need not limit our view of this practice to the peninsula cemeteries, but the Necropolis group provides conspicuous examples of bundled materials that are not human but interred as if they were. For some of these surrogates and substitutes, the value in materials alone matches or exceeds that of bundles that contain human bodies.

Appropriation of the body is also understood from the activities of the Cavernas cemetery. Here, the displacement of bundles has posed interpretive challenges, especially in assessing the temporal relationship between the interred and those displacing them. But the tangle of bundle content and placement is instructive. The disordered and reordered bundles that we might perceive as muscling in and out of the sacred space of another suggest deliberate action on the part of the living to define status for their kin.

The appropriated body as ancestor, body double, intruder, or mummified head exceeds a societal concern for preservation of the body as organism, although this is achieved from the sheer practice of bundling in layers. It reflects how the body, or stand-in, is ultimately engaged: to populate particular space, to erase the memory of other groups, to establish order, to ensure the well-being of the living.

Constructed Body Value

Whether small or large, construction and interment of a Necropolis mummy bundle was preceded by an elaborate funerary preparation that involved the hands of many. The seated and flexed body was placed in a large, open basket. In some cases, ropes were used to hold the body in position. Threads or thin cords were also interlaced around the fingers and toes to keep them together. Objects were placed on and around the body before it was enveloped in layers of cloth.

The processes of weaving and embroidering the textiles that enveloped the body were lengthy. Paul (1990:32–33) estimates that up to 100 m² of cloth were utilized in some bundles and that as many as 30,000 hours of labor were invested in the production of cloth contained with a single mummy—almost three and one-half years' worth of effort.⁵

The bundle construction process is best illustrated by bundle 310, one of the largest in the Necropolis of Wari Kayan (Figure 9.10, *see color plates*). The body of a man estimated to be 70 years old was seated in a deerskin-lined basket. His head was deformed in a shape described by Tello and Mejía (1979:381) as tabular

cylindrical. A golden forehead ornament was positioned on his head, and other cut fragments of gold foil, diadems, bracelets, necklaces, and earrings were placed on corresponding parts of his body. The head was covered with woven slings and feather works that included falcon and macaw feathers. Placed with the body were cordage woven from human hair and a human skull.⁶ A small animal skeleton, possibly fox, was included in the outer layers.

Twenty-five wrapping cloths were added to the bundle, each layer meaningful for its content and placement. There were 44 decorated garments in the bundle, including a feathered tunic, turbans, and ponchos. The garments were placed with the body according to how they were worn in life. Figures observed on the embroidered cloths are well dressed and bear the clothing types, ornaments, and accoutrements contained in the bundle. A number of human or humanlike figures are engaged in behavior associated with the mouth: tasting, consuming, expelling, or breathing. While the exact meanings of these vignettes are unclear, they provide a conceptual idea of the mouth and senses, and indirectly the lungs, stomach, and other body organs.

Paul (1990:42) notes that nontextile items were placed directly on the body or among the first wrappings and again among the outermost wrappings. The inclusion of gold objects on or near the body was also observed by Tello (Tello and Mejía 1979:380–381, 384, 462). Paul (1990:43) believed the presence of deerskin around the body to be rare and unusual among the Necropolis burials and speculated that it might be conceptually tied to Moche beliefs about deer and death (Donnan 1997). I agree that the deerskin is meaningful for its placement against the body (see also Yacovleff and Muelle 1934a:104). Although deer inhabited the south coast, they do not appear in Paracas iconography. The rarity of deerskin in bundles and the absence of deer iconography suggest limited or restricted use, which may in turn indicate a higher value placed on the deerskin-enveloped body. Wrapping in cotton cloth is typical for the interment of Paracas disembodied heads and underscores the use of heads as offerings (see below).

The completed conical-shaped bundle measured 170 cm in height by 320 cm in diameter and weighed about 200 kg. A plain cloth enveloped the bundle before it was sewn up (see Tello and Mejía 1979:lámina 8b). Placement of the bundle, a veritable monument at one-quarter of a ton, would have involved the orchestration of a team. According to Tello's diagram (Tello and Mejía 1979:figure 87), the bundle was superimposed over at least four small bundles in the architectural ruin of section B, and it may have displaced others in the course of its interment. Based on its size and weight, its complex construction process, and its saturation of high-quality textiles, its value, on many levels, is evident: the transformed and reconstructed body stands as an expression of wealth, a familial locus, a built shrine.

Surrogate Body Value

Bundling of nonhuman remains is recognized among the mass of bundles interred in Cerro Colorado and within cemeteries beyond the Paracas Peninsula. I have mentioned cradleboards. One bundle found in the Necropolis of Wari Kayan and singled out by Tello deserves discussion. Mummy bundle 91, equal in bulk to bundle 310, contained 12 kg of black beans (*Phaseolus vulgaris*) at its core (Daggett 1991:48; DeLeonardis and Lau 2004; Tello and Mejía 1979:490–492). Whether this type of bundle should be considered an offering or a surrogate body is difficult to assess. I consider it to be both.

Bundle 91 contained no human remains and was interred at a depth of almost 2.5 m, consistent with other body bundles (Figure 9.11). It was wrapped with more than 100 nets, turbans, feather works, animal skins, and miniature garments, and with one pair of guinea pigs (*cuy*). Ceramics, ceremonial wooden staves (*vara*), and provisions (beans, peanuts, maize) were offered at its base. The layers of wrappings, garments, and internal offerings were similar to the bundle anatomy of human body bundles at Wari Kayan. A fox skin, feather fans, and a turban constituted the initial layer. Cotton bundles were used to create a false head. Exterior wrappings consisted of the finely woven, large embroidered mantles characteristic of the Necropolis style.

Beans (*pallar*) are well documented for the south coast in the form of provisions found in ceremonial, residential, and funerary contexts, as well as in the iconography of Paracas (Yacovleff and Muelle 1934b:284–291). Lima bean iconography in the form of the plant, seeds, or markings on animals is common to the embroidered figures shown on the mantles of bundles 310 and 378 (Paul 1990; Peters 1991; Tello



Figure 9.11. Bundle 91 from the Necropolis of Wari Kayan contained 12 kg of black beans (after Tello and Mejía 1979:490).

1959). Particularly relevant to the present discussion is an embroidered mantle from bundle 378 that shows figures with bean-shaped bodies (Paul 1990:figure 7.26) (Figure 9.12, *see color plates*).

Bundling of the body was extended to figural representations and garments. In late Paracas contexts at Ocucaje and Cerro Colorado, small ceramic and cloth figures showing the cranial deformation and braided hair of their live counterparts are bundled, as if mummies. I believe a related practice is that of bundling caches of miniature garments. Caches are found at Ocucaje, Cavernas, Cabeza Larga, and Wari Kayan, either as offerings associated with mummy bundles or found inside them (Rowe 1990–1991:104–105; Tello and Mejía 1979). There is no question about the significance of cloth offerings. Given the connection between attire and personal and group identity, I believe these miniatures and clothing caches were conceived of as conceptual bodies.

Paracas interment of clothing caches appears to be the precursor for caching by the Nasca. Frame (2003–2004:14–15) has analyzed a bundle of women’s garments at Cahuachi interred as a cached offering in a ceremonial structure (temple mound Y16). The 40 dresses, shawls, wrapping cloths, and associated textile implements also contained 4 k of toasted black beans wrapped separately and placed atop a feathered dress (Frame 2003–2004:17). Clearly, the association of the clothing cache with beans recalls the surrogate mummy bundle 91, discussed earlier. The patterning of these types of associated materials suggests similar practices at work.

Value in the Disembodied Head

In the context of interment, it is evident that the Paracas valued the body in whole and partial form. I have discussed the head as a visible locus of identity, one that was shaped, adorned, and trephined. Elements such as hair were separated from the head to create wigs, woven cloth, and offering packets. In a distinct practice, the entire head was removed from the body and recontextualized. In some contexts, the disembodied head as a bare skull lacking soft tissue and hair is included in a tomb or bundle as a burial offering. There are also instances where the lower jaw is removed and interred separately. An alternate process involves artificial mummification in which the head is reconstructed. The brain and soft tissues are removed, the skin and hair are retained, and the cavities are stuffed with cloth or organic material to create a lifelike head (Figure 9.13, *see color plates*). In assessing value, we must consider the agentive effort in creating an artificially mummified head and its significance—one that is detached, reconstructed, and reappropriated in caches.

A great deal of research attention has focused on the practice of head taking, particularly for the Nasca, for whom the practice is well known.⁷ My approach has been to address the question of how the body and disembodied head are treated after decapitation (DeLeonardis 2000). Although the contexts are few, for the Paracas in the Ica Valley, both head and body receive careful treatment and interment. Head

caches were covered with cloth and *pacae* leaves, common to what is considered proper burial (Figure 9.4). The factors that motivated head removal are unknown, as are the contexts for display, if any. Here, my concern is with the heads as subjects of identity and objects of appropriation.

Pezzia (1968:99–101) provides two cases of head caching in Ocucaje relative to this concern (see also Kroeber 1944:38). At Cerro Max Uhle, in an unspecified location amid residential and burial remains, two mummified heads interred with *pacae* leaves were recovered from a 1 m deep trench. Both were deformed in a shape described as “circular erect.” The age and sex are not indicated, although one head is described to be more robust than the other. At least one of the two heads showed a trephination scar that had healed. A cache of 13 heads recovered from a shallow pit between tombs at Cerro de la Cruz showed the same deformation style. These were arranged faceup, some piled atop others, and covered with a coarse cloth. Five heads are described as smaller than the others, probably indicative of children.

Human body parts used as fetishes and trophies have a long history among Amerindian societies, yet the motives and beliefs about dismemberment and display vary cross-culturally (Chacon and Dye 2007). There is also debate about what constitutes a trophy. As Proulx (2001:122) and Verano (2001:172) have noted, the Paracas (and Nasca) are the only ancient Peruvian societies that prepared and cached the human head in this manner. Since the Ocucaje caches represent the earliest evidence thus far for Paracas on the south coast, I use caution in classifying them as trophies. A number of processes are involved in the practice (e.g., removal, reconstruction, possible display or use, interment or destruction) and their designation as trophies obscures these processes and their import. In light of Paracas practices of creating body substitutions and stand-ins, these early instances of head caches suggest whole body appropriations, especially since they are interred deeply or enveloped with cloth and *pacae*.

Representations of severed heads are pictured across all mediums and become frequent in Nasca iconography (Proulx 2006). Paracas embroidered textile figures show severed heads held by the hair or hung by ropes, tasted, or repeated in the form of design elements. Small ceramic jars are modeled in their shape. Rarer gold miniature sculptures were also created (Figure 9.14, *see color plates*).

EMBODIED VALUE

The valued body, as understood by the Paracas, was a living organism that was modified and embellished, shaped and attired, and referenced in works of art. It was an enveloped body, preserved at death and re-created to serve the living and to reflect their efforts. Its parts were valued and made whole through surrogates and substitutes. It was the medium in which identity and personhood were shaped and expressed and was the carrier of a cultural-visual aesthetic.

In assessing body value, it is evident that the corporeal body and its material and conceptual expressions are closely integrated. Following Joyce (2005:151) and Csordas (1990:5; 1994:13), the body, in life or in death, cannot be thought of as an isolated, static entity but as the center of the articulation of agency and social structure and as an engaged participant in that structure. This is apparent in the practices and processes devoted to the corporeal body and the pictorial representations, object placements, and ritual behaviors that repeat and reinforce ideas about the body. The head is shaped and adorned in life and serves as a symbol of authority and identity. In some contexts, it is reconstructed as an object that in a detached state continues to be a source of identity, wealth, and power. Equally, hair defines age and status and reflects a socioaesthetic in life. Separated from the scalp, it becomes the weaver's fiber, the family genealogy, the bundled offering.

The practice of substitution draws attention to the integration of the material body with its metaphorical qualities to acknowledge multiple personae manifest in body doubles. Beans, human figurines, garments, cradleboards, hair, and mummified heads become situational surrogates to mark the body's presence or some quality of it. Garments, as stand-ins for the body, reinforce the idea that clothes do "make the man" or the woman, as Frame's (2003–2004) study suggests. Her recognition of attire as "social skin" resonates with the comparative examples of surrogates and substitutes considered in this essay (Frame 2003–2004:17; see also Houston and Cummins 2004).

The body, too, continues to articulate after life. The mummified body in bundled form is conceived of as a living organism, likened to a seed inserted into the soil. Such seed metaphors, supported by the bundle's shape, are further strengthened by seed and bean iconography and by surrogate bodies represented by beans (see DeLeonardis and Lau 2004). In this respect, the body becomes an encoding device for ideas, behaviors, and images (Rautman and Talalay 2000:5). Likewise, the seated and flexed posture of the mummy body has been likened to a fetus inside a womb, giving charged meaning to Joyce's (2005:151) acknowledgment of the body as the site of lived experience. The conical forms of mummy bundles have also been likened to mountains—a metaphor first proposed by Tello.

The enveloped body has been described by one scholar as a museum in miniature for the objects contained within (Pezzia 1972:15). I agree with Pezzia's analogy of the bundle as a construct and would add Borić and Robb's (2008:2) assessment of the body as a museum of long-term historical processes. Beyond the number and content of objects encompassed by a single mummy, meanings about the relationship between the body and objects are also established. Gold, which had no value as monetary currency in the ancient Andes, is shown to have had a specific relationship with the Paracas body. Its meaning is quite distinct from the gold weapons, scepters, or plated clothing of the Moche. Tello's suggestion that gold ornaments were passed on as heirlooms deserves further study and expands the interpretive possibilities of the material as genealogical wealth. Paul (1990) and Frame's (2003–2004) labor estimates for textile production leave no doubt about the intensity of the production of

cloth and its value. It is worth considering that the saturation of cloth and imagery of the Necropolis are comparable in value to the gold and metals entombed with the north coast Moche bodies (see Donnan, this volume).

Given its smothering of cloth, we must also consider the body as the object of veneration—a shrine, or *waka*, in and of itself—and one of many parts of the meta-*waka* that is the Paracas Peninsula (or Ocucaje, or Chongos). Much as the disembodied head is transformed by the mummification process, the body moves from decay to hardness to become an entirely new entity: a *waka*, an ancestor, a concentrated source of power, a place of origin (DeLeonardis and Lau 2004; Urton 1990).

ACKNOWLEDGMENTS

I would like to thank Gary Urton and John Papadopoulos for organizing the value symposium and for their generous support that allowed me to participate. Chip Stanish and the Cotsen Institute are likewise acknowledged for their support in hosting the symposium and this publication. Two anonymous reviewers are recognized for their critiques, which I believe helped strengthen the paper. A special note of gratitude to Susana Arce, Jessica Bailey, Fernando Fujita, Bridget Gazzo, Veronica Keyes, Cynthia Requardt, Chris Schwartz, and Lou Stancari for facilitating permissions for the photographs reproduced herein and to Ann Woodward for her help with Figure 9.7.

NOTES

1. See also Allen (1982) for a discussion of contemporary practices and beliefs about the Andean body. The Inka were the last in a long succession of ancient Andean civilizations, and their imperial model need not be emulated to judge earlier attitudes toward death and the body.
2. For example, Pezzia (1969:36) indicates that an adult woman lacking cranial deformation was excavated from a modest tomb in Chongos, a case not included in Del Pozo's (1988) Regional sample.
3. This method is less favored than the standardized approach advocated by Buikstra and Ubelaker (1994). Williams et al. (2001:9) note that variations in cranial morphology exist within the same deforming methods. Future efforts aimed at correlating differing classificatory schemes to produce consistent data will be challenging.
4. See Morris and von Hagen (1993:figure 44) for a similar example.
5. Frame (2003–2004:14) discusses an early Nasca textile ritually interred at Cahuachi measuring approximately 60 m in length by 7 m in width. She estimates that 2,740 km of yarn were needed for this single cloth.
6. Paul (1990:39) places one skull with the body. Tello and Mejía (1979:263) describe two human skulls wrapped in coarse cotton cloth placed as offerings outside the bundle. While it is clear that the skulls are offerings, Tello does not describe them further, and it is uncertain if they are skulls or mummified heads.
7. Nasca head taking is well discussed in the literature. Arnold and Hastorf (2008); Proulx (1989, 2001, 2006), Silverman (1993), Tello (1918), Valdez (2009), Verano (1995, 1997, 2001), and Williams et al. (2001) offer insights on the practice.

CHAPTER 10

.....

THE VALUE OF
CHORALITY IN
ANCIENT GREECE

.....

LESLIE KURKE
UNIVERSITY OF CALIFORNIA, BERKELEY

After that, the boy danced. And Socrates said, “Did you see—as beautiful as the boy is, he appears still more beautiful in the poses of dance than when he is at rest?”

—Xenophon, *Symposium* 2.15

ABSTRACT

.....

In this paper, I consider choreia (choral song and dance) in the Archaic and Classical periods of ancient Greece (ca. 750–300 B.C.) as a privileged domain for the constitution of value. I argue that choreia was conceived by the Greeks as enabling a unique fusion of body value, object value, and place value in religious contexts. Choruses were a ubiquitous form of religious worship in the ancient Greek world, pervasively associated with and analogized to animal sacrifices or dedicatory offerings to the gods. Indeed, the texts of Archaic Greek poetry suggest that choreia was conceived in two interconnected ways: (1) A perfectly performing chorus was a machine for the production of pure presence, conjuring the gods and merging chorus members and audience alike with the divine for the space of the performance; (2) A perfectly ordered and synchronized chorus was imaginatively assimilated to a set of moving statues (daidala or agalmata), the products of divine or uncanny crafting. In both these conceptualizations, choral song and dance mobilized wonder (thauma) and desire (eros) as a system for transforming individuals into cohesive social groups.

My topic is a particular form of body value achieved or constituted through choral song and dance (*choreia*), specifically in the context of Archaic and Classical Greece (approximately 750–300 B.C.). This was a culture of hundreds of independent cities (poleis) in which *choreia* was an essential component of religious worship—both within the individual cities and as part of elaborate state pilgrimages or embassies (*theōriai*) from cities to important Panhellenic shrines such as Delos and Delphi. To define the Greek terms I will be using here briefly: the internal evidence of our texts suggests that the most common form of *choreia* was that of a group of chorus members singing and dancing in unison, but on occasion we are presented with a division of labor whereby one group dances while another group or individual sings in accompaniment. I shall treat these different forms together under the single rubric *choreia*.¹ *Choreia* is a noun derived from the Greek word *choros*, which itself can designate three different aspects of the performance: (1) the dancing place; (2) the group of dancers (our “chorus”); and (3) the dance itself. The word’s meaning in each occurrence must be determined from context.

In an attempt to synthesize the various different meanings and domains of “value” within culture—normative value, economic value, and linguistic or semi-otic value—anthropologist David Graeber argues that we need to understand value as a dynamic process that is the result of human action and creative activity, whether or not all the concomitants of action are fully recognized by the actors themselves (Graeber 2001). Thus we need to shift our thinking from static or inert “value” to the ongoing “construction of value” on one side and “evaluation” on the other—all socially embedded processes or “patterns of action” that themselves work to forge social bonds or social structure. For Graeber, value on any definition must be social; it must be dynamic, always being constructed and contested by social agents; it must be differential or contrastive; and it must be a mechanism for mediating individual desires and societal norms. I would like to consider a cultural phenomenon that strikingly conforms to Graeber’s model of the construction of value through action—ancient Greek *choreia*. I contend that *choreia* is an ideal focus for a study of value in Graeber’s terms, since the Greeks themselves seem to have understood choral song and dance as an activity or process that conferred high sacral value and thereby forged social bonds or constituted society itself. I want to think about how and why choral song and dance were imagined to do this for the ancient Greeks; my approach will be more phenomenological than sociopolitical. Much recent work in classics and ancient history has focused on the sociopolitical effects of Greek choral performances—for community building, the constitution of political hierarchies, and negotiating local identities or interstate relations (see, e.g., Calame 1977, 1997; Ferrari 2008; Kowalzig 2004, 2005, 2007; Kurke 2005, 2007; Nagy 1990; Wilson 2000, 2003). What I want to do here is in a sense prior to all that: I want to explore the ancient Greek imaginary of choral value as the basis for its efficacy in achieving all these kinds of sociopolitical effects. That is to say,

why, according to the Greeks themselves, did choruses accomplish their religious, social, and political work so well?

At the same time, although *choreia* was an activity that seems to have generated high sacral value within ancient Greek culture, it is by its very nature evanescent and therefore more or less invisible in the archaeological record (for this problem, compare Tomlinson 2007, esp. 3–7, on the invisibility of song in the historical record of New World encounters). So how do we get at the Greek imaginary of *choreia*? My approach will be through ancient Greek texts—both contemporary poetic texts and later prose—that provide us on the one hand with more or less detailed descriptions of the festival context for choral song and dance, and on the other with the imagery and associations that suggest the effects of *choreia* on the festal audience.²

I would like to argue that all the potent effects of *choreia* derive from a single source: the heightened aesthetic value or superlative beauty it conferred on bodies, whose impact on the audience the Greeks conceived as a heady fusion of *eros* (desire) and *thauma* (wonder). Indeed, to capture the aesthetic impact of *choreia*, Greek texts resort to a remarkable synesthetic fusion of the highest forms of body value and object value in descriptions of dance and its reception.

I am thus attempting to answer a critical question posed by the conference organizers: “How can students of the past understand the value that might have been accorded to materials, objects, people, places, and patterns of action by those who produced or used the very things that compose the human material record?” My project is to approach via ancient texts the values perceived in and conferred on certain objects, people, and patterns of action in ancient Greece and thereby to recover what is invisible or evanescent—what does not form part of “the human material record.” Along the way, I also provide supplementary material to answer the question, “What qualities of physical substances—for instance, translucence, scarcity, durability, age—were at the heart of how cultures determined value?” In addressing both these questions, I am in a sense providing a complement to those cases where we have a fantastic material record but no texts—for example, in Chris Donnan’s essay (this volume) on the Moche. In particular, ancient Greek poetic texts offer fascinating parallels for the effects that may have been aimed at cross-culturally by ancient bodies clothed or “dressed in wonder.”

Before I begin to explore the Greek imaginary of *choreia*, I would like to set the stage by offering a couple brief examples of the workings of *choreia* in its ritual contexts. I start from two anecdotes, both attested in late sources but likely to depend on much older ancient traditions. And I cite these not so much for their “truth value” as for their powerful evocation of a whole nexus of cultural associations attached to choral song and dance that I would like to explore here. The first is a story preserved in the Pindaric *Apophthegmata* (clever or witty sayings of the early fifth-century B.C. poet Pindar): “When he was present in Delphi and was asked what he had come to sacrifice, he said, ‘A paian.’” My second anecdote,

somewhat longer and fuller, derives from Plutarch's biography of the extremely wealthy Athenian statesman Nikias, active in the last third of the fifth century B.C.:

The ceremonies which Nikias organized at Delos have gone down in history both as acts of devotion to the god and as demonstrations of lavish public generosity. In earlier years the choruses which other cities sent for the worship of Apollo had been accustomed to put in at the island in a very haphazard style: the multitude of worshippers would run down to the ship and call on them to sing, not in any properly conducted ceremony, but as they scrambled off the ship in a disorderly crowd and were in the act of huddling on their robes and garlands. When Nikias was leading the *theōria*, he first put the chorus ashore on the neighboring island of Rheneia, together with the sacrificial victims and everything else that was needed for the ritual. Before leaving Athens he had had a bridge of boats made to the required size, magnificently gilded, painted and hung with garlands and tapestries. During the night this was placed in position across the channel between Rheneia and Delos, which is quite narrow, and at dawn he led over the procession in honor of the god, splendidly dressed and singing their hymn as they marched. After the sacrifices and the choral contests and the banquets were over, he dedicated to Apollo the well-known palm-tree of bronze and also a small estate, which he had bought for 10,000 drachmai. The revenue from this was to be devoted by the islanders to offering sacrifices and providing themselves with a banquet, at which they would pray for blessings for Nikias from the gods. These instructions were engraved on a stele which he set up on Delos, as it were to guard his benefaction. The bronze palm-tree was later overturned by a storm, fell against the colossal statue of the god presented by the people of Naxos, and threw it to the ground [Plutarch, *Life of Nikias* 3.5–8, translated Scott-Kilvert 1960; slightly modified].

Twenty-five years ago, Jesper Svenbro (1984) developed an argument from my first anecdote (Pindar's witty quip) among other bits of evidence that the Greeks conceived of poems (like the *paian*, a cult song for Apollo) on the model of sacrificial victims. Svenbro's was an important insight, but I would offer one amendment: it is not the poem per se that is analogized to a sacrificial animal offered to a god but the poem in full choral performance, sung and danced in unison and in perfect synchronization by a well-trained, beautifully outfitted chorus. Indeed, Barbara Kowalzig (2004:49–55, 2007:70–72) has recently made the point (based on numerous literary, epigraphic, and visual sources) that for the Greeks in all kinds of cult contexts, "sacrificial victims" (*thusiai* or *hiera*) and "choruses" form a minimal pair, intimately linked together as the basic constituents of divine worship. For Kowalzig, the chorus is a ritually required contribution and expenditure of time, effort, and ornamentation, closely akin to the sacrificial victim, so that (we might add), like the sacrificial animal, it should be "perfect" (*teleios*). This, I think, is the basic idea that underlies my Pindar anecdote, while we also see this characteristic pairing of choruses and sacrificial victims in Plutarch's more extended narrative.

At the same time, my second anecdote, the description of Nikias's *theōria* to Delos, gives us a much fuller picture of *choreia* as an essential means of converting real to symbolic capital as part of a dense interlinked chain or system of lavish ritual expenditures. Thus notice that Nikias provides not just a magnificently arrayed chorus, sacrificial victims, and all the other appropriate paraphernalia (which would

be the norm) but also a perfectly fitted and beautifully adorned bridge of boats, as well as property consecrated to perennial feasting, a stele that records that gift of property, and the dedication of a palm tree crafted of bronze. And notice that even when the last link in Nikias's chain of perennial worship and commemoration, the palm tree, falls down in a storm,³ the whole concatenation of offering and lavish expenditure still achieves its purpose—the permanent remembrance of Nikias's gifts and his piety. After all, Plutarch, writing more than 500 years after these events are supposed to have taken place, begins his account of this remarkable display, “It is remembered of him that . . .” (“*mnēmoneuetai d’ autou . . .*”).

Finally, Plutarch's anecdote about Nikias's *theōria* also suggests a significant function of choral song and dance in the constitution of a particular kind of place value, in its careful narrative of the premade, perfectly fitted bridge of boats linking the islands of Delos and Rheneia. In Plutarch's account, what motivates this quasimagical transformation of water into dancing space is simply a concern for “good order” (*eukosmia*; cf. Kowalzig 2007:117–118). Or, as we might put it in other terms, this is an attempt properly to articulate the boundary between the everyday—chorus members haphazardly disembarking from their ship in regular attire—and the specially marked-off time and space of ritual. But there may be more to it still, for Thucydides tells us at one point (Thucydides 3.104.2): “Rheneia is such a short distance from Delos that Polykrates, the tyrant of Samos, when for a time he had the power with his navy, both ruled all the rest of the islands and, having taken Rheneia, he dedicated it to Delian Apollo by binding it with a chain to Delos.” Thucydides here refers to a ruler of the island of Samos, active in the second half of the sixth century (about 100 years before Nikias), who was famous among the Greeks for his fabulous wealth and display and for his rule of the sea (for the former, compare Herodotus 3.125; for the latter, Thucydides 1.13). Here it is tempting to suggest that chain and chorus are functionally equivalent in these two accounts—that is to say, that Nikias uses choral procession, song, and dance as a ritual chain to renew Polykrates's century-old consecration of Rheneia to the god on Delos (cf. Wilson 2000:329, note 194). And, of course, in both cases, what chain and chorus make visible or body forth is the power of one state to impose its will on the islands through its invincible navy (Polykrates of Samos in the sixth century and Athens in the fifth).

All this by way of preamble—to offer through a couple of concrete examples a sense of how choral song and dance conferred or constructed sacral value in ancient Greek ritual and cult. Within the ambit of cult, choruses seemed effectively to combine every possible form of transcendent value. Thus with Plutarch's anecdote I've already touched on the power of choruses to articulate and sanctify *space*. At the same time, there is abundant ancient evidence that choruses were imagined to enable a collapse of *time*, whereby the singing, dancing choreuts were fully merged or identified with the gods and heroes whose stories they sang (cf. Burnett

1985:5–14; Kowalzig 2004, 2007; Nagy 1990:339–381). As we shall soon see, *choreia* also seems to have fused body value and object value in their highest forms.

What seems to have enabled this radiant node or fusion of all these different domains of value through dance was the Greeks' perception of the unparalleled aesthetic value of *choreia*—the transfiguring or transformative experience of singing, dancing bodies in motion. At this point I want to shift from anecdote to the texts of ancient Greek poetry for what they can tell us about the Greek imaginary of *choreia*—its pleasures, its aesthetics, and its powers. There are, of course, two sides or aspects of this discussion: the experience of dance from the inside, as it were—for the dancers themselves—and from the outside, for the audience of choral performance. For the purposes of this discussion, I will focus almost entirely on the latter: the Greeks' conception of audience reaction to and perception of choral song and dance. There is a story to be told about the dancers' own experience of dance based on what certain Greek texts tell us, but it would take us on a very long circuit, far beyond the limits set for this essay.⁴

To summarize my argument: The texts of Greek poetry suggest that choral performance in ritual was a technology that used bodies to produce effects of presencing, whose fuel or motor was desire and whose effect was wonder.⁵ To address the aesthetic effects of *choreia* as the Greeks conceived them, I would like to adapt Richard Neer's nativist "grammar of concepts" developed for the discussion of Archaic and Classical Greek sculpture (Neer 2010:20–69). Of Neer's five terms devised to capture and describe the aesthetic effects aimed at by Greek sculptors—*carving*; *sameness*; *joining*; *embodiment*, with its affective correlates of longing (*pothos*) and desire (*himeros*); and *wonder* (*thauma*)—all but the first arguably also apply to a singing, dancing chorus in motion (a convergence that, as we shall see, is no accident). But for the purposes of this discussion, I will focus almost entirely on two terms that over and over show up in descriptions of virtuosic dance performances in Greek poetic texts—*thauma* (wonder) and *eros* (desire; this will replace *pothos* in Neer's set).⁶ I will return to desire. As for wonder, Neer characterizes it as a "twofold response to twofoldness," since the Greek word *thauma* designates both the object wondered at and the response to it. As Neer formulates it:

In Greek as in English, one wonders at wonders; and literary texts from Homer on suggest that the quintessential wonder is a spectacle of brilliant radiance, flashing speed, and radical "otherness." Uniting these qualities is a basic effect of twofoldness or doubleness in viewing: the statue should seem simultaneously alien and familiar, far and close, inert and alive, absent and present [Neer 2010:4; cf. Neer 1995:123–125, 2002:47–49].

We find precisely this synapse or dialectic of twofold, opposite effects produced by dancers in motion in the texts of Greek poetry. For the space of the dance, the chorus seems both radically other and fused with self; both human and divine; both flesh and blood and precious objects of skilled crafting. Thus a beautiful choral performance was thought to conjure divine presence at a festival, while for the space of the song and dance, the chorus and human audience fused or merged, and both

were briefly assimilated to the divine. At the same time, a chorus in performance was simultaneously assimilated to precious or top-rank objects, the products of divine or uncanny crafting (what the Greeks referred to as *daidala* or *agalmata*). Indeed, several Archaic Greek texts go even further, offering hints that dancers in perfect synchronized motion were assimilated to or fantasized as a set of moving, breathing statues, like those fashioned by the consummate craftsmen of myth, the mortal Daidalos and the divine Hephaistos. In these terms, as I claimed above, *choreia* fused body value and object value in their highest forms.

For much of this discussion of chorality, I will focus mainly on three very important—I would say emblematic—representations of choral activity in early hexameter poetry: the Delian festival of the Ionians and its Olympian prototype in the sixth-century B.C. *Homeric Hymn to Apollo*, and the scene of young men and women dancing together on the shield of Achilles in *Iliad* 18.⁷ I will return to these passages several times but will also draw in other texts from early hexameter and melic poetry for parallels on key points. Here I present the argument in two stages—somewhat artificially disentangling the assimilation of choruses to divinity and to craft for the purposes of exposition.

We can see many of the elements of *choreia* as a technology of presencing in the paired scenes of choral song and dance depicted in the *Homeric Hymn to Apollo*. Consider first the scene of the Ionian festival and the chorus of Delian maidens that represents the climax of the Delian half of the hymn (*Homeric Hymn to Apollo* ll.146–166):

But you, Phoibos, most of all delight your heart in Delos, where the Ionians with their dragging chitons are gathered together with their children and their reverend wives. And they, commemorating [you], delight you with boxing and dancing and song whenever they set up their assembly. And someone might think that they are immortal and ageless forever [*athanatous kai agērōs . . . aiei*], whoever would meet them when the Ionians were gathered together. For he would see the grace of all and he would delight his heart looking upon the men and the lovely-girdled women and the swift ships and their many possessions. And in addition, there is this great wonder [*mega thauma*], whose fame will never perish, the Delian maidens, servants of the Far-darter. And they, when they have hymned Apollo first of all, and then Leto and arrow-shedding Artemis, sing a hymn, remembering ancient men and women, and they charm the races of men. And they know how to represent the voices and the rhythmical motion[s] of all men; and each one might think that he himself is giving voice, so beautifully is their [choral] song fitted together. But come, [be] propitious, Apollo together with Artemis, and you [maidens], all hail!

By technology for presencing, I mean first that the gods are imagined to be present at the festival, conjured up by the choral song and dance, which is itself the imitation or replication of the gods' own choral activity on Olympus.⁸ Apollo's presence at the festival is registered here by the opening reference to his "pleasure" at line 150 and by the poet's explicit invocation of him together with Artemis in the midst of commemorating the Delian maidens at line 165. And, as several scholars have noted, the scene of festival on Delos is balanced in the hymn by its prototype,

the lengthy description of the gods' own choral activity on Olympos led by Apollo (ll.186–206). But this mimetic chain of presence also links and merges the festal chorus and its *human* spectators, as the poet says explicitly with reference to the Delian maidens (ll.162–164; for text and interpretation, see Peponi 2009):

And they know how to represent the voices and the rhythmical motion[s] of all men; And each one might think that he himself is giving voice, so beautifully is their [choral] song fitted together [*boutō sphin kalē sunarēren aoidē*].

As Natasha Peponi observes,

It is the beauty . . . deriving from the skillfully joined together choral song . . . that makes one feel one is speaking his or her own voice *in* or *through* the Delian ensemble's performance. In other words, the concept connecting the last statement introduced with *boutō* to the previous one combines transgression and the sublime: perfection and pre-eminence in performance . . . generate a powerful magnetic field between performers and audience. The power of this magnetic attraction is *so* strong that the audience almost identify themselves with the performers, ultimately feeling that they themselves are speaking [Peponi 2009:62].⁹

It is this intersubjective fusion of choreuts and audience that justifies the poet's characterization of the Delian maidens as a "great wonder" (*mega thauma*), right at the center of the festival description at line 156.

Yet, in fact, the fusion of chorus and audience and the assimilation of both to divinity have already surreptitiously begun, even before the poet spotlights the chorus of Delian maidens, through a certain strange slippage at the beginning of the festival description. We are told that Apollo "delights his heart most where the Ionians gather"—the Ionians "who, commemorating [you], delight you with boxing and dancing and song whenever they set up their assembly" (ll.146–150). Then, with the mention of "dancing and song" still hovering in the air, the poet asserts that a man encountering the Ionians all together "would think them immortal and ageless forever." This is a remarkable use of this formula ("immortal and ageless forever"), since it is the only place in all early hexameter where it applies to human beings; normally it is reserved for the characterization of immortal creatures or for the description of precious objects of divine crafting.¹⁰ Here, this powerful evocation of divinity feels like the aura or afterimage produced by the fleeting reference to choral dance and song, and the connection of the two is confirmed by the following half line, "for he would see the grace [*charin*] of all" (l.153). For *charis* is traditionally an attribute of a chorus in motion.¹¹ Admittedly, this vague impression of all the festival participants dancing together and thereby irradiated with a divine grace and beauty is quickly dispelled by the following lines, which expand the view outward to the full festival array of men and women, swift ships, and many possessions (ll.154–155). Yet there is a moment of fusion or uncertainty—is our gaze directed at a dancing chorus, the spectators, or both together?—that in the movement of these lines itself replicates or enacts the potent identificatory effects of *choreia*. The dancers as they sing and dance in unison are transfigured, temporarily elevated to

the divine, and the spectators in their perfect identification with them are drawn along into that halo of divinity.¹²

I have also said that the fuel or motor for the powerful effects of *choreia* is desire (*eros*). By that I mean that the expanding circles of pleasure and the perfect intersubjective identification provoked by choral activity are fueled by erotic desire, awakened by the uncanny, heightened beauty and grace of the dancers in motion. For this effect on human spectators, consider just the last few lines of the description of the chorus that rounds out the teeming world of the shield of Achilles as it takes shape under Hephaistos's hands in *Iliad* 18 (lines 590–606):

And on it, the very glorious bent-limbed one was elaborating a *choros*, like the one Daidalos once fashioned for beautiful-haired Ariadne in broad Knossos. There young men and maidens, who bring their parents many oxen, were dancing, holding their hands on each others' wrists. And of these, the girls had thin linen garments, while the young men were clothed in chitons fine-spun and gleaming with oil; and the girls had beautiful crowns, while the young men had golden daggers [hanging] from silver belts. And they were at times running with skilled feet, very smoothly, as when a potter, squatting, tests the wheel fitted in his hands, [to see] if it runs; and at other times, they were running in ranks through each other. And a great throng stood around the desirable chorus, rejoicing. And two tumblers among them, leading off the song and dance, were whirling through their midst.

At this point I want to consider only the last few lines of this passage—specifically, the description of the audience response to the dance: “And a great throng stood around the desirable chorus/ rejoicing” (“*pollos d' himeroenta choron periistath' bomilos/ terpomenoi*”; ll.603–604). Here we need to take seriously the epithet of *choron*, *himeroenta*—not just “lovely” but “erotically desirable,” for it is this quality that produces pleasure in the human spectators (*terpomenoi*) and draws them like a magnet to form a larger circle around the circle of dancers. Indeed, somewhat paradoxically perhaps, choral dance for the Greeks seems to have mobilized the individualizing impulse of desire in the service of community building, a notion that is registered in this line and a half of the *Iliad* in the grammatical tension between the plural participle *terpomenoi* and the singular subject “a great throng” (*pollos . . . bomilos*) that it modifies. That is to say, the discrete pleasures and desires of individual audience members actually serve to fuse them together as a single unit or organism. This unit itself literally encircles the “desirable chorus” at its center in the structure of line 603, verbally miming a unified community forged through the audience's joyful and spontaneous imitation of the chorus's own circular motion.

This community-building function of *eros* might seem to be belied by other contexts in Archaic poetry, where the spontaneous, overwhelming erotic desire inspired by dancing bodies in motion seems to target or focus on a single dancer. Thus, to offer another example from the *Iliad* where dance has this same overpowering erotic effect on the *gods* who witness it, consider the genealogy of one of Achilles's troop commanders in book 16 (lines 179–183; cf. Lonsdale 1993:264):

Of the second band, warlike Eudoros was the commander, a maiden's child, whom Polymele, beautiful in the dance, bore, the daughter of Phylas. Her the mighty slayer of Argos [Hermes] desired, when he caught sight of her among the girls singing and dancing in the chorus of sounding, gold-spindled Artemis.

The synapse between choral activity and immediate, overpowering erotic desire could not be more clearly articulated in this passage—summarized in Polymele's telling epithet “beautiful in the dance” (*chorōi kalē*). At the same time, *eros* here might seem to disrupt the social order, as the god swoops in and carries off Polymele from the midst of the dancing group.

Nonetheless, I would contend that this “spotlighting” effect of *eros* does not contradict the argument advanced here, because such galvanizing erotic desire tends to target or halo the sociopolitically most prominent participants—the chorus leaders who lead by virtue of high status and position. In these terms, the special erotic frisson that haloes or singles out the lead dancer serves as a kind of ritual legitimization of social hierarchy—something akin to Catherine Bell's “redemptive hegemony,” which irresistibly constitutes or affirms the cosmic rightness of the existing social order (Bell 1992). The two substantial fragments of Alkman's *Partheneia* or *Maiden Songs* (frags. 1, 3 *PMG*), presumably performed in Sparta in the seventh century B.C., provide good examples of this kind of erotic desire focused on (socially superior) chorus leaders. In both cases, the expressions of desire are voiced by the other female choreuts in song, but they seem to ventriloquize or focalize the erotic attention of the male spectators. Scholars have also suggested that these choruses of girls represented and affirmed Spartan hierarchy as well as community, since they were led by girls who may have been members of the two Spartan royal houses (Calame 1977, 1997; Nagy 1990:345–370). Finally, beyond such general effects of legitimating social hierarchy, such choral performances are presumed by many scholars to have initiatory functions, for which the “spotlighting” of erotic interest on a lead dancer would have been an appropriate marker of nubility and prelude to marriage (Calame 1977, 1997; Peponi 2004, 2007; Stehle 1997:73–93).¹³ Thus we might say that, through the heightened body value it produced, *choreia* was imagined to stimulate the irresistible engagement of erotic desire but also to organize and direct that desire to its proper social ends.

Virtuosic choral performance, according to the Greeks, achieves another kind of transfiguration or simultaneous doubleness that inspires wonder (*thauma*) in the viewing audience. I have already noted one sort of transfiguration: chorus members and audience alike, for the period of the performance, are assimilated to the divine. But I want to consider a second kind of transformation that certain texts of Archaic Greek poetry suggest: in the dance, the dancers of a perfectly coordinated chorus are assimilated also to wrought or fashioned precious art (*daidala* or *agalmata*). Indeed, they are on occasion imagined as moving statues, the products of divine or uncanny crafting (compare Power 2011:66–76).

Here I want to start from two hexameter passages that share a strange expression and thereby emphasize the flashing, shining, scintillating qualities of dancers in motion. First, the description of Apollo playing the kithara and dancing in the midst of the divine chorus on Olympos (*Homeric Hymn to Apollo* ll.201–203):

But Phoibos Apollo plays the lyre in their midst, stepping high and beautifully and a gleam [*aiglē*] shines about him and the glintings of his feet [*marmarugai* . . . *podōn*] and of his finely-woven chiton [shine about him].

Here, the god in dance is radiant, giving off light or scintillating sparks (*aiglē*, *marmarugai*). But a chorus of human dancers, too, at least according to the *Odyssey*, can produce the same astonishing effect. Thus we find in the description of a Phaiakian chorus of young men dancing in *Odyssey* 8 (ll.264–265):

And they were beating out the divine dance [*choron theion*] with their feet.¹⁴ But Odysseus was observing the glintings of their feet [*marmarugas* . . . *podōn*] with wonder, and he was marveling in his heart.

These are the only two occurrences of the noun *marmarugē* in all of early hexameter, and they are deeply weird. Commentators and translators have not appreciated how bizarre the phrase *marmarugai/-as* . . . *podōn* actually is, blunting its force by assimilating it to the English expression “twinkle toes.”¹⁵ But *marmarugē*, related to the verb *marmairō*, properly denotes the “glint” or “gleam” of metal or highly polished crystalline stone.¹⁶ (Indeed, it is from the verb *marmairō* that we get our word *marble*.) So here the choreuts seem to be transformed in dance into *daidala* or *agalmata* fashioned of precious metal or worked stone. And it is striking that this passage in *Odyssey* 8 is also the only place in all early hexameter where the adjective *theios* serves as an epithet for *choros* (cf. Heubeck et al. 1988:363). Twelve times this adjective characterizes “singers” in the *Odyssey*, and in those contexts we routinely translate it as “divinely inspired” (cf. *Odyssey* 1.336, 4.17, 8.43, 8.47, 8.87, 8.539, 13.27, 16.252, 17.359, 23.133, 23.143, 24.439). So here, the Phaiakian chorus, at the moment that their feet in motion shimmer and glint like metal, are beating out a “divine” or “divinely inspired” dance. And, of course, Odysseus’s reaction to this remarkable fusion of elements—human and divine, natural and artificial—is wonder, a point emphasized by the verbs *thēeito* and *thaumaze* (l.265).

Even without the astonishing *marmarugai*, other passages could be cited to support the glinting, shimmering effect of dancers in motion. Thus we might look again at the description of the mixed male and female chorus that rounds out Achilles’s shield in *Iliad* 18, specifically lines 593–598:

Where the young men and maidens who bring their parents many oxen were dancing, holding hands on each others’ wrists. And of these, the girls had thin linen garments, while the young men were clothed in chitons fine-spun and gleaming with oil; and the girls had beautiful crowns, while the young men had golden daggers [hanging] from silver belts.

Here, the chitons of the male dancers shimmer or twinkle with oil, while their golden daggers and silver belts flash in the movement of bodies that are themselves (of course) fashioned of gold and silver.

It might be argued that these passages do not in fact figure dancers as precious wrought objects; instead they signify simply a scintillating effect of light and shadow produced by choral motion—an effect differently achieved by polished metal or gleaming marble images. But there is another detail that in a different way suggests dancers transformed into moving *daidala* or *agalmata*—and that is the language of choral song or dance as a “fitting together” of diverse elements. We see this conception already in the last line of the description of the chorus of Delian maidens in the *Homeric Hymn to Apollo* (l.164): “So beautifully is their [choral] song fitted together” (“*kalē sunarēren aoidē*”). The fifth-century poet Pindar is particularly fond of this notion of integrated choral performance as the crafting or joining together of disparate parts, and in his handling, this “fitting together” already transmutes the perfectly synchronized chorus into precious art.¹⁷

In a complex example from Pindar’s *Nemean* 3 (a poem celebrating the athletic victory of the Aiginetan Aristokleidas), the poet begins with an invocation to the Muse to “come to the Dorian island of Aigina” (*Nemean* 3.1–5):

O mistress Muse, our mother, I pray you, come to the hospitable Dorian island of Aigina in the holy Nemean month; for young men, craftsmen of honey-voiced revels [*tektōnes kōmōn*], wait at the Asopian water [presumably a spring on the island of Aigina; thus Bury 1890:45; Pfeijffer 1999:247–248; Wilamowitz 1922:277, note 2], seeking after your voice.

Then, a few lines later, the poet addresses an imperative to the Muse (*Nemean* 3.9–17):

Bestow an abundance of [song] from my cunning and begin for the lord of heaven, rich in clouds, the distinguished hymn, daughter [of Zeus]. And I will make it common to the soft erotically-charged voices of those and to the lyre. And it [the hymn] will have graceful toil as an ornament [*agalma*] of the place where the Myrmidons lived before, whose agora of ancient fame Aristokleidas did not taint with reproaches in accordance with your allotment by being soft in the mighty expedition of the pankration.

(To explain a little: in this poem in honor of an athletic victor, Pindar makes a name pun between the Muse Kleio and the victor Aristokleidas, and on that basis he attributes the victor’s success to the Muse’s special favor.) Along the way, the poet emphasizes the disparate elements that constitute choral performance when he says that he will share out the hymn, gift of the Muse from the treasure house of his own craft or cunning, to the erotically charged voices of young men (*keinōn . . . oarois*) and to the lyre.¹⁸ More remarkable still are the next lines, where we are told that the hymn “will have graceful toil as an ornament [*agalma*] of the place.” The exquisite oxymoron “graceful toil” (*charienta . . . ponon*) I take to be the dance itself, which in the movement of this line transforms the young Aiginetan choreuts from “craftsmen of revels” to their own product—moving statues as an *agalma* of

the Aiginetan agora. Here, where we might expect to find a statue (*agalma*) of the athletic victor himself set up by his grateful city, we are given instead a whole chorus of moving, breathing, singing statues.¹⁹

Indeed, this idea of the fitting together or perfect integration of different elements in choral performance as assimilating the moving chorus to an object of divine or uncanny crafting is already doubly encoded in the archetypal chorus represented on the shield of Achilles. Here notice first the simile the poet offers us for this chorus in circular motion (ll.599–602):²⁰

And they were at times running with skilled feet, very smoothly, as when a potter, squatting, tests the wheel *fitted* [*armenon*] in his hands, [to see] if it runs.

Thus the skilled chorus, moving in perfect harmony as a single unified organism, is assimilated to the potter's wheel—itsself an object of skilled crafting (since it has to be perfectly balanced and symmetrical to run smoothly) and the means to craft other symmetrical and harmonious artifacts when it is properly “fitted” to the craftsman's hand.

In addition to this simile, it is tempting, given all we have seen, to consider afresh the lines that introduce this scene on the shield (ll.590–592):

And on it, the very glorious bent-limbed one was elaborating a *choros*, like the one Daidalos once fashioned for beautiful-haired Ariadne in broad Knossos.

These lines were something of a scandal in antiquity, causing much consternation (as we can tell from the Homer scholia), because the poet here dares to compare the divine crafting of Hephaistos to that of the merely mortal Daidalos.²¹ A second problem that goes back to antiquity and still vexes scholars commenting on this passage is the question of how we are to understand *choros* (which I have deliberately left untranslated). The most popular solution is to translate it as “dancing place,” imagining a beautifully elaborated circular floor fashioned by the craftsman Daidalos (cf. Cunliffe 1977:421 [1924]; Lattimore 1951:391; we find this interpretation already in the Homer scholia A, b, T ad Σ 590 [Erbse 1969–1988:IV:564]). Another alternative, supported by a report in Pausanias, is that Homer's description refers to a worked stone sculpture or relief of dancers (Paus. 9.40.3). But I think we can propose another alternative for *choros* that would, at a stroke, resolve both ancient problems. (In fact, this was already a popular interpretation of this passage in antiquity.) Perhaps what Daidalos “fashioned” (*ἔσκεν*) for Ariadne was a set of animated statues that moved and danced in unison, wrought of precious metals, just like the dancers on Hephaistos's shield.²² And since the fashioning of moving statues was famously Daidalos's particular art, he appears here as an appropriate comparison for Hephaistos, despite his mortal status. (Indeed, this is the only mention of the craftsman Daidalos in all of Homer.)

I'd like to conclude by thinking a bit about the implications of this fantasmatic assimilation of moving bodies to objects of precious art or uncanny crafting. In

a sense, this perceptual collapse works in the opposite direction from the erotic desire that spotlights or isolates a single lead dancer. For the dancers themselves, this fantasized transformation perhaps acknowledges the experience of being taken over, possessed, and controlled by a higher power in dance, just like the (always multiple) automata of Daidalos or Hephaistos, which act as mechanical extensions of their makers' will. For the viewing audience, this is importantly an effect of perceiving the chorus in dance as a single, articulated mechanism whose parts all move in unison. In these terms, the vision of dancers in all their finery as a phalanx of glittering, moving statues registers the wondrous coordination of the chorus and the merging of each individual choreut in the group. This is an effect of radical otherness, but let us not forget the simultaneous intersubjective fusion and merging of chorus and audience considered earlier. Insofar as the chorus serves to represent and draw in the whole community, its bodying forth of magical unity animated by a higher power is closely linked to moral effects: the affirmation of proper communal (civic) order as part of a proper, hierarchized cosmic order.

Indeed, we can track something of these implications by returning briefly to the passages from Pindar and *Iliad* 18 that I've just been considering, for both in fact thematize the shift from multiplicity to unity through the mechanism of inspired dance. In the complex sequence from *Nemean* 3, I suggested that the poet ends with an image of the singing, dancing choreuts as a set of moving, animated statues in the Aiginetan agora. But this formulation is itself not quite accurate—the poet's image is not of the singing, dancing chorus as a set of *agalmata* but of the dance itself (*charienta* . . . *ponon*) as a single *agalma*. In the movement of these lines, the divine or otherworldly gift of song (from the Muse), through the mediation of the poet's "craft" (*mētis*), magically transforms the young men from a disparate plurality of "craftsmen [of revels]" to a single marvelous wrought object. And the poet immediately mobilizes this magical effect in the service of a moral and political affirmation about the athletic victor Aristokleidas, in whose honor the poem was performed and who is named here for the very first time: "where the Myrmidons lived before, whose agora of ancient fame Aristokleidas did not taint with reproaches" (*Nemean* 3.13–16). These lines carefully situate Aristokleidas in time and space, linked to his glorious mythic ancestors (the Myrmidons) and to the public space of the city (the agora) while affirming that he is a worthy descendant and ideal citizen ("he did not taint . . . the agora of ancient fame").

Strikingly, the description of the mixed chorus on Achilles's shield in *Iliad* 18 enacts the same progression from multiplicity to unity, from parts to whole. In my earlier discussion, I considered the two similes that frame this description in reverse order so as to tackle last of all the complex opening image of the Daidalic chorus. But read in sequence, this description starts with the comparison to the chorus of Daidalos and ends with the simile of the potter's wheel. Thus the passage progresses from a vision of separate, articulated, magical statues to a single made object, solid but moving very fast, animated (as it were) by the external agency of the craftsman's

hand. And whereas Pindar's song deploys its quasimagical image of choral unity in the service of a sociopolitical affirmation (of the victor as good citizen), the scene of dance on the shield of Achilles, I would contend, subserves a cosmic vision of human order. For here, remarkably, this perfectly ordered and harmonious chorus figures as the climactic and outermost ring in a series of concentric circles that represent the entire human world on the shield—a city at peace, a city at war, the agricultural seasons—encircled only by the very rim of the shield, representing in turn the all-encompassing “stream of Ocean” (*Iliad* 18, ll. 607–608).²³ The account of choral value I've offered may help explain why this chorus figures so prominently in the composition of the shield, for *choreia*, by fusing multiplicity into unity, multiple bodies into a single organism, enables and subtends all the forms of human social order depicted on Hephaistos's masterwork.

ACKNOWLEDGMENTS

.....

I owe warm thanks to John Papadopoulos and Gary Urton for the original invitation, for organizing the conference, and for their efficiency, wisdom, and good humor as volume editors. Thanks also to all the conference participants for their contributions to an enormously stimulating intellectual experience. For reading and commenting on earlier drafts of this paper, thanks to Boris Maslov and Natasha Peponi; for sharing unpublished material with me, I am indebted to Richard Neer and Deborah Steiner. In addition, several years after this paper was originally conceived and written, I discovered that Tim Power had independently developed a similar argument for the Greek imaginary of perfectly coordinated choruses assimilated to uncanny moving statues; see Power (2011). Thanks to him for sharing his manuscript with me before publication, and for ongoing conversation about these issues. Throughout the paper, translations from Greek are my own unless otherwise noted.

NOTES

.....

1. For the rarer cases mentioned, we find an example of one group dancing while another group sings in the *Homeric Hymn to Apollo*, lines 189–199, and an example of a group dancing while an individual sings at *Odyssey* 8.262–367. In addition, the boy whose beauty in dance Socrates admires in my epigraph from Xenophon's *Symposium* is dancing *solo* at a private drinking party. Nonetheless, I would argue that the heightened aesthetic beauty conferred on bodies by the motion of dance is generally applicable to choral as well as solo dance in ancient Greek texts.

2. I do not have the space here to consider yet a third aspect of *choreia* that extant Greek texts explore: Plato's complex sociological and cosmological accounts of education and habituation through choral song and dance, mainly in the *Laws* (but also, to a lesser extent, in *Republic*, *Phaedrus*, and *Timaeus*). For Plato's thinking about *choreia*, see the essays collected in Peponi 2012. Another domain of evidence I will not consider here (and a slight exception to the invisibility

of *choreia* in the archaeological record) is painted representation of dance, mainly on Greek painted pottery. On vase representations of dance, see Ferrari 2008; Lonsdale 1993; Naerebout 1997:209–253).

3. Notice the appropriateness of the palm tree on Delos, especially if, as Kowalzig 2007:59–68 argues, choruses sent by the different cities to Delos were all reenacting the mythic birth of Apollo and Artemis from Leto as she hung onto the sacred Delian palm tree. Compare also *Odyssey* 6.149–169—as if Nikias wanted to set up Odysseus’s uncannily beautiful palm tree as a permanent dedication. (For Odysseus’s aesthetic appreciation of the palm tree in this passage, see James Porter’s essay in this volume.)

4. Specifically, we find this kind of “internal” account of the effects of dance on the dancers themselves in the choruses of Euripides’s *Bacchae*; in much of the discussion in books 2, 3, and 7 of Plato’s *Laws*; and, to a lesser extent, in Socrates’s great speech in Plato’s *Ion*. For extended discussion of Plato’s texts in these terms, see Kurke 2012 and the other essays in Peponi 2012.

5. I am adapting here the formulation of Neer (2010:31) that the Greek statue is a “machine for the production of presence”; I am at the same time influenced by Gell’s notion that highly patterned art objects represent a “technology of enchantment” (Gell 1992, 1998:73–95).

6. This shift from *pothos* (desire for one who is absent) to *eros* reflects one significant difference between the effects of *choreia* and those of Greek statuary as Neer describes them. Neer (2010), following Vernant (1990, 1991), crucially conceives the Archaic statue as the “presentification of the invisible” or absent, and this dialectic of presence and absence is foundational for his account of the effects of Greek statuary. I would argue, in contrast, that the chorus is all about presence; there is no absence. If there is a founding dialectic for *choreia*, it is perhaps rather the tension between one and many or whole and part; see discussion in text and compare Gell 1998:95: “Drawing and music and dance tantalize our capacity to deal with wholes and parts, continuity and discontinuity, synchrony and succession.”

7. Compare Herington (1985:6) on the paradigmatic quality of the Ionian festival described in the *Homeric Hymn to Apollo*: “This description, like so many descriptions embodied in the early epic poetry (the banquet, the sacrifice, the welcoming of a stranger, the ship putting to sea), is surely meant to be paradigmatic. This is not just *one* great festival, the periodic gathering of the Ionian Greeks from the islands and the Asiatic coast, but in a sense it is *all* such festivals: a festival as it should be.” This same paradigmatic quality a fortiori characterizes the elements on the shield of Achilles; cf. Redfield 1975:186–189.

8. The notion that the gods are present at a religious festival, conjured up by choral song and dance, is pervasive in Archaic Greek poetry; for passages that make this connection particularly clear, see Alkaios frag. 307 LP; Pindar, *Olympian* 3.34–35, *Pythian* 10.34–41, *Pythian* 11.1–10; Euripides, *Bacchae* 114–19 and see the scholarly discussions of Burnett 1985:6–14; Lonsdale 1993:66, 1995; and Mullen 1982:71–89. For the related notion that festival song and dance briefly and intermittently replicate the gods’ own choral activity on Olympus (as depicted in the two parallel scenes of the *Homeric Hymn to Apollo*), see Clay 1989:49, 53–54; Lonsdale 1993:51–66, 1995:25, 28–32, 38; A. M. Miller 1986:68–69; and Mullen 1982:10–11. Peponi (2004) also notes the parallels between Delian and Olympian choral performances, but properly calls attention to the features that distinguish the two as well.

9. Compare Peponi (2009:67): “Ultimately, this enchantment should be understood as a deep immersion into an ideal world of *mousikē*, where the line separating the act of performing from the act of attending tends to disappear. What we have here, then, is a system of intense reciprocity, where choral performance, on the one hand, and spectatorship, on the other, are conceptualized not only as interactive but as essentially mutually empathetic: through their excellence the choral performers achieve a holistic representation of the audience; in turn, the enchanted audience empathizes to such a degree that they attend as virtual performers.”

10. For the formula “immortal and ageless” applied to the condition of divine beings (the Olympian gods, Achilles’s immortal horses, Kirke), compare *Iliad* 8.539, 12.323, 17.444 and *Odyssey* 5.136, 5.218, 7.257, 23.336; for the same formula used for precious objects of divine crafting, compare *Iliad* 2.447 (Athena’s aegis) and *Odyssey* 7.91–94 (the gold and silver dogs fashioned by Hephaistos to guard the palace of Alkinoos in Phaiakia). For the uniqueness of the formula “immortal and ageless” applied to human beings in this passage, compare Herington 1985:6–7 (who connects it with the “reciprocal joy” of festival participants and spectators) and Lonsdale 1995:30 (who links it to the Ionians’ festival assembly and segregation into “choral groups”).

11. For the Charites, *charis*, and its derivatives associated with song and dance, compare Homer, *Odyssey* 18.194; Hesiod, *Theogony* 64–65; Alkman frag. 27 PMG; Stesichoros frag. 212 PMG; Adespot. frag. 936 PMG; Pindar, *Olympian* 14.8–10, 14.13–17, *Pythian* 12.26–27, *Nemean* 3.12, *Isthmian* 1.6–10, *Dith.* frag. 75 Maehler, ll. 1–2, *Paian* 6.3, *Paian* 12.7; Euripides, *Herakles Mad* 673–686, *Iphigeneia in Tauris* 1143–1151, *Phoenician Women* 788; and Xenophon, *Symposium* 7.5; see also the discussion of Lonsdale 1993:58–60, 165, 199, 273–275; MacLachlan 1993:23–24, 46–49; and Mullen 1982:82–86.

12. Indeed, we might even suggest that the phrasing of line 156 (“And in addition, this is a great *thauma*”) implies that the whole festival scene in which the Ionians appear “immortal and ageless” is itself a first *thauma*; cf. A. M. Miller 1986:59. See also Peponi (2004, 2009) on the complete empathetic identification between chorus and audience in this festival scene.

13. For other examples where erotic desire seems to spotlight or halo a single dancer, see *Homeric Hymn to Aphrodite* ll.117–120; Sappho frag. 16 LP (if we assume, with Burnett 1983:280, note 5, that the speaking “I” of the poem remembers Anaktoria *dancing*). Finally, a scene from *Odyssey* 6 offers an excellent example of how choral dance worked to direct and focalize erotic desire onto a socially prominent individual in the group: just before Odysseus awakens and reveals himself to the Phaiakian princess Nausikaa, the poet tells us that she was leading her maidservants in ball play, accompanied by song and dance (*molpēs*; *Odyssey* 6.100–101). This choral activity then inspires a long narrative simile comparing Nausikaa to Artemis dancing amid a chorus of mountain nymphs (*Odyssey* 6.102–109), which concludes, “She is head and shoulders above all of them, and easily she is far-conspicuous, though all are beautiful; thus the unyoked [unwedded] maiden was conspicuous among her maidservants.” It is also worth noting that this whole sequence sets the scene for Odysseus’s own comparison of Nausikaa to the goddess Artemis (*Odyssey* 6.150–152), as well as his none-too-subtle hints at her impending marriage, the first of which is finessed by mention of her participation in choral song and dance (*Odyssey* 6.155–159; cf. 6.179–185).

14. For *choros* here as the dance rather than the dancing place, see Heubeck et al. 1988:363 (commenting on *Odyssey* 8.264); Stanford 1971:I:338 (commenting on *Odyssey* 8.260) versus Cunliffe 1977:421 [1924] s.v. *choros*.

15. Cf. Stanford 1971:I:338; see also Cunliffe’s translation of *marmarugē*: “a twinkling or flickering” (Cunliffe 1977:255 [1924]).

16. The verb *marmairō* occurs frequently in the *Iliad* for the glinting of armor, weapons, or bronze (*Iliad* 12.195, 13.22, 13.801, 16.279, 16.664, 18.131, 18.617, 23.27; also for the glinting of Aphrodite’s eyes, giving her away as divine, even in mortal disguise; *Iliad* 3.397); cf. Alkaios frag. 357 LP (the glinting of armor hung up in the house); Bacchylides frag. 20B SM, l.13 (the drinker has fantasies of “houses shining with gold and ivory”). Compare also the noun at Bacchylides, *Ode* 3.17–18 for the scintillating gleam of golden tripods in the sun. For the radiance of marble as “shining stone,” see Stewart 1990:36 and Neer 2010:73–77: “marble is *radiant*. Fine white marble does not reflect all of the light that hits it. It allows some to pass through the crystalline structure, with the result that a marble statue or building will appear to glow in the Aegean sun. On the other hand, because the Cycladic marble of much early sculpture is micaceous, a slight

but noticeable sparkle offsets this light-absorbing and diffusing property. Both qualities register in the stone's name: 'marble,' or *marmaros*, derives from the verb *marmairō*, 'to shine or flash.' Marble is literally, 'shining stone'" (Neer 2010:74; italics in original).

17. See Wu Hung 1995:24–27 (writing about the ancient Chinese use of jade and of highly stylized, impractical forms) for a characterization of "costly art" that is very relevant for the analysis of Greek choral song and dance.

18. *Oaros* (usually in the plural, *oaroi*) in poetry sometimes signifies just intimacy (e.g., *Homeric Hymn* 23.3) but very often carries an erotic tinge; thus Hesiod, *Theogony* 205; *Homeric Hymn to Aphrodite* 249; Callimachus, *Bath of Pallas* 66. Cf. Liddell et al. 1968:1196 s.v. *oaros*: "in later Poets mostly of lovers." Pindar uses the noun four times of speech or song in the *epinikia* (*Pythian* 1.98, *Pythian* 4.137, *Nemean* 3.11, *Nemean* 7.69). I contend that all these instances carry nuances of "erotically charged," "seductive," and "persuasive."

19. For a syntactic interpretation along the same lines as mine, see Bury 1890:47; Slater 1969 s.v. *agalma* (which he translates here as "glory, delight"—not "statue"); differently Pfeijffer 1999:268–269. For the broader interpretation, my reading here is very close to that of Steiner 2001:260, 273, although for Steiner it is the *poem* that is transformed into a statue, not the moving chorus that performs it (thus already Bury 1890:47). In fact, this is syntactically a little difficult, since *humnos* is then both subject and object of the sentence in ll.12–13. For the oxymoronic *charienta* . . . *ponon* as a way of describing ritual dance, compare Pindar, *Dith.* 3, frag. 70c Maehler, line 16 and Euripides, *Bacchae* 64–67. Space permitting, it would also be interesting to consider *Nemean* 7.77–84 and *Nemean* 8.13–16—other passages where Pindar represents a performing chorus as a precious Daidalic object skillfully fitted together from disparate parts.

20. Based on other literary texts and visual representations, Lonsdale (1993:66, 214–217; 1995:30) argues that the gesture of *cheir epi karpōi* (as at *Iliad* 18.594) signifies circular dance.

21. Compare the Homeric scholia A, b, T ad Σ 591–592 (Erbse 1969–1988:IV:564–565). The scholia offer various defenses against unnamed critics who contend that the characterization of the god Hephaistos as an "imitator" of the mortal craftsman Daidalos is "inappropriate," or even "irreverent."

22. For this possibility, compare Frontisi-Ducroux 2000:135–137, citing Callistratus, *Descriptions of Statues* 3.5 (*choron êskēse kinoumenon Daidalos*); Lucian, *On the Dance* 13; and Philostratus, *Imagines* 10. Lonsdale 1993:296, note 28, contends that *choros* here cannot mean dancers because *êskēsen* never has dance as its object in Homer; "the verb *êskēsen* . . . implies something crafted." But this precisely misses the point of the comparison with Daidalos in this context.

23. For the compositional structure of the shield as a set of concentric circles, I follow Redfield 1975:187–188. For a somewhat different argument for the cosmic significance of the mixed chorus on the shield of Achilles, see J. Miller 1986:24–28.

CHAPTER 11

.....

BODIES AND THEIR
VALUES IN THE EARLY
MEDIEVAL WEST

.....

PATRICK J. GEARY
INSTITUTE FOR ADVANCED STUDY, PRINCETON

ABSTRACT

.....

This paper returns to a topic I treated some years ago: the circulation of sacred relics, or the physical remains of holy men and women in Western Christian society, to consider how value was constructed around these corporeal remains. The paper begins by reviewing the research on Western relic cults since 1976, when seminal articles by Peter Brown and John McCulloh demonstrated, in very different ways, how the reverentia afforded saints' remains was carefully constructed by religious leaders, primarily bishops, who took the lead in constructing value for these objects by vetting, promoting, and disseminating belief in the value of particular bodies in a complex process of competition for authority within the developing Christian community. The paper then summarizes my earlier study of the circulation of these objects, emphasizing the role that the distribution of relics articulated in relationships, whether positive (gift), negative (theft), or neutral (sale), and the importance of the narratives describing these transfers that were vital in bringing about a cultural transformation so that a relic could acquire status and meaning within its new context. Finally, the paper reviews major new directions in the study of the construction of relics' values in late antiquity by a generation of scholars more attuned to the politics of gender. It points out that while bishops were major impresarios and beneficiaries of saints' cults, elite women played an equally important role in the early development of relics' value as early advocates of specific cults and as those who used their influence to obtain relics from distant sites. They, like the bishops, who were often their rivals, were in precarious social and political relationships, and they sought in the construction and reconstruction of value in relics to preserve and enhance their own.

On June 6, 1989, the body of Iran's Ayatollah Ruholla Khomeini, who had died just before midnight on June 3, was wrapped in a white shroud and inserted in an air-conditioned glass case (Buchan 2009). The case in turn was placed on a podium constructed of steel shipping containers in an open space in northern Tehran known as Musalla, a square used for public prayers and sacrifices on religious holidays. Soon a crowd that has been estimated at more than a million people filled the square, pushing forward to be as close to the body as possible. The press of people was so great that eight were reported killed in the crush. The next morning, the body was taken down from the podium and the case was opened. After a short prayer service, an air-conditioned hearse arrived. It was supposed to take the body to its final resting place, a tomb at Behesht-e Zahra, a cemetery for those killed in war and the Iranian Revolution. However, by then the crowd had grown to several million, all of whom surged forward in an attempt to touch the body. They packed the route so densely that the hearse could not move. Eventually it had to be replaced by a helicopter, which transferred the body to Behesht-e Zahra. Once the helicopter arrived, another crowd was waiting with even greater enthusiasm. People surged through the barriers, desperate to touch the corpse or to take a scrap of his shroud. In the wild melee that followed, the crowd ripped the casket from the hands of the Revolutionary Guards, spilling the body onto the ground. The shroud was ripped to pieces as people competed for fragments, leaving the corpse exposed and its limbs hanging loosely. The Revolutionary Guards attempted to fight back the mourners by firing rifles over their heads and blasting them with fire hoses. Finally the body was put back into the coffin, which was hastily shoved into the helicopter. The helicopter immediately took off, the casket hanging precariously from the open door. Five hours later, the Ayatollah was successfully buried. This time the corpse was placed in a covered metal coffin. The lid was removed only at the last moment, so the body could be put into a tomb wrapped only in its shroud. The tomb was then covered with heavy slabs of concrete. A steel shipping container was placed on top of it to prevent the crowd of mourners from disinterring the corpse. In the end, in addition to the eight dead on June 6, some 440 persons required hospitalization and 10,800 were treated for injuries and released.

While modern, secular Westerners may find this description almost incomprehensible (although the events surrounding the funeral of Michael Jackson should remind us that the potential for such behavior is as strong in Los Angeles as in Tehran), scholars of antiquity might recognize such events as entirely normal, even to be expected, upon the death of a holy man. In A.D. 446, during the funeral of Hypatios, we read that "the crowd tore apart the funeral bed in order to carry away some portions of his clothes as an eulogia; one cut the shroud with a knife, another the cloak, while a third pulled hairs from his beard" (Bartelink 1971; cited in Kaplan 1999:20). One might almost think that the funeral of the Ayatollah was following the script of that of Daniel the Stylite in 493. Daniel had prepared for his own funeral by having his devotee Herais, a woman who had conceived a son by

Daniel's miraculous intervention, supervise the construction of a circular wooden ramp, by which, after his death, his body might be brought down from the pillar on which he had lived for 33 years. The ramp was necessary to prevent the body from being torn apart by a crowd that formed when it became obvious that the end of the saint's life was approaching. After Archbishop Euphemius confirmed his death, the body was attached to an upright plank and displayed for hours to the crowd "like an icon." Then, with the body placed in a lead coffin to protect it from the crowd, the archbishop attempted to bring it down from the column. However, the wooden ramp collapsed under the weight, spilling the coffin onto the ground below. Only with great effort were those carrying the coffin able to withstand the crush of the crowd and get it safely into a predesignated tomb (Delehay 1913). Euphemius was fortunate: in A.D. 529 the crowd at the funeral of Theodosius the Cenobiarch rushed the funeral procession led by Peter, patriarch of Jerusalem, to touch the body, cut off a bit of the saint's clothing, or even tear out some of his hair or beard. Such actions indicate not the frenzy of mourning but the determination of followers to maintain contact with a holy man beyond death by possessing a eulogia, a gift from the holy man's body that keeps on giving.

But even while seeing similarities between the events of 1989 and late antiquity, we must be careful not to assume that they are in some way evidence of a *longue durée*, much less *histoire immobile*, in the Middle East. We should be attentive to the differences, both with the traditions of Shi'ite veneration for imams and with the different ideological and political strategies pursued by those orchestrating the obsequies. In particular, two figures active in the sixth-century accounts are wholly missing in the Ayatollah mob scene: bishops and women. In the past decades, much of the important and innovative work on the construction of values of saints' relics has focused on the first of these two, and much promising work is currently being done on the latter by those interested in the construction of relic values in late antiquity and the early Middle Ages.

Relics, either portions of human bodies or bits of cloth, wood, or other material that came into contact with these bodies, are a category of high value and high prestige objects that I first studied some 35 years ago (Geary 1978). I must confess that it has been a very long time since I have done serious research in this area, and I am grateful to return to the "follies of my youth" and to take stock of what has been accomplished in the three and a half decades since I began to be interested in the movement of relics in late antiquity and the early Middle Ages.

Prior to the 1970s, professional historians had paid virtually no attention to relics and relic cults, although reliquaries had drawn some attention from art historians. Two fundamental articles, both written in 1976, ushered in a major shift in the study of relics in late antiquity and made possible my own contributions and those of subsequent generations of scholars.

The first article, of course, was Peter Brown's "Relics and Social Status in the Age of Gregory of Tours," delivered that year as the Stenton Lecture and published the

following year (Brown 1977; reprinted in Brown 1982:222–250). In this influential lecture, which laid the groundwork for his book *The Cult of the Saints* (1981), Brown began by “evoking the intrinsic context of sixth-century belief in relics.” He then proceeded to examine the nature of the *reverentia* that Gregory demanded be displayed to these relics, and he showed how this belief and the behavior that bishops such as Gregory demanded in response to it were used by churchmen to define and stabilize their own at times precarious positions. As Brown developed his theme, he showed how the particular value of relics, far from being some ahistorical human trait or a prolongation of the cults of local deities, was a carefully constructed phenomenon in which those responsible for cults—that is, bishops—had to carefully point out both the potency of these bodies and the proper human responses to them. Devotion to relics in general may have been widespread, but in a series of revealing anecdotes, Brown demonstrates that in each particular instance, a careful, skeptical, and essentially political process of vetting, promoting, and selling of the powers of any particular relic was essential. The precarious judgment of whether any particular body was indeed worthy of the *reverentia* accorded genuine relics was paralleled, indeed intimately connected to, the precarious position of every bishop engaged in the promotion of these cults. This ultimately was the genius and significance of Peter Brown’s article: first, it drew attention away from the relics to the people who promoted them; secondly, it unmasked the insecurity and constant struggle for authority that lay at the core of Gregory’s facade of episcopal authority. If so many of his fellow bishops fell under his caustic condemnation or dismissive asides, as well as under assassins’ knives, Gregory himself was no more secure vis-à-vis either the Frankish rulers he served and feared or the community he claimed to lead. The *Inszenierung*, to use a currently popular catch phrase that echoes Brown’s own image of “impresarios of cults,” constructed a ceremony of *adventus* and *consensus* in which the arrival of the saint’s body occasioned communal acceptance of not only the saint but the bishop as well.

The second article, less known but I think in its own way as significant, was John McCulloh’s “The Cult of Relics in the Letters and Dialogues of Pope Gregory the Great: A Lexicographical Study” (McCulloh 1976). While this article is, as its subtitle implies, a careful analysis of Gregory’s use of the terms *reliquae*, *beneficia*, *sanctuaria*, *benedictio*, and *brandeum*, the core of the study is Gregory’s response to the 594 request of Empress Constantina (ca. 560–605) that he send her the head of Saint Paul or some other portion of his body. This was a bold request, but given Constantina’s status as the daughter of Emperor Tiberius II Constantine and as consort of Emperor Maurice since 582, it was one that Gregory could not so simply refuse. McCulloh analyzes Gregory’s carefully framed response by parsing the vocabulary Gregory employs to describe both what the empress requested and what he was prepared to deliver in the context of his other communications and mentions of relics of the saints. Prior to McCulloh’s analysis, those rare scholars who had paid any attention to papal relic distribution had assumed that Gregory’s

response to the empress, namely that “it is not the Roman custom, when relics of the saints are given, that anyone should presume to touch any part of their body”¹ and that, moreover, “in Rome and in the whole West it is considered intolerable and a sacrilege if anyone should wish to touch the bodies of the saints,”² was less a description of Western practice than an expedient to avoid having to part with so precious a relic. McCulloh, by looking at those instances in which Gregory did agree to share relics or in which he mentions relics, was able to uncover a carefully nuanced series of distinctions between corporeal relics, contact relics that might be placed in altars or form the object of communal worship, and relics that might be intended solely for personal protection. His analysis shows that, at least as concerned Roman tradition and practice in the control and dissemination of corporeal relics, Gregory’s response to Constantina was in fact consistent with his past practice and demonstrated a nuanced approach to relics and the proper *reverentia* owed them, even if in some particulars it did not actually represent practice “in totius Occidentis partibus,” as he claimed in his letter.

Together, these two essays opened new perspectives on how historians might treat relics and the people who controlled access to them. First, the essays demonstrated the importance of considering these objects not within some timeless tradition of popular superstition but within very specific historical and social circumstances. Second, they showed that relics could be understood as a specific type of social capital that was carefully negotiated as a means of exercising power and establishing authority, not so much of the saint but of the bishop. Most importantly, then, these studies moved the study of relics from objects to persons, and they placed these persons in particular cultural and political situations.

The proliferation of relic studies since 1976 both in Byzantine and Latin history is well known. Once the subject had been liberated from religious polemic and its historicity was established, and once scholars began to focus on the place of relics in systems of social competition and balance, reciprocity and exchange, relics moved from the periphery to the center of a number of historical discourses. One of these was the challenge of examining relics within a wider system of exchange and circulation of high-value objects.

I assume I was invited to speak in this impressive conference of anthropologists, classicists, and archaeologists because more than 20 years ago I took up this challenge and published an essay in an otherwise excellent collection edited by Arjun Appadurai, *The Social Life of Things: Commodities in Cultural Perspective* (Appadurai 1986b). In that essay, “Sacred Commodities: The Circulation of Medieval Relics” (Geary 1986), a much younger Patrick Geary discussed sacred relics as commodities but also as persons, drawing on Igor Kopytoff’s very fruitful reflection on the cultural biography of things (Kopytoff 1986).

Relics, after all, belong to that unusual category of things that can also be persons. Not only are they the mortal remains of those once living that become *pignora*, literally, the security deposits left by saints in the earthly community, but

more than that, testimony suggests that bodies of saints were often treated not simply as pledges of the saints' continuing support but as the saints themselves, very much alive and active, able to aid their devotees or to punish their enemies. The relics were in a very real sense the saints, or at least they could be the saints, if their value were so constructed within a given community. In the words of Julia Smith, "In effect, a relic was a materialization of complex abstractions, an inert fragment equally suggestive of cosmological entirety and historical circumstance" (Smith 2010:75).

In my own discussion of the circulation of relics, I suggested that like other commodities, they circulated through three processes: gift, sale, and theft. Gift exchange, both voluntary and involuntary, was a primary means by which high-status objects circulated, articulating and reinforcing bonds of friendship but also of status and dependence. I will return to the complexities of gift giving a bit later.

If gift giving characterized the most honorable form of exchange among *amici*, or friends, certainly in the early Middle Ages, theft or raid constituted the most honorable means of exchange among *inimici*—nonfriends. The significance of relic theft, or at least accounts of theft of relics, should not be underestimated within the hagiographical tradition. My first book, *Furta Sacra*, explored this phenomenon between 800 and 1200, a period during which a veritable literary genre of furtive *translationes* developed to explain the arrival of saints' relics in significant cult centers across Europe (Geary 1978). These stories at times may well have reflected actual events; more frequently, they developed over time as people sought an appropriate way of remembering how a patron saint arrived in their community.

Commercial exchange never disappeared in the medieval West, and it constituted an important source of luxury goods, among which relics certainly can be counted. Recently, Michael McCormick has gone so far as to suggest a very clever way of tracing the waxing and waning of late ancient and early medieval Mediterranean trade by examining, across time, the origins of relics in the early relic collections at the west Frankish cathedral of Sens and the monastery of Chelles (McCormick 2001:283–318). Lacking other data on long-distant merchants, McCormick suggests that an examination of the dates that relics arrived in Francia (determined by a paleographic examination of the *authenticae*, or identifying tags that accompanied the relics), correlated with the putative geographical origins of the saints, particularly those relatively obscure saints from the Christian East, Africa, and Spain, probably correlates well with networks of the exchange of other kinds of commodities from the sixth to ninth centuries. Within Europe, we are better informed about relic merchants, chiefly from Rome, who provided relics to ecclesiastics in the Frankish Empire during the ninth century.

However, while relics were almost universally valued in the early Middle Ages, the value of any particular relic had to be constructed and reinforced. That saints' bodies were potent sources of power and security may have been general. That any particular corpse, fragment of a shroud, or vial of oil was indeed the corpse of a saint

or an object that had touched his body in life or death had to be demonstrated. In Kopytoff's terms, a thing had to be constructed as a person. Moreover, the transfer of a relic, by whatever mechanism, gift, theft, or sale, necessarily meant that the social and cultural context that had given the relic its value was disrupted. The object had to undergo a cultural transformation so that it could acquire status and meaning within its new context. But if the transfer of the relic broke the cultural context that provided the relic with its identity and value, the details of this very transfer became as well a prime occasion to reconstruct this value. The *translatio* was orchestrated, as Martin Heinzelmann (1979) has shown, along the lines of a royal or imperial *adventus*. The ceremony by which the relic was received by the community and conveyed to its new place of veneration served to highlight the significance of the saint, to authenticate the relic through spontaneous miracles produced during its progress to its new location, and thus to provide a new and enhanced identity (Heinzelmann 1979).

At least as important as the *adventus* in the creation of value were the later accounts of how this translation took place, a genre of hagiographical text usually termed *translationes*. The *translatio* had to both account for the arrival of the new saint and provide the identity and legitimization of the revalorization expected of this new arrival. In particular, it had to remove any doubts about the relic's authenticity. If the relic had been acquired as a gift, one might well ask why, if it was so potent an object, the donor had been willing to part with it. If it had been acquired by purchase, how could one be certain that the merchant was not selling fraudulent relics or the remains of some ordinary mortal? What actually transpired became much less important in the establishment of the relic's value than what was recorded and remembered about what transpired, and this need for a narrative that demonstrated authenticity and value led to the widespread use of the furtive *translatio* account, the claim that the relic was so powerful that no community would part with it willingly and that no venial merchant had had a role in its transfer. Rather, a pious individual, inspired by the saint's own desire to move to a community more prepared to venerate him or her properly, had clandestinely entered a rival church and stolen the relic. Usually pursued by locals, the thief managed his escape through the miraculous intervention of the saint, who was the real instigator of the theft, and finally brought the saint to a rejoicing community.

Finally, I found that the construction of the relic's value through the *translatio* could not be a one-time event. Relics needed periodic rejuvenation, reaffirmation, as their wonder-working abilities, which ultimately were the foundations of their value, waned over time. Thus *elevationes*, *inventiones*, and other rituals through which long-lost relics were symbolically rediscovered, placed in new improved shrines, or elevated to new positions of prominence within the churches that housed them served to reaffirm their value, a reaffirmation corroborated by a renewal of miracles, pilgrimages, and offerings.

But, as Peter Brown (1977) pointed out, the value reaffirmed by text and ritual was not simply, perhaps not even primarily, that of the relic but rather that of the person who could claim to have orchestrated its acceptance by the community. Brown, like John McCulloh, concentrated on bishops in this collaboration between mortal and saint. The construction of value was, in their view, primarily the construction of the bishop's value, made possible by his control of sacred objects and his ability to define the proper *reverentia* with which they were to be approached.

A new generation of scholars has placed the emphasis less on bishops such as Gregory than on women such as Constantina, the seeker of Saint Paul's head. This is entirely correct, because women, as has become increasingly clear, were similar to bishops in their need to secure their own values through the values of the remains of the saints. Not that this was missed by Brown (1981), of course, who in his *Cult of the Saints* emphasized the importance of women in the cult of the saints, but subsequent scholars have developed more fully the parallels between bishops such as Gregory and women such as Constantina.

Because of her fame as the discoverer of the true cross in Jerusalem, Helena, the mother of Constantine the Great, is often seen as the first woman who not only venerated but actively acquired relics, and women in search of relics are often seen as *imitatores Helenae*. However, Helena's reputation as the discoverer of the true cross was a legend, probably invented some decades after her death by Gelasius of Caesarea, as transmitted by the Latin historian Rufinus (between A.D. 340 and 345–410), elaborating on Eusebius's account of her travel to Jerusalem in 328. (On the legend of Helena and the cross, see Drijvers 1992:esp. 95–118; also Brubaker 1997.) A more likely candidate for the first known woman to collect relics as a means of personal protection is the Donatist Lucilla of Carthage, known to have carried *ossa*, or physical relics, of martyrs (Heinzelmann 1979:20; Lifshitz 2002:323), or Asklepias of Salona, who around 315 dedicated a portion of her wealth to obtain the remains of saints and constructed a basilica to house the remains of Anastasius (Heinzelmann 1979:25, Note 36, with reference to Kötting 1965:14). Be that as it may, the legend of Helena's discovery of the true cross, included by all fifth-century historians, including Zosimus and Theodoret in the East and Ambrose and Paulinus of Nola in the West, became the *locus classicus* for the role of powerful women in the procurement of relics (Drijvers 1992:102).

Actually, the first woman unambiguously involved in the procurement of relics of the true cross is Meliana the Elder (325–410), an immensely wealthy widow and powerful figure in Christian cultural politics who obtained a fragment from the Bishop John of Jerusalem (385–417), a relic she subsequently passed on to Paulinus of Nola, who sent it in turn to Sulpicius Severus, the Aquitanian biographer of Martin of Tours (Drijvers 1992:113).

Felice Lifshitz (2002:323) has gone so far as to argue that the cult of martyrs itself neither arose spontaneously in the Christian world nor was the product of episcopal authority but rather was invented by a series of late-Roman women—women

ultimately replaced by bishops who appropriated the cults from control of the matrons who had established them. Whether or not this is strictly correct, women sought important relics at a scale whose importance was certainly great. From Galla Placidia (392–450), daughter of Theodosius I and wife of first Ataulf and then Constantius III, who acquired the relics of Vitalis and Agricola (Lifshitz 2002:335), to Augusta Pulcheria (392–453), daughter of Emperor Arcadius, regent for her brother Theodosius II, and wife of Emperor Marcian, who obtained relics of Stephen for a chapel in Constantinople (Lifshitz 2002:335; on Pulcheria see Chew 2006; Teetgen 1907:178; and on Pulcheria and her cultivation of piety, see Cooper 2004), to Genovefa of Paris (ca. 419/422–502/512), who established the cult of Saint Denis, to Radegund, widow of the Frankish king Clotaire I, who obtained relics of Saint Mamas of Caesarea and most famously a relic of the true cross from Justin II, to Empress Constantina, who attempted to obtain relics of Saint Paul from Gregory the Great, high-status women sought significant relics from emperors and prelates through late antiquity.

These were perhaps high-status women, but they were not unambiguously high-powered women. Their attempts to acquire relics were part of the same search for power that Peter Brown identified in bishops. Whether queens, consorts, or heiresses, these were women whose status and position was indeed precarious. Consider Galla Placidia, whose turbulent life kept her constantly maneuvering between Gothic and imperial factions as wife, consort, and eventually regent for her son Valentinian III (see Brubaker 1997:53–55, 61; Oost 1968); or Pulcheria, ruling the empire while using her religious devotions to maneuver through the political minefield of the fifth century; or Genovefa, whose exercise of power in Gaul, not apparently based in any institutional or public authority, was intimately tied to her unique ability to discover the tomb of Dyonisius (see Bitel 2009:58–61); or Radegund, hostage daughter of the Thuringian king, who escaped her Frankish royal husband through her religious consecration and ultimately found refuge in the monastery for which she obtained relics of the true cross (see Krusch 1888:377–395; on relics in Radegund's life, see Mayeski and Crawford 2000:83–84); or finally Constantina, who, not long after her request to Gregory, saw her husband first overthrown by Phocas and then executed along with her three sons (Whitby 1988:24–27). The fragility of these women was at least equal to the fragility of the bishops with whom they at times conspired or competed for the value that control of relics could provide.

If we return to the title of this paper, “Bodies and Their Values in the Early Medieval West,” I think we can conclude first that potential value of bodies, of *brandia*, or of contact relics was great, not so much in and of themselves but to those who needed to secure their authority and power through means other than the normal channels of political and social power. Aristocratic women, desperately attempting to wield power in the public sphere, were as much in need of supernatural support as were bishops, whose self-assured pronouncements hid enormous

and well-deserved anxiety about their positions vis-à-vis each other and vis-à-vis emperors and kings, who paid much less attention to them than bishops' own writings would lead us to believe. Of course, the relics, like the bishops and women who avidly sought them, needed to have their value constantly constructed and reconstructed. In the end, the very competition for this value created a circular process of value construction and transfer: women showed their influence by obtaining relics from distant prelates or emperors or else by being the ones who first appreciated and discovered the saints who manifested their authority by miraculous intervention. Bishops demonstrated their power by refusing or according their grace to these women, acquiescing to or opposing figures who needed to be constructed as even more powerful than they were, because in either case dealing with them enhanced the value of the bishop. Finally, the narrative of the struggle to control relics, to move them, to acquire them in spite of opposition and obstacles, ancient traditions and scruples, served to authenticate and valorize these bones, bits of wood, and fragments of cloth. Just as in narratives of theft, narratives of petition created the value of that sought and in so doing benefited both petitioner and donor.

NOTES

.....

1. "Romanis consuetudo non est, quando sanctorum reliquias dant, ut quicquam tangere praesumant de corpore" (MGH Ep. I Ep. IV, 30:264.)

2. "In Romanis namque vel totius Occidentis partibus omnio intolerabile est atque sacrilegum, si sanctorum corpora tangere quisquam fortasse voluerit" (MGH Ep. I Ep. IV, 30:265.)

READ ONLY/NO DOWNLOAD

PART III

.....
OBJECT VALUE
.....

READ ONLY/NO DOWNLOAD

CHAPTER 12

.....

SYSTEMS OF VALUE AMONG MATERIAL THINGS: THE NEXUS OF FUNGIBILITY AND MEASURE

.....

COLIN RENFREW
UNIVERSITY OF CAMBRIDGE

ABSTRACT

This paper raises the possibility that the measurement of value, initiated in western Asia before the third millennium B.C., in a context where metals were particularly rated as possessed of high value, was a development that proved exceptionally influential. The practice of measurement, particularly by weight, of copper (later bronze), silver, and gold developed along with a system of exchange values for commodities (fungibility) that proved particularly effective. It was further developed in the “ancient world” of western Asia and Europe before the second millennium B.C. and provided the basis for a system of monetary coinage in the first millennium B.C. that became the foundation of the world monetary system of the present day. Indications of an analogous system of exchange, also involving mensuration and with an emphasis upon bronze as a material for high-value objects, are seen in early China. Both systems were anticipated by an earlier phase in which the emergence of “valuables”—that is, materials of notionally “intrinsic” value—can be recognized. That mensuration and systems of highly valued commodities developed in other areas, not least in the New World, need not be doubted but has not yet been systematically explored.

It is argued that application of a terminology of “value” that embraces a wider notion of “values” (for example, “place value,” “art value”) may obscure rather than clarify the further investigation of the origins of mensuration and of fungibility.

INTRODUCTION

.....

In this paper I shall argue that in eastern Europe and western Asia there developed, from the fifth millennium B.C., a system of value among material things (valuables and commodities) that came to play a unique role in world history, becoming an agent of distribution for technologies that have achieved, for the first time, the true globalization of communications and economies. The developments involved a critical nexus of exchange relationships relying heavily upon both fungibility (equivalence in value among commodities) and mensuration. These relationships established an economic system that was arguably unique in the world. Out of this system there emerged in the first millennium B.C. a crucial new development: a form of money, namely coinage, that played a central role in the Greek and Roman worlds. It allowed a new degree of refinement in the expression and measurement of value and indeed the development of a concept of monetary value. A developed version of this system was elaborated in the Middle Ages in Europe and western Asia. With the subsequent development of banking, token currency (for example, banknotes), and the limited company, the mercantile economy and developments in seafaring went on to form the political and economic basis for globalization of the colonial empires. The development of radio communication and aviation and then the Internet facilitated the emergence of the global economy of the modern world.

The special features of the early stages of these processes have yet to be adequately understood. It is clear that in many early social formations in different parts of the world, there developed economic systems favoring the emergence of cities. Many of these systems came with political and administrative organizations that can be recognized as indicative of state societies. But only in Europe and western Asia were the foundations of the modern world laid.

One obstacle to the effective analysis of these developments, however, may be the very broad or loose definition of the concept of value that formed the point of departure for the symposium from which the papers presented in this volume emerged. Such catholicity or vagueness (e.g. Graeber 2001) serves to mask or obscure the critical nature of the scope of exchange transactions that formed the basis for these developments. The extent to which different spheres of exchange (for example, in sacred things, in prestige goods, or in commodities) can effectively interact depends upon what can permissibly be exchanged: on fungibility. In most early or traditional societies, the scope of such fungibility was very strictly limited by tradition and convention. Only in modern times, concomitant with the inception of capitalism and paper money, have the barriers between these spheres of exchange been broken down, so that fungibility is much extended. An appropriate conceptualization of the concept or concepts of value is thus critical for effective analysis.

THE SUBSTANCE OF INEQUALITY

One of the most remarkable features of the archaeological record of Europe and western Asia is the emergence of durable and ultimately heritable inequality among persons—ranked and then stratified society, to use traditional terminology. This is a feature that in those areas seems to emerge at a specific point in time, when copper and gold come into widespread use, well prior to what has been termed the Bronze Age (which is marked by the use of tin alloyed with copper to produce bronze).

We see, for instance, in the burials at Varna on the Black Sea in what is now Bulgaria (Ivanov 1982), in the fifth millennium B.C. and not long after at Maikop in the Caucasus, the first use of artifacts of these materials to accompany what may be identified as high-status burials. With few exceptions, these are the first burials in the archaeological record of these areas accompanied by materials that can be identified as having inherent value to those interring them (see below). This is not a circular argument, since there was ample opportunity at earlier times to accompany the interred dead with other materials to which value could be ascribed, including stone axes of jade or jadeite (which were used for other purposes and clearly esteemed) or adornments of shell, including shell of *Spondylus gaederopus*, which was extensively traded across Europe but not generally buried in accumulations in such a way as to suggest a marker of individuality of high status.

I shall argue that this association of what we may describe as valuables—objects made of commodities to which high value could be assigned and that could be accumulated in concentrations to which the term “wealth” can be applied, specifically valuables of metal—became characteristic of a major tract of the world, including western Asia, Egypt, Anatolia, and the steppe lands of central Asia and the Iranian Plateau (but seemingly not fully involving the Indus Valley civilization), as early as the fourth and third millennia B.C. A system based upon these metals did not involve China at so early a date. There, different value systems prevailed until the late second millennium B.C. (see Flad, this volume).

Initially, when I first considered the apparently simultaneous emergence of pronounced social inequality accompanied by the first appearance of valuable materials (that is to say, commodities that for the first time were being treated as of high value), I suspected that the conjuncture might be illusory—that we, as modern observers, might be ascribing our own value systems to those supposed valuables and perhaps misguidedly assuming that they were indicative of high social status, where perhaps none existed. But evidence at hand made it clear that high value was indeed being ascribed to these artifacts (Renfrew 1986; see below). It seems likely that these assignments of value were the basis for extensive exchange networks that built up in these areas in the fourth and third millennia B.C. and became an important component of the first urban civilization of Mesopotamia and perhaps to a lesser extent Egypt. So the conjuncture of wealth, measured in valuables (especially metals), with power and stratified society is not an illusory one in that region.

Extensive trading systems in which copper and tin played a major role, and in which silver and particularly gold were highly valued, developed in Mesopotamia as well as Anatolia and the Aegean during the second millennium B.C. In these systems, the measurement of quantity by weight played a crucial role (see Englund, this volume).

The weight systems so well documented in Mesopotamia and with great clarity in the second millennium Indus Valley suggest the use of measures of weight, presumably in exchange transactions. This use implies a degree of fungibility—of equivalences in value among commodities—that could form the basis for a system of exchange transactions.

In a sense, of course, all barter involves recognized equivalences (of value) among goods. But initially such exchange may have taken place on an *ad hoc* basis, being renegotiated in each transaction. It is clear that in early Mesopotamia, widely recognized (although not immutable) ratios of value were established among different commodities. Such a system is not easy to document archaeologically in the case of nonliterate societies. However, the use of metals (gold, silver, and bronze) as a medium for expressing the value of other commodities seems to have been something of a breakthrough. It is not clear how far other materials were used in this way in other societies. It has been suggested that cacao beans were used in such a way in Mesoamerica.

At first I assumed that the same conjuncture of fungibility and mensuration might be a feature of other early urban societies. Some aspects indeed may be. But the development of Chinese archaeology now suggests the early development of other indicators of high status, notably jade, and that the metal-obsessed value systems of western Eurasia were not adopted there, and then only partially, until the introduction of new Western ways (involving the expression of power and wealth through the use of horse-drawn chariots), which did not become predominant in China until the late Shang Dynasty, around the twelfth century B.C. (see Flad, this volume). Similarly the Indus Valley civilization of Harappa and Mohenjo Daro, despite its links to and indeed its similarities with that of Sumer, does not show indications of the same value system (Renfrew 2007:178, 197).

Richard Burger has given a clear account of developments in Peru at sites of the Early Horizon, notably Chavín de Hunatar, where valuable substances, including gold, were used in contexts of a sacred nature. But the emphasis on accurate quantification by the use of weighing, which did emerge in the Aegean and Mesopotamia, is not seen there at that time. And while gold comes regularly to be used both in sacred contexts and as a material of prestige (as in Moche burials), the increasing preoccupation with copper and then bronze in the Near East and Europe is likewise not seen in Peru. There are indeed striking general similarities in the way high status and prestige are expressed by highly prized materials in rich burials, whether in Early Horizon Peru, in Mesoamerica, in Early Dynastic Ur, or in Shang China. But there are also significant differences. In some cases, the high prestige objects

and the burials themselves are closely concerned with sacred things. In other cases (such as in the shaft graves of Mycenae), the sumptuously rich burials seem to take on a more secular character.

So now I am inclined to view these highly significant developments of the fourth and third millennia B.C. in Europe and western Asia as establishing something in some respects different and special. They had a major role in the foundations for the mercantile system, which we can understand very much better in western Asia in the third millennium (and subsequently) through the introduction of a written script, used largely for commercial recording purposes. Its antecedents, for practical and indeed mundane recording purposes, may go back much earlier (Schmandt-Besserat 2010). Thanks to written records, the economies of the early city-states of Mesopotamia in the second millennium B.C. are comparatively well understood (see Englund, this volume).

There are indications that this mercantile economy began as early in the Aegean world (Michalidou 2010; Rahmstorf 2010), although it was not until the first millennium B.C. that the crucial innovation of coinage was initiated there (Papadopoulos, this volume).

It therefore becomes important to decide whether this trajectory of growth, the foundation of our modern world economy, was indeed a unique development in Europe and western Asia, different in character from the mercantile systems of China, Mexico, Peru, and elsewhere, or whether we can regard them all as expressions of essentially the same system.

THE FOUNDATIONS OF FUNGIBILITY

The concept of fungibility (“said of a thing when another of the same or another class may be delivered in lieu of it,” per the *Shorter Oxford English Dictionary*) has been an expanding one over the centuries. It implies a system of exchange—that is where the notional “delivery” that figures in the dictionary definition takes place. Such delivery generally occurs within a context of obligation, usually in an exchange transaction. Exchange amounts to a transaction when goods mutually change hands—that is, when exchange partner A receives goods (X) from exchange partner B, who in turn, either at the same time or later, receives goods (Y) from exchange partner A in a situation of mutual agreement. That is what is meant by barter. This process may relate to specific objects, clearly identified. But the very specific exchange in this situation may easily develop into an exchange based upon a much more general categorization, where so much barley (for instance) is the agreed exchange equivalent to so many young lambs.

This more generalized notion of equivalence, however, rests upon some very significant conceptual advances (see Renfrew and Morley 2010). It implies a system of numeration (counting) for the lambs, which relies upon conceptual advances

that are the foundations of astronomy as well as economics. It requires also some means of quantification (measure) for the barley. This system of dry measure is likely to be different from the system for fluid measure, used for beer or wine, and different again from weight systems used for metals. These matters were codified and quantified in western Asia at an early date.

Indeed, in Europe and western Asia we can recognize the early emergence of a series of concepts that operate together in what I have termed the commodity nexus (Renfrew 2007:170). It formed the basis for the economic system that, augmented by the development of coinage, became that of the classical world. Through the banking system of Renaissance Europe and then with the development of paper money and subsequently equities, these were the foundations of capitalism and the modern world economy.

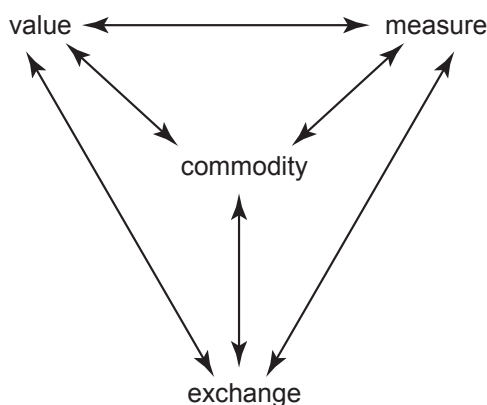


Figure 12.1 The commodity nexus: the emergence of the conditions permitting a mercantile economy.

Measure is here a crucial concept depending upon numeration (Morley 2010:22; Renfrew and Morley 2010:17) but also upon dimensionality. Among the early achievements of many human societies have been systems of measure: for time, then length, then weight. Later, with the developments of pure and applied science, came measures for the derived ratios of speed, frequency, pressure, and density, and then other parameters, most notably temperature and energy. These measures, in the terms of philosopher John Searle (1995), are directed toward “brute facts,” the realities of the natural world.

The concept of value, as applied to material goods, is of a different kind: it is a social fact that can emerge only from a system of interpersonal relationships. In Searle’s terms again, it is an “institutional fact” (Renfrew 2007:123–128; Searle 1995). So the notion of “exchange value,” to use the term favored by Karl Marx, enters the vocabulary (Marx 1970:44 [1867]), along with the accompanying terms “use value” and “labor value” (Marx 1970:44 [1867]).

Now the rise of a mercantile economy in Europe and western Asia, and indeed its foundation upon the notion of value inherent in material objects and commodities, is at the root of many of our discussions and is a topic to which I shall return. There are many interesting questions about the extent to which underlying notions of commodity and value were comparable in other exchange systems, for instance, in China or pre-Columbian America, and to what extent they differed. But let us here note the fundamental importance of a money economy (Einzig 1948; Morgan 1965; Quiggin 1949; Williams 1997) and then the introduction in the Greek world of coinage (Papadopoulos, this volume).

It is essential to realize the extent to which, prior to these developments, systems of exchange and value operated in difference spheres of exchange (Polanyi 1957). These matters have been well surveyed by Appadurai as well as by Kopytoff in the influential work *The Social Life of Things* (Appadurai 1986a). With the development of money and then coinage in the Western world, the scope of fungible transactions greatly increased. For the concept of price (which implies a denomination in units of value, usually coinage) makes possible new equivalencies that earlier might not have been thinkable. It becomes possible, for instance, to put a price upon human individuals in the context of slavery.

Fungibility operates in strange ways. Many societies operate what amounts to a dowry system, whereby the transaction of marriage can bring massive accompanying transfer of property, including land. But it should be remembered that land could not always be valued in monetary terms. In many societies the assignment of land rights, like that of titles, was in the hands of the ruler. I should be interested to learn the extent to which land rights could form part of an exchange transaction in pre-Columbian America in which the term “value” in the monetary sense would be applicable.

A CAUTIONARY NOTE ON THE DISTINCTION BETWEEN “VALUES” AND “VALUE”

As noted in the introduction to this paper, when we are discussing exchange systems, there are real dangers in vagueness or imprecision about the use of the word “value.” So at the risk of injecting a discordant note about the structure of the valuable and productive symposium upon which this volume is based, I must express a word of concern about what might be considered an extension of the use of the word “value” as a catchall to bring together (or try to) the very disparate concepts and experiences of humans in a disconcerting spectrum of contexts. A key component of this concern is that the supposed or assumed equivalence of the word “value” in a series of largely unrelated senses upon which it depends is almost entirely a product of the twentieth-century commercial world, where Marxist economics have fused with

Western capitalism to create a world system in which it can truly be said that the man in the street “knows the price of everything and the value of nothing.”

That is the reality of the twenty-first century, and there’s little point in railing against it. But to find a seminar in which place value, body value, object value, number value, and even art value were juxtaposed without careful explanation or problematization was disconcerting. That these very different meanings of the term “value” should be placed promiscuously together might seem to signify acceptance of the increasing and cynical fungibility (the creation of equivalence in areas or dimensions that are not strictly equivalent) characteristic of the worst of modern capitalism and apparently what is left of communism as well.

The critical point here is that this very broad and sometimes metaphorical use of the term “value” risks giving an illusory impression of the extent and nature of fungibility in traditional and early societies. For the development of fungibility and the way forms of exchange developed are very important features of the economic and political systems in the ancient world.

When we ascribe meaning and significance to landscapes and places, that may be recognized as an important process and one increasingly studied and understood: it is a valid new dimension of archaeological research. Such feelings are often difficult to measure or to quantify and therefore require a sensitivity of approach, as exemplified by the papers here. Similarly, when we experience strong emotions in relation to the human body, whether admiration, sexual attraction, or the experience of loss in bereavement, these are important features of what it is to be human and are eminently worth careful (and cross-cultural) study. The papers here relating to the body are of interest and importance. But one may ask what these two processes of assessment and evaluation, namely the reaction to a special place and the affective response to a specific human body have to do with the quantification processes we encounter during the procedure of “valuation” when a numerical assessment is undertaken of the “value” of a material object made of a substance of intrinsic worth. This is a clear enough process, carried out, for instance, in any jeweler’s shop several times a day. But it has little to do with body value or place value. The word “value” rapidly becomes meaningless when used in a thousand different ways to mask an illusory fungibility that is primarily the product of the rise of Western capitalism.

The fault may perhaps be laid at the door of Graeber, who has been influential upon current thinking. Even he acknowledges the problem, although he scarcely resolves it (Graeber 2001:78): “At this point we can return to the question of value versus values; that is, economic price mechanisms versus the kind of ‘conceptions of the desirable’ described by Kluckhohn: honor, purity, beauty and the like.”

These values are indeed an important subject for inquiry, and they formed the basis of valuable papers at the symposium. But the juxtaposition of “value” and “values” that emerges here seems close to a play upon words. We are speaking here

of different fields of human experience that cannot effectively be equated simply by the manipulation of the word “value.”

The problem may be expressed in a different way. For just the kind of fungibility we are analyzing here, in the ancient world of Greece, the Near East, and potentially other traditional societies is masked by the exchange possibilities of the modern economy, where everything has its price.

THE RISE OF UNIVERSAL FUNGIBILITY

The problem is, the development of a capitalist economy and the rise of financial institutions in the post-Renaissance world have indeed led to a situation where most things can be bought and sold in a manner inconceivable in traditional societies.

There seem few limits to fungibility in the modern world. Everything has its price, even if the sale of titles in the British social system is prohibited in a formal and legal sense. That is why the seeming anomaly of ascribing financial value to sacred relics (Geary 1986, this volume) can appear possible, even if it remains odd. This is perhaps more the result of a decline in faith in the efficacy of such relics than a restriction upon fungibility. But these exchange equivalencies are very much a feature of the modern capitalist world, as Ferguson (2001), with his emphasis upon the development of the cash nexus, has emphasized. Admittedly, the cynicism accompanying the fusion of what were previously entirely separate spheres of exchange was already anticipated in the Middle Ages by the sale of indulgences. That this should then have seemed anomalous was because it rightly offended the notion that there are different spheres of exchange at work and that to convert from one to the other is in some sense improper. “Is nothing sacred?” one might have asked, with the implied rebuke that the sacred could not be valued within the framework of a mundane exchange transaction.

It is this background that makes me uneasy, as noted above, about the use of the term “place value.” It is too close to the term “land value,” which today has become unproblematic in the modern world of real estate. Only where traditional systems of property and community rights apply, as with the Australian Aborigines, does the lack of real equivalence become apparent, and one becomes aware of the offensiveness and injustice of the imposition of the Western capitalist value system upon other systems of value. The same remark applies, of course, to the land rights of the American Indians of both North and South America, which were extinguished or at least diminished with the imposition of the Western commodity nexus by the conquistadores and other colonial powers.

The same objections apply, I fear, to the unquestioning use of the term “art value.” What does that mean? There is the well-established field of aesthetics, where responses to art can be established and evaluated. This is a process that has little in common with the processes by which significance and meaning are assigned

to places, although the accompanying use of the term “place value” might suggest otherwise. Appadurai (1986b:49) introduced the useful term “tournaments of value” and referred to Baudrillard’s discussion of authenticity in the evaluation of works of art in the modern world (Baudrillard 1981; see also Benjamin 1968 [1936]). These are important issues, but they are issues of “value” only in the modern world of universal fungibility.

My objection, then, to this ubiquitous use of the term “value” is that it implies fungibility where none may have existed. In the modern world, “places”—great tracts of land—can be bought and sold, and artworks likewise (the Duke of Sutherland’s Titian was recently sold to the National Galleries of England and Scotland for £50 million). But these prices and equivalencies are products of our own time and our own world system. Western art values today are a feature of the tyranny of the Renaissance (Renfrew 2003:50) and are far removed from the role of figurative representations in non-Western societies.

The field of value studies is already vast enough when we are dealing with the value assigned to material objects in early societies. The interesting question for me is the extent to which the value systems we in the Western tradition take for granted may be regarded as specific to the local context or alternatively are universal features of human experience. That is where the papers by Donnan and Burger pertaining to the Andes and of Flad in relation to China (this volume) are of particular relevance.

WHY DID THE MERCANTILE ECONOMIC SYSTEM OF EUROPE AND WESTERN ASIA PREVAIL?

Since I realized that the western Asiatic commodity nexus became a key feature of the classical world but was apparently not the basis for earlier developments in China, perhaps India, or the urban societies of the Americas, it has occurred to me to wonder why this should have been so. One feature in western Asia—its largely secular context—is perhaps rather special. It may be argued that the processes of material engagement developed in a different way in early Europe and western Asia than in other areas.

It is first worth recapitulating the evidence that gold, and perhaps also copper, was accorded a high value in the context of its earliest known occurrence in quantity in the prehistoric cemetery at Varna in Bulgaria, dating from around 4500 B.C. (Ivanov 1982). Four of the richest graves contain a total of 2,200 gold objects weighing 4,921 g, and it could be argued that gold, although novel, was not particularly rare. Recapitulating an earlier paper (Renfrew 1986:148), I offer four arguments that from specific contexts in the Varna cemetery serve to stress gold’s value and that go beyond its general attractive quality (at least to us) of remaining untarnished by oxidation:

1. Gold is used as a personal adornment in proximity to the body in two key positions: the face and the genitals.
2. It is prominent in objects that from their position (for instance, held in the hand) were of high symbolic value.
3. Gold is dissembled: objects are made to look as if they are made of gold when they are not, notably a stone shaft-hole ax covered in gold leaf.
4. Gold is used more economically, in terms of mass, than is copper.

These arguments, I would claim, sustain the view that at this time gold was already regarded as a high-value commodity in this specific context. Similar arguments can be developed for its occurrence in the treasures at Troy around 2500 B.C., in the royal tombs at Ur around 2300 B.C., or indeed in the shaft graves of Mycenae around 1600 B.C. So the notion that gold was highly valued in these contexts does not derive from our own almost universal assessment of the high value of gold but from specific, contextual considerations.

As a reviewer of this paper has rightly suggested, however, to say that a metal such as gold was highly valued (as at Varna) does not necessarily indicate that it was actually used to facilitate exchange, which is what the term “fungibility” might imply. That position may not have been reached until specific artifact forms were common enough to be recognized as having an established value, much the same way as in many societies, a lamb or a cow can be used as a unit of value at any time. Such a position may have been reached in prehistoric southeastern Europe late in the fifth millennium B.C., when solid and weighty ax-adzes of copper became notably frequent.

The key further observation I would make is the separation, in many of these contexts, between burial and religious iconography. There is a rich iconography associated with the Balkan Chalcolithic period, which was extensively discussed, among others, by Marija Gimbutas (1982). The terra-cotta figurines have been found in contexts suggesting cult practice. And although there are other possible interpretations for their use (e.g. Chapman 2000a), a religious interpretation for some of the available figuration seems quite feasible. These symbolic materials, in particular the terra-cotta figurines, are not found in the Varna cemetery.

Of course, funerary rituals will generally be conducted within the context of the prevailing religious faiths of the time, and a lack of iconography should not be taken as an indication that this was not so. But comparable observations can be made for many burials of the succeeding European Early Bronze Age. There, weapons, including daggers and then swords, become prominent, for instance in the cemeteries of the Cycladic Early Bronze Age (although marble figures of possible religious significance are also found there). But in the shaft graves of Mycenae, where the grave goods are rich (and indeed rich in gold), there is little religious iconography. And here we can at least document the separation between religious cult and funerary ritual, since the cult center of Mycenae has been identified with

apparent depiction of the deity in fresco form and with numerous female cult figures that are probably to be interpreted if not as deities then as adorants.

The gold of the Mycenaean burials is used in a context that, as Voutsaki (this volume) indicates, emphasizes personal identity in a strategy of display and aggrandizement that on the face of it has little to do with religious beliefs or deities. This may well involve the dissolution of persons into ancestors, as she suggests, but the context does not carry with it the explicit theistic overtones seen in Egyptian burial contexts.

This situation implies that the rich burials of the shaft graves, with their weapons, their warrior imagery of chariotry (with horse-drawn chariots), and the gold they contained need not be viewed as belonging to some divine sphere; nor should the materials they contained be viewed as operating in a different sphere of exchange to the social.

This must be one reason why precious metals—gold, electrum, and silver, and bronze only later—could readily be used for coinage as early as the sixth century B.C. without any apparent constraints about the sanctity of the materials themselves.

The process by which special materials, notably gold and silver, came to be seen as having intrinsic value is an interesting one. Since “intrinsic” value may today be seen as a contradiction when it is clear that all values are ultimately socially ascribed, it may be preferable to follow the suggestion of Arjun Appadurai and use the term “prime value” for a value that in a specific society is understood to be intrinsic.

Elsewhere (Renfrew 2009), I have sought to discuss further the notion of intrinsic value and how in some social contexts it can become an experienced reality. However, intrinsic value can be distinguished from sacred value. For the sacred is unique and ineffable. The sacred is therefore much less well suited to measurement on some metric scale. It can be argued that either something is holy or it is not.

There is much to learn, therefore, about the way value is assigned in different societies. And gold makes a very good case in point. The early secular use of gold, which I have suggested may be the case at Varna, as at Mycenae 3,000 years later, may contrast with a more sanctified role in China or South America, while in both cases jade may have been valued more highly.

There is much more to learn about these important issues.

ACKNOWLEDGMENT

I would like to express my appreciation to the organizers, Dr. John Papadopoulos and Dr. Gary Urton, and to the director of the Cotsen Institute, Dr. Chip Stanish, and his colleagues for organizing such a stimulating and productive academic occasion.

CHAPTER 13

.....

MONEY, ART, AND THE CONSTRUCTION OF VALUE IN THE ANCIENT MEDITERRANEAN

.....

JOHN K. PAPADOPOULOS
UCLA

ABSTRACT

One of the most critical developments in the course of Mediterranean history was the invention of coinage. The quest for metals—the very commodities that define our periodization of ancient Greece (Copper Age, Bronze Age, Iron Age)—is not simply an issue of technological innovations, the vicissitudes of supply, or the mechanics of regional networks but a real search for structuring commodities of value that ultimately leads to an economic system of exchange not limited to elites. The culmination is the invention of coinage, which first occurs in western Anatolia and eastern Greece in the cultural milieu of the later seventh and sixth centuries B.C. It is an innovation with global consequences. In searching for the origins of coinage, the specifics of the particular cultural context are of paramount importance. By focusing on the early coinage of several Greek centers, more particularly on the emblems that certain city-states chose for their coinage, images that hark back to prehistoric measures of value—cattle, bronze tripods, grain—this paper challenges long-held assumptions as to the economic underpinnings of coinage. Struck by the state—the polis—these emblems sought to represent a collective identity. By boldly minting their identities on silver coinage, the Greek city-states chose money, the very vehicle of value, to create relations of dominance and to produce social orders that had not existed before.

INTRODUCTION

My starting point is a simple question: Why does the earliest coinage in the world require iconography?¹ The same question can be asked for modern money: Why does an item of value such as a U.S. \$1 note (Figure 13.1) need art?² Rather than beginning with the past, the present offers some interesting insights. I would like to begin with the artist J. S. G. Boggs, once described as one of the greatest exponents of money art (Figure 13.2). In Lawrence Weschler's 1999 book *Boggs: A Comedy of Values*, Boggs states: "Money is easily more beautiful and developed and aesthetically satisfying than the print works of all but a few modern artists. And a dollar bill is a print: it's a unique numbered edition. . . . I'd rather have a dollar bill than just about any other modern print, even if I knew I could sell the print the very next day for several thousand dollars!" (Weschler 1999:11). Boggs continues (see Figure 13.1):

Now look at the content, the iconography, the history. That crazy rococo profusion of leaves and scrollwork, symbolizing prosperity. The eagle with his thirteen arrows in one claw, one for each of the first thirteen states, and the olive branch in the other—and on the olive branch, the olives! And then the other half of the Great Seal, with that strange



Figure 13.1. Obverse and reverse of a U.S. \$1 bill.



Figure 13.2. A Boggs “fun buck,” by J.S.G. (James Stephan George) Boggs, American, born 1955. Tampa Museum of Art. Museum Purchase with funds donated by Peggy & Jeffery Pearson.

Masonic pyramid—an unfinished pyramid, one still in the process of being built. George Washington, on the facing side of the bill, was a Mason; the man who designed the seal was a Mason. There’s so incredibly much of American cultural history wrapped up in this little chit of paper. And it’s the same with other currencies (Weschler 1999:11).²

Boggs’s escapades, immortalized by Weschler, are well known. As Weschler (1999:3–4) explains, Boggs likes to

invite you out to dinner at some fancy restaurant, to run up a tab of, say, 87 dollars, and then, while sipping coffee after dessert, to reach into his satchel and pull out a drawing he’s already been working on for several hours before the meal. The drawing, on a small sheet of high-quality paper, might consist, in this instance, of a virtually perfect rendition of the face-side of a 100 dollar bill. He then pulls out a couple of precision pens from his satchel—one green ink, the other black—and proceeds to apply the finishing touches to his drawing. . . . The maître d’ eventually drifts over, stares for a while, and then praises the young man on the excellence of his art. “That’s good,” says Boggs, “I’m glad you like this drawing, because I intend to use it as payment for our meal.”

In time, Boggs offers the maître d’ the choice between his drawing and a real \$100 note, adding: “So you have to make up your mind whether you think this piece of art is worth more or less than this regular \$100 bill. It’s entirely up to you. Boggs smiles, and once again, the maître d’ blanches, because now he’s into *serious* vertigo: the free fall of worth and values” (Weschler 1999:4). As Weschler explains, Boggs has performed variations of this experiment at restaurants, hotels, airline ticket counters, hot dog stands, hardware stores, and elsewhere, in some eight countries. In so doing he blurs the distinction—if there ever was one—between money, art, worth, and values.

Boggs was far from the first to articulate this distinction. Aristotle (*Politics* 1.3.16 [1257a]), writing in the fourth century B.C., noted:

But at other times, on the contrary, it is thought that money [*to nomisma*] is nonsense, and entirely a convention but by nature nothing, because when those who use it have changed

the currency it is worth nothing, and because it is of no use for any of the necessary needs of life and a man well supplied with money may often be destitute of the bare necessities of subsistence [translated by H. Rackham].

My argument is straightforward: money, art, and value are irrevocably intertwined, and the distinction between them as categories is often ambiguous. But what holds for Boggs's little chit of paper also does so for the earliest coinage in antiquity. Does a weighed silver disk, such as the silver *decadrachm* of Syracuse dating ca. 480–479 B.C. (Figure 13.3), need art, and why this specific iconography? My aim in this paper is not to provide a history of money (this is admirably laid out in Morgan 1965; Quiggin 1949; and most recently Williams 1997) but rather to focus on certain issues at the beginnings of the earliest coinage in the world. In any search for the origins of coinage, the specifics of the particular cultural context are critical. As Jonathan Parry and Maurice Bloch (1989:29) concluded in their cross-cultural study of money and the morality of exchange, money is accorded quite different meanings in different cultures (cf. Simmel 1990 [1907]). In the quest for the origins of coinage, the specifics of the particular cultural context are of paramount importance. Consequently, comprehensive models that attempt to explain the origins of coinage as a general phenomenon across different cultures or in quite different cultural settings may obscure as much as they reveal. Indeed, seeking or imposing a cross-cultural model for the appearance or development of money that works across cultures may well be beyond our grasp. Accordingly, context is here highlighted, and what happens in the Greco-Mediterranean context is not the same as in China, where coinage developed independently in a cultural context very different from, but in some ways not unlike, that of the Greek world and, coincidentally, at more or less the same time (Williams 1997:135–141).

The earliest “coins” were minted in western Anatolia, in Lydia and eastern Greece, sometime toward the end of the seventh century B.C. In the context of Europe and the ancient Near East, coinage was essentially a Greek phenomenon, which non-Greek peoples, including the Etruscans, Phoenicians, Carthaginians, and Egyptians, were slow to adopt (Howgego 1995:1–2; Kraay 1976:317; Kurke 1999:7–8). As we shall see, there was even resistance at first to the idea of coinage.



Figure 13.3. The reverse of a silver *decadrachm* of Syracuse (ca. 480–479 B.C.). The coin shows the head of Arethousa wearing an olive wreath, a fillet, an earring, and a necklace. Around her are four dolphins and the inscription “ΣΥΡΑΚΟΙΩΝ” (Kraay and Hirmer 1966:Plate 27, number 80; photo courtesy of Hirmer Verlag GmbH).

However slow the adoption of coinage was in some societies, the innovation itself was to be one of global consequence.

The primary aim of this paper, focusing on the art of the earliest coins of a number of Greek city-states in southern Italy—the region known as Magna Graecia—is to suggest that by manipulating money, art, and value, this coinage was far more complex than even the most oblique readings of our ancient literary sources might offer. Coinage represents much more than a civic, egalitarian challenge to the structures of elite authority. Rather than breaking down the distinctions between spheres of exchange entirely, or symbolically making all labor comparable, as has been argued (Kurke 1999:22), coinage helped articulate a new order: one that rendered materially visible the efforts of cultural transformation. Through art on silver coinage, the Greek city-states chose money, the very vehicle of value, to create relations of dominance and to produce social orders that had not existed before.

A final aim of this paper is to attempt to bring numismatics back into the mainstream of historical, anthropological, art historical, and archaeological inquiry. The symbolism or ideology of coin iconography has generally been neglected because for too long the study of coinage has been the preserve of numismatists. With their passion for the minutiae of die-link analysis, as well as their trenchant dislike of abstract or theoretical political or social considerations (cf. Martin 1985; Wallace 1987), numismatists have resisted interdisciplinary approaches and have driven something of a wedge between numismatics and cultural history. At the same time, the physicality of coinage has been neglected by both archaeologists and culture historians, many of whom regard numismatics as a separate discipline, one that floats between history, philology, art history, archaeology, and anthropology. Whenever confronted by a coin, the archaeologist instinctively calls for the proverbial expert: the numismatist! In this paper, as in my earlier work on coinage (Papadopoulos 2002), I consider coins an integral part of the *material record*: archaeologists and historians cannot afford to overlook the evidence and broader implications of coinage.

If there were to be a subtitle for this paper, it would be “Fungibility out of control” (see Renfrew, this volume). By this I mean two things: first, the *process* by which people came to accept particular items as a substitute for arguably more useful things, such as silver for food or paper for land; second, the accumulation of such items as a goal unto itself, an issue brought to the fore by William Ridgeway (1892) in the late nineteenth century. Fungible items may be different from society to society, but within any given society they are clearly defined.

WEIGHED SILVER AND THE PRECURSORS TO COINAGE

As Robert Wallace (1987:396–397) has argued, long before coins were ever introduced, the three basic functions of money—as a standard measure of value, a means of exchange, and a means of storing surplus wealth—had been performed by various

other materials, including silver bullion. Similarly, David Graeber (2001:101–104) distinguishes between money and coinage: they are hardly the same thing, and he points to gold and silver that served as a medium of exchange in the ancient Near East. In Egypt and the Near East, weighed silver, in whatever form, was used as currency well before and after the introduction of silver coinage in Greece (Le Rider 2001; Schaps 2004; cf. Kim 2001:15–17), with standard Mesopotamian units of weight, such as the shekel and mina, widespread throughout the Mediterranean (Kim 2001:17–19; Kroll 1998; Kurke 1999:11; Schaps 2004:34–62; Seaford 2004:125–146; Vickers 1990; Wallace 1987; Williams 1997:16–23; and see Englund, this volume). The Greek word *mna* (mina), from the Semitic word (compare the Hebrew *māneh*), was used to mean both a weight (equals 100 *drachmai*, for example) and a sum of money (also equals 100 *drachmai*). Similarly, the Greek *siglos/siklos*, from *shekel*, could refer to both a weight and a coin. The Persian *siglos* was one three-thousandth of the Babylonian silver talent, half the stater of Asia Minor, which equaled seven and a half or eight Attic *obols* (Liddell et al. 1983:s.v. *mna*, *siglos*). The word *siglos* could also mean “ear-ring,” which is of further interest since various items of jewelry, such as rings, bracelets, and anklets, were used as “money” before coinage (Schaps 2004:49–56, figures 3–4). Phanouria Dakoronia (1989) has gone even further by arguing that bronze rings (*krikoi*) served as recognized values or weights in a premonetary system in Early Iron Age Greece.

Rings are also common in Late Bronze Age Egypt. A fourteenth-century B.C. wall painting from a tomb at Egyptian Thebes—the so-called Tomb of Two

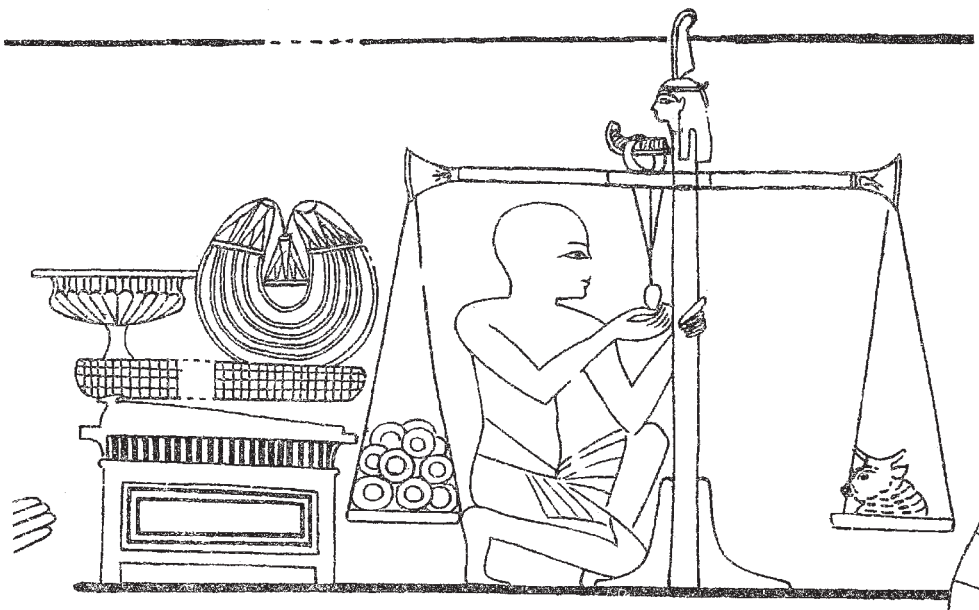


Figure 13.4. A fourteenth-century B.C. Egyptian wall painting from a tomb at Thebes (after de Garis Davies 1925:58–59, plates XI–XII).

Sculptors—depicts a stack of what appear to be gold rings being weighed on a balance (Figure 13.4). It is significant that these items of value are measured against a weight in the form of a bull's head (de Garis Davies 1925:58–59, plates XI–XII). In contemporary Amarna, a typical hoard of precious metal objects included silver rings, gold and silver ingots, silver wire, and other fragments, all found together buried in a pot (Williams 1997:21, figure 11). Given that one meaning of *siglos* was “ear-ring,” it is tempting to see the Egyptian metal rings as an early form of money. In late New Kingdom Egypt (ca. 1295–1069 B.C.), standard weights were frequently mentioned in texts, especially the *deben* (91 g) and its tenth, the *kite*. Although payment of amounts expressed in copper *deben* could have taken the form of a variety of goods, it often assumed the form of copper rings or silver rings and ingots (Williams 1997:19–21).

Conceptually, a kind of coined metal involving some form of stamping may have existed in the Levant prior to the traditional invention of coinage by the Lydians and eastern Greeks around 600 B.C. Christine Thompson has argued that seals affixed to bundles of weighed metal qualified them as akin to coinage, because the stamp “guaranteed” weights set to standards, as well as controlled composition (Thompson 2003). The frequency and size of silver hoards from what is today Israel and the Palestinian territories point to a proliferation in what Thompson refers to as the “monetary” use of silver in that region during the Early Iron Age and suggest a relationship to the overwhelming preference for silver coinages among the Greeks (Thompson 2003:67). Thompson begins by reviewing the contents of silver hoards, normally composed of *Hacksilber*, ingots, and jewelry—usually rings—before discussing the 34 Iron Age hoards from the area that contained at least 33 groups of silver wrapped in cloth, though in each case only remnants of the linen actually adhered to the bundles. Despite the poorly preserved state of these bundles, it is clear that bullae were used to stamp clay seals and thus to “lock the little sacks,” as it were, and to indicate their weight (Thompson 2003:80–81; for the hoards, see Balmuth 2001). As for weight standards and the relationship between the Aegean and the Near East, John Kroll (2008) has shown—on evidence of balance weights from Early Iron Age tomb 79 at Lefkandi—that the Euboian weight standard adopted by many early Greek mints derives from a Syro-Palestinian standard, perhaps by way of Cyprus.

Although sealing metals for weight and purity verification was widely practiced in the ancient Near East long before the adoption of coinage in the Greco-Lydian sphere, stamping a clay seal on a cloth bundle containing a premeasured or pre-weighed amount of silver is not exactly the same as actually stamping the silver itself. As David Schaps (2004:49) adds: “The silver of the Near East had never been coined; it was weighed at each transaction, and the scale was an essential accessory to every sale.” Although conceptually close, stamping the metal directly is different than stamping a seal on a bundle of weighed silver, and this difference is amplified by the fact that once the Lydians and Greeks began striking true coins, and

these coins were widely available and hoarded in the ancient Near East, there was resistance to coinage in the Phoenician homeland and the Syro-Palestinian sphere more generally, as well as in Egypt. As Christopher Howgego (1995:1–2) elaborates:

Coinage spread rapidly throughout the Greek world, but was slow to take root elsewhere. Within the Persian empire coinage was produced in the sixth century B.C. only in Hellenized areas (western Asia Minor, Cyprus, Cyrene). The Phoenicians struck no coins until the middle of the fifth century. The Carthaginians produced their first coinage in Sicily in the second half of the fifth century. Etruscan coinage was plentiful only in the third century, although there were a few issues in the fifth and fourth.

And as Moses Finley (1973:166) added: “The Greek passion for coins, and for beautiful coins at that, is well known and sometimes misunderstood. For a long time this passion was not shared by many of their most advanced neighbors, because it was essentially a political phenomenon, ‘a piece of local vanity, patriotism or advertisement with no far reaching importance’” [Keynes 1930:12].

For many years after the first true coins, peoples in the Near East continued to trade in silver bullion, resisting the idea of stamping the metal itself. Indeed, most Greek silver coinage hoarded in Egypt and the East was deliberately cut, usually by chisel, to test for the purity of the metal (e.g. Williams 1997:28, figures 30 and 31; also Kraay 1977). For the Egyptians, these coins were regarded as silver bullion, not as items of fixed value.

THE EARLIEST COINS

In book 1.94, the Greek historian Herodotus of Halikarnassos clearly stated: “The Lydians were the first people we know of to use a gold and silver coinage and to introduce retail trade” (translated by A. de Sélincourt).

Herodotus goes on to add that the Lydians also claimed to have invented games that were then commonly played by themselves and the Greeks. Quite a feat, particularly as the implication of the first use of coinage goes together with the introduction of retail trade (*kapēleia* in Greek). Elsewhere, Herodotus (3.89) associates silver with the Persian king Darius, who is referred to as a “retail-dealer” or “huckster” (*kapēlos*) (Papadopoulos 2002:40–41, figure 35). As for the distinction between the use of weighed silver of whatever form and stamped coinage, this issue fascinated a number of Greek thinkers, not least Aristotle (*Politics* 1.3.13–15 [1257a]), who wrote:

For when they had come to supply themselves more from abroad by importing things in which they were deficient and exporting those of which they had a surplus, the employment of money [*tou nomismatos*] necessarily came to be devised. For the material necessities are not in every case readily portable; hence for the purpose of barter men made a mutual pact to give and accept some substance of a sort as being itself a useful commodity was easy to handle in use for general life, iron for instance, silver and other metals, at the first stage

defined merely by size and weight, but finally also by impressing on it a stamp in order that this might relieve them of having to measure it; for the stamp was put on as a token of the amount” [translated by H. Rackham; for reactions to Aristotle, see, e.g., Williams 1997:27].

As many scholars have shown, Aristotle’s theorizing does not stand up to closer scrutiny (beginning with Knapp 1905; most recently Schaps 2004). However, much of the literature on the origins of coinage has focused on the quest for the earliest issue struck: the *Ur-coin* (well summarized by Wallace 1987; cf. Kroll 1998). But within the Greek world itself, the adoption of coinage was by no means a standard or even a contemporary event. Certain cities minted coinage well before others. The reasons why particular Greek city-states minted coins while others did not has not received the same level of attention as the broader question of origins. My aim here is not to seek the earliest minted coin or the origins of coinage per se, for as we have seen, long before coins were ever introduced, the basic functions of money had been performed by various other materials, not least silver bullion. With regard to the earliest electrum coins of Anatolia, Wallace (1987:397) concluded:

Coinage represented quite a simple discovery, that the guarantee of redeemability by the state was a means of stabilizing the value of precious metal. This was a discovery of enormous consequences for later economic and political history. In seventh-century Anatolia it was intended to solve only the particular problem posed by the special nature of electrum alloy.

The earliest coins were made of electrum, a naturally occurring mixture of gold and silver. They were made in Lydia near the end of the seventh century, perhaps as late as ca. 600 B.C. (see Kim 2001:9–10). A number of scholars, not least Martin Price (1983:6), have questioned whether these earliest coins are “true coins”; he suggested two phases in the development of coinage. The first was the earliest coining of electrum in Lydia and eastern Greece; the second was the adoption, about 550 B.C., of silver currency by mainland Greek states (Price 1983:5–8; Wallace 1987). Price concluded that the earliest electrum issues were more akin to gifts or medals than true coins. Price’s theory provided, in the words of Leslie Kurke (1999:10), “an intermediate stage between ‘pure’ gift exchange and the development of all-purpose money.” Price’s conclusion is supported in part by the size and especially the context deposition of the earliest electrum issues. The minute size of many of these early issues suggests they were not intended to be handled frequently or to circulate widely in long-distance trade. This is corroborated by their restricted distribution to western Asia Minor, with only a few examples found in neighboring areas, such as the Hellespont and the Black Sea. Moreover, the discovery of 93 electrum issues in a pot (Hogarth 1908; Williams 1991–1993), together with seven unstamped silver nuggets, underneath the Archaic Temple of Artemis at Ephesos, represents a type of context not common for later Greek silver coins (Hogarth 1908:chapter 5; Kraay 1976:20–23). Indeed, this was the single-most informative archaeological context in which electrum “coins” have been discovered thus far (Kraay 1976:20).

The deposition of the “coins” below the temple suggests that they were buried as a religious or votive dedication or as a foundation deposit, in the same manner as other objects of value.

Although silver coinage was dedicated in other Greek sanctuaries, such as the 6,000 talents of coined silver on the Athenian Acropolis mentioned by the fifth-century B.C. Athenian historian Thucydides (2.13.3), this was money that was readily available for use by the state, not buried away in a pot below the temple foundations. Stored in treasuries, it functioned as a state reserve. Indeed, Thucydides notes in the same passage that the maximum amount on the Acropolis had been a staggering 9,700 talents, from which expenditures had been made for a variety of construction and military projects (Kallet-Marx 1993); a related use of silver continued into the Byzantine period (Mango 1992). The context of the electrum issues at Ephesos and the silver on the Athenian Acropolis were markedly different, supporting Price’s distinction between electrum and silver currency.

By the middle of the sixth century B.C., electrum coinage had generally ceased to be minted, although a few places in Asia Minor—including the cities of Kyzikos, Lampsakos, and Phokaia, and the island of Lesbos—continued to mint electrum. It was at this time that silver coinage takes over, and occasionally gold (Williams 1997:25). The earliest silver and gold coins were those of the kingdom of Lydia, often assumed to date to the reign of Kroisos (ca. 560–547 B.C.), though few issues can be dated before ca. 500 B.C. About the same time or soon after, Aigina, Athens, and Corinth were among the first Greek city-states to mint silver coinage (Kim 2001:11; Williams 1997:25–26). I have argued elsewhere that the coinage of Sybaris and the Achaian mints of southern Italy may well have been as early as the earliest silver coins of the Greek mainland (Papadopoulos 2002:46–47). As I tried to show, it is not difficult to imagine a scenario whereby a leading city in southern Italy developed coinage as early as, or earlier than, any place in mainland Greece. But Sybaris was not just any other city; its reputation was proverbial for wealth, luxury, extravagance, and pleasure, best encapsulated in the fabulous stories of agricultural success (Callaway 1950; Horden and Purcell 2000:286). It became a *topos*: its name never lost from human memory, even though the city itself was later buried under the alluvium of the Krathis River, only to be rediscovered in the twentieth century.

Wherever the earliest coin was first struck, many scholars see the development of coinage in the Greek world as gradual, pointing out that various forms of money—iron spits, metal vessels and tripods, weighed lumps or ingots of silver—preceded true coinage in Greece, hence coins are better regarded as the culmination of a long and gradual development than a sudden invention (Kroll 1998:230; Wallace 1987). What is becoming clearer is not only the impressive geographical range of early silver mints but also the rate at which the spread occurred (Kim 2001:11). Coupled with this is that smaller, fractional denominations—once considered rare or nonexistent—were produced in relatively large quantities and that small change was widely circulating (Kim 2001:12–13). But, as Kurke (1999:11) asks, why did the

Greeks take the final step to mint coins at all, particularly since many kingdoms of the Near East and Egypt continued to use weighed silver bullion?

By asking this question, Kurke returns to the fact that coinage must be linked with the polis (the Greek city-state), and she offers an alternative narrative behind the development of various forms of money in Greece. The issue is cast as “an ongoing struggle over the constitution of value and who controlled the highest spheres of exchange, between the traditional elite and the emerging city-state” (Kurke 1999:12). Kurke’s model follows in part the work of Sitta von Reden (1995, 1997), who, following Edouard Will (1954, 1955a, 1955b), sees the invention of coinage in Greece arising out of the seventh/sixth-century B.C. crisis of justice and the unfair distribution of property. But Kurke (1999:13–19) adds to von Reden’s developmental schema a healthy dose of “political and ideological conflict” by embracing Ian Morris’s (1996) model of the competing “middling” and “elitist” traditions in Archaic Greek poetry:

If we are properly to understand the “meaning of money,” we must situate coinage squarely in the frame of the political and social contestation Morris elucidates. Adopted by the cities of the Greek mainland in the third quarter of the sixth century B.C., coinage is a token of this struggle at its most intense. The issuing of coinage is a sign of the city’s self-assertion, its constitution of itself as the ultimate instance, the supra-individual summit of the long-term transactional order [Kurke 1999:22].

The idea that the creation of coinage was more political than economic is not new. Moses Finley (1973:116–119) articulated it, as did others (Austin and Vidal-Naquet 1977:56–58). To strike currency was a mark of political independence. Taking a somewhat different tack, Richard Seaford (2004) has argued that the monetization of the Greek polis contributed to a radical transformation in thought that was reflected in Greek philosophy and tragedy. In a characteristically interesting twist, Graeber (2001:103–106) reduces coinage virtually to a kind of fetishism by suggesting that “if the *polis* felt the need to stamp money with its own image, it did so because it saw money as a dangerous, furtive power that had to be tamed and domesticated *by rendering it visible*. The emblem of public authority was to be impressed on it through violence, literally hammered in” (Graeber 2001:103). I am not convinced that this is precisely what the Greeks had in mind. For example, a city-state that declared coinage or bullion invalid (*adokimon*) and called it in for coining into legal tender (*nomisma dokimon*) would have realized a hefty profit on virtually all the silver held in its territory (Kroll 1998:231). But Graeber is certainly correct in stressing the physicality of coinage. This aspect is all too often overlooked. Like many philologists (e.g., Brown 1998; Seaford 1998; von Reden 1995), Kurke privileges written testimony over material evidence; in so doing, they miss a straightforward and sometimes compelling elucidation of their own arguments. So it is to the *physicality* of coinage to which we must turn.

THE PHYSICALITY OF COINAGE AND THE EFFICACY OF PREHISTORIC ITEMS OF VALUE (CATTLE, TRIPODS, EARS OF BARLEY)

In minting an early and distinctive series of coins, the Achaian cities of Magna Graecia—especially Sybaris, Kroton, and Metapontion—anticipated their own area of origin in Greece, and perhaps the whole of mainland Greece, in issuing coinage. From the traditional perspective of “colony and mother city”—often cast as a literary construct (see Osborne 1998; Purcell 1997:501; also Luraghi 1996)—it emerges that whereas the Achaian cities of southern Italy all produced distinctive and early coinages (Kraay 1976:163; Stazio 1998), the Achaians of mainland Greece produced very little before the fourth century B.C. (Head 1911:412–419; Kraay 1976:95; Stazio 1998). In this, the Achaians were not alone. Toward the very end of the sixth century B.C., the Spartan colony of Tāras (Taranto) began minting its own coinage. Although the earliest Tarentine coins cannot be much earlier than ca. 500 B.C., Sparta itself did not mint coins until the third century B.C. Indeed, the Spartans were among the very few Greek states that resisted coinage. The ownership of silver and gold “was regarded as contrary to the Spartan warrior ethos and characteristic of a base, mercantile mentality which the manly Spartans affected to despise” (Williams 1997:34).

With its origins in a colonial context, the Achaian coinage of Magna Graecia not only differs from that of the early coin-minting states of the Greek mainland, it offers a case study that challenges long-held assumptions and contributes to a better understanding of the origins of coinage. It does so by suggesting that coinage is considerably more than a “symbol of autonomy” (Finley 1973:116–119; Will 1975:102) or a proclamation of one’s political independence (Austin and Vidal-Naquet 1977:56–58). At the same time, it is much more than just an abstract notion of sovereignty or hegemony (cf. Martin 1985). If coinage is, as Kurke and others maintain, a token of a political struggle at its most intense, a struggle firmly situated in the context of the polis, then in the case of the Achaian colonies, it is not the polis per se that assumes importance but the polis in a colonial setting. In this particular case, the minting of coins cannot be separated from colonization; it is part of the very fabric of the colonial foundation.

In his overview of the coinage of southern Italy before 510 B.C., Colin Kraay (1976:162) noted that in this early period, two distinct groups of cities were active in minting coins: Velia (Hyele) and Poseidonia on the west coast and the four Achaian cities on the southeast coast: Sybaris, Kroton, Kaulonia, and Metapontion (Figure 13.5). The latter four cities employed a common weight standard. Kraay elaborates that although the Achaian standard was unique, the system of subdivision into small denominations was the same as that at Corinth and for the earliest coinage of Euboian Chalkis (Kraay 1976:164; Stazio 1998). The same four mints also adopted a common technique that was peculiar to the region: the so-called



Figure 13.5. Some principal sites of southern Italy (drawing Robert Finnerty).

incuse technique, where the relief design on the obverse was repeated intaglio on the reverse (Kraay 1976:163). One result of this technique, seen on some of the earliest Achaian colonial issues, is that many specimens are less than 1 mm thick in places. The combination of technique and standardized weight prompted some scholars to regard this as a sign of a monetary convention between the city-states involved. Kraay (1976:163), however, thought it more likely that the technique was established by an influential mint in the area (Metapontion or Sybaris), and from there it was adopted by the other Achaian settlements. As for the meaning

of the incuse technique, this has been much discussed by numismatists (overview in Kraay 1976:163–164). Some scholars have even suggested that the incuse type was invented by none other than Pythagoras, who migrated to Kroton about 530 B.C., in view of his philosophical notion of “duality” (see Stazio 1998:377). The most likely reason for the technique, however, was straightforward: like the deep reverse punches on the early electrum issues of Asia Minor (Wallace 1987:392), it was intended to reveal the fabric of the coin and to show that it had not been plated.

As for the date of the earliest issues of Sybaris and Metapontion, this was placed by Kraay around 550 B.C., but in a number of studies, Attilio Stazio (1983, 1987, 1998; see also Gorini 1996:223–226) slightly lowered Kraay’s original dates. Essentially, there is no clear evidence to clinch a more precise chronology than around the middle or the third quarter of the sixth century B.C. for the earliest Achaian colonial issues. In what follows, I focus on the iconography of the coins of three Achaian cities, Sybaris, Metapontion, and Kroton, beginning with the most prosperous of these cities and traditionally the first of the Achaian colonies, Sybaris.

The bull on the Archaic coin of Sybaris (Figure 13.6a) is one of the most enduring Achaian images. It is often repeated on the coinage of secondary foundations or Achaian dependencies in southern Italy, such as Sirinos and Pyxoes (Figure 13.6b) and Laos, and on the reverse of the later coin types of Poseidonia (for the coins, see Greco 1990:43–44; Kraay 1976:plates 33 and 37; Kraay and Hirmer 1966:plates 75–78; Stazio 1983, 1987, 1998; for the early history of Sybaris, see Callaway 1950:1–40; Dunbabin 1948:24–27, 75–83, 153–159). It was the only coin of the Achaian colonies that was widely copied in other centers. So similar are many of these issues that had the inscription on the coin of Sirinos and Pyxoes



Figure 13.6. (a) Obverse of a silver stater of Sybaris (ca. 550–530 B.C.). The coin features a bull with its head reverted and “ΣΥ,” which stands for Sybaris (Kraay and Hirmer 1966:plate 75, number 212; photo courtesy of Hirmer Verlag GmbH). (b) Obverse of a silver stater of Sirinos and Pyxoes (ca. 550–530 B.C.). The coin features a bull with its head reverted and “ΣΙΡΙΝΟΣ” in retrograde (Kraay and Hirmer 1966:plate 76, number 214; photo courtesy of Hirmer Verlag GmbH).

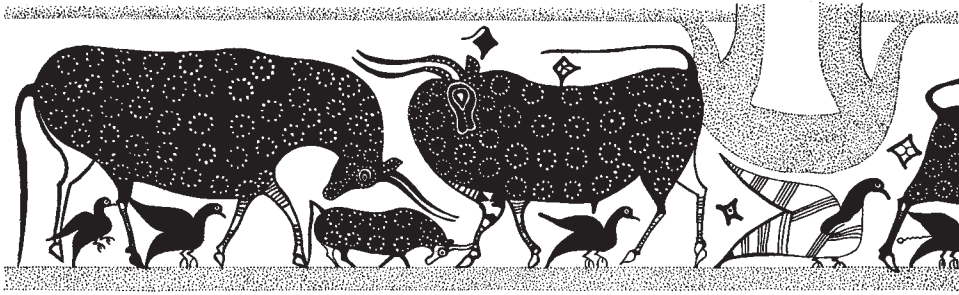


Figure 13.7. Bulls and birds on a Late Helladic IIIB amphoroid krater from Enkomi (Cyprus), tomb 18 (after Sjöqvist 1940:figure 21:1).

(Figure 13.6b) been omitted, the coin would naturally be attributed to Sybaris. The spread of Sybaris coin-types in southern Italy is a virtual blueprint of Sybaritan hegemony over the region (cf. Greco 1990; Stazio 1983, 1987, 1998). To what extent this was achieved through force or economic control, by means of emulation, or a combination of factors is unclear. In looking at the distribution of these coin types, Stazio (1998:377) noted that in the framework of Sybaritan control of the territory, indigenous centers enjoyed some limited sovereignty. They could strike their own coinage, though it closely followed that of Sybaris, carrying in addition their own ethnic inscriptions, such as “Sirinos,” “Pyxoes,” “AMI-” (for Aminaia), “SO-” (Sontia ?), and so on.

Although very common in the world of Archaic Greece and southern Italy, the image of the bull was not limited to the iconography of the Early Iron Age (McInerney 2010). The bull is a hallmark of Minoan and Mycenaean culture, appearing prominently on palace walls (Evans 1930:203–232), on gold vessels, such as the cups from the Vapheio tholos tomb (Tsountas 1889; Xenake-Sakellariou 1991), ubiquitously on Bronze Age seals and amulets, on terra-cotta figurines, and on a variety of “cultic” paraphernalia ranging from bull’s head rhyta to “horns of consecration” (Vermeule 1972:passim). Thus when Aegean objects appear in Bronze Age Egypt, the bull is a characteristic feature among things Mycenaean, such as the various representations of bulls in the tomb of Menkeperasoneb at Egyptian Thebes (Vermeule 1972:149, figures 28b, 28c, 28e). Indeed, the way the bull is rendered on the coinage of Sybaris is remarkably similar to representations of bulls in Mycenaean pictorial vase painting (Figure 13.7), even in Minoan faience (e.g., Higgins 1981:34, figure 24), particularly in the manner in which the head of the animal is turned back. This is not to say that one copied the other—only that they share a common pedigree.

A related Achaian bull is also found on the coinage of Thourion (Kraay and Hirmer 1966:plates 86–87; Zwierlein-Diehl 1992:111–112), the colony founded in 444/443 B.C. on the site of Sybaris (Figure 13.8). Here, the bird that appears under the bull is virtually identical to birds that appear under Mycenaean bulls on pictorial vases (Figure 13.7) dating some 800 years earlier. The impetus behind



Figure 13.8. Silver stater of Thourion (ca. 415–400 B.C.). The obverse shows Athena wearing a crested helmet with an olive wreath. To her right is a faint “Φ.” The reverse features a standing bull. Above it is written “ΘΟΥΡΙΩΝ.” The letter “Φ” is on the bull’s rump. Below the bull is a bird with open wings, and in exergue is a fish (Kraay and Hirmer 1966:plate 86, number 251; photo courtesy of Hirmer Verlag GmbH).

the foundation of Thourion, ostensibly a Panhellenic foundation, was Athens, and Athenian prominence in the new foundation was boldly displayed on the obverse of this new coin type in the head of the goddess Athena, the patron goddess of Athens. The Achaian bull of Sybaris is relegated to the reverse of the coin. The colonial message is blatantly rendered.

A similar message is related a couple of generations earlier. The destruction of Sybaris in 510 B.C. at the hands of the Krotoniates was followed by the minting of a coin that displays, on the obverse, the tripod of Kroton (see below) and, on the reverse, the bull of Sybaris. The representation of dominance is bold and clear. The earlier “monete di Sibari e del suo impero” was now replaced by the “monete di Crotone e di alleanza” (Stazio 1983:130–133). The fate of Sybaris had ramifications throughout the territory, and this was clearly reflected in the silver issues of several mints. Following the defeat of Sybaris, the thriving indigenous center of Pandosia came under the hegemony of Kroton. Its coin type, minted after 510 B.C., shows, on the obverse, the tripod and inscribed abbreviation of Kroton (κ); on the reverse is the bull of Sybaris with the letters ΠΑΝΔΟ, for Pandosia (Stazio 1998:377). Sybaritan hegemony had been effectively replaced by Krotoniate domination. At about the same time, the coin of Laos, which had become a refuge for expatriated Sybaritans (see Figure 13.5), shows the tripod of Kroton on the obverse, with the letters ΣΥ (for Sybaris); the reverse shows the bull of Sybaris with an inscription for Laos (Greco 1990:54–56; Stazio 1998:377). The Sybaritans and Krotoniates literally stamped their hegemony on the landscape of southern Italy.

In the case of the Sybaritan bull, the connection between the world of the historical Achaians of southern Italy and the heroic Achaioi—or *Abhijawa*—of the Bronze Age may not be as fanciful as it seems at first. If we turn to the Mycenaean



Figure 13.9. Silver staters of Metapontion. A coin from ca. 550–530 B.C. (a) features an ear of barley and “MET” on the obverse. A coin from ca. 520–510 B.C. (b) shows an ear of barley with a grasshopper and “META” on the obverse (Kraay and Hirmer 1966:plate 81, numbers 228, 229; photos courtesy of Hirmer Verlag GmbH).

Linear B tablets, an interesting picture emerges. Long before the tablets were deciphered, Sir Arthur Evans (1935:722–724) pointed out the large numbers of cattle involved in the livestock tablets from Knossos. Several Knossos tablets deal with figures in excess of 2,000, and one fragment contains the figure 19,000 (Evans 1935:723; Ventris and Chadwick 1973:197–198). Added to this was the observation made by Johannes Sundwall (1936; see further Ventris and Chadwick 1973:197) that the figures on most complete tablets curiously add up to 100 or a similar round number. Sundwall suggested that these were “hecatombs” of sacrificial animals, but as Michael Ventris and John Chadwick (1973:198) pointed out, the numbers seem far too large for this purpose. Ventris and Chadwick showed that the animals on the livestock tablets from Knossos were allocations or contributions. They concluded that it was tempting to regard the animals “not as real animals, but merely as a token of exchange, as oxen are used as a standard of measurement in Homer” (Ventris and Chadwick 1973:198). The appearance of a prehistoric standard of measurement or value on the historic coinage of Sybaris may be regarded as fortuitous or coincidental were it not for the fact that precisely the same is true for the emblems struck on the coinage of at least two other Achaian colonies: Metapontion and Kroton.

The Archaic coin of Metapontion (Figure 13.9), one of the most evocative images of southern Italy, displays an ear of barley—*not* wheat—as the city’s badge (Dunbabin 1948:212, note 4; Head 1911:75–80; Johnston 1990; Kraay and Hirmer 1966:306–308; Noe 1927, 1931). Subsidiary symbols that occur with the ear of barley on single issues include a dolphin, a barley grain, a ram’s head, and, very often, a grasshopper (Head 1911:75; Kraay 1976:165; Stazio 1983, 1987, 1998). As with the bull of Sybaris, the ear of barley as an agricultural element enjoys a Bronze Age value beyond the nutritional. It is common practice in the Linear B tablets to

record acreages—land—by their amounts of grain (Ventris and Chadwick 1973:132). It is possible, if not likely, that the conventionalized symbols for wheat and barley in Linear B should be reversed (see discussion in Palmer 1992, 2008; Ventris and Chadwick 1973:130, 412; cf. Halstead 1995; Killen 2004). The staple grain, wheat appears in the Knossos Linear B tablets under the category of consignments and rations, considered by Ventris and Chadwick (1973:213–214) as a record of payment rather than a receipt. A similar group of tablets at Mycenaean Pylos is marked by the grain ideogram identified as barley, and the entries appear as distribution of pay or rations next to occupational names given in the dative (Ventris and Chadwick 1973:215). The amounts “paid” or “rationed” vary from two to a maximum of 80 liters, and in some lists there are apparent offerings to shrines (Ventris and Chadwick 1973:215). The pattern is again familiar: a Bronze Age measure of value appearing as an emblem or standard on a historic coin.

As with the bull of Sybaris, the tripod of Kroton (Figure 13.10) is one of the most central images in the Achaian world of Archaic and Classical southern Italy (Kraay 1976:plates 35 and 35, numbers 616–635, 638; Stazio 1983:132–133, 1987:156–157, 1998:plate 41c). The same tripods are found on the Archaic coins of Kroton and Sybaris, already discussed, as well as on those of Laos, Pandosia, and Temesa (Head 1911:112; Jeffery 1990:256–259; Kraay 1976:plate 33, numbers 578–580; Stazio 1998). The importance of the tripod in the Geometric and Archaic periods lies precisely in the fact that it enjoys a venerable antiquity that goes well back into the Aegean Bronze Age. The tripod cauldron, both as a coarseware cooking vessel and as a finer wheel-made and



Figure 13.10. The obverse of a silver stater of Kroton (ca. 550–530 B.C.). It shows a tripod with two snakes between its feet, plus the letters “QPO” (Kraay and Hirmer 1966:plate 92, number 264; courtesy of Hirmer Verlag GmbH).

painted form, is well known in Minoan and Mycenaean ceramic history (Betancourt 1985; Furumark 1972:shape 320; Lacy 1967:185, shape 7), and the shape, in both varieties, continues to be found at numerous sites throughout the Protogeometric and Geometric periods (Papadopoulos 2005:479–481). In its monumentalized form in bronze, it is not only prominent at early historic sanctuaries (see below) but also in the Minoan and Mycenaean world (Catling 1964:169–170; Evans 1928:634, 637, figure 398), where additionally it features in both Linear A and Linear B (Ventris and Chadwick 1973). In the funeral games of Patroklos, as related in Homer (*Iliad* 23.259–261), cauldrons and tripods head the list of prizes that Achilles brought forth from his ships. Indeed, in Homer, finished objects of metal, including tripods,

functioned as a store of wealth, and in the laws of Archaic Crete, the payment of fines or penalties, prior to coinage, was specified in numbers of worked metal bowls or tripods (Kurke 1999:11; von Reden 1997:157–163; cf. Schaps 2004:63–79). Tripods are part of the very fabric of the Achaian heroic landscape, and their appearance, again as a measure of value, on the coinage of Kroton mirrors the bull of Sybaris and the ears of barley of Metapontion.

Collectively, the Achaian settlements of southern Italy emblematically chose to represent traditional, prehistoric measures of value or wealth, with each city stressing one particular aspect of wealth. For Metapontion, it was rich farming land, symbolized by the ear of barley. This was land of a type that was becoming rare in Greece proper in the course of the eighth and seventh centuries B.C. and mostly in the hands of the elite. By representing the bull, Sybaris stressed its extensive grazing land. Parts of southern Italy continue to be famous for their cattle and cheese to this day. As with good farming land, grazing land suitable for cattle was becoming a commodity in demand in Early Iron Age Greece, the mountainous regions of the Greek mainland being largely unsuitable for cattle grazing (cf. Rackham 1990:104). By representing on its coinage the tripod—a well-established Early Iron Age measure of value—Kroton stressed its access to such metal vessels and perhaps to the copper and other metal ores within its territory, including the mines of Temesa (Maddoli 1982). The potential success of these colonial settlements in a foreign context resided in their access to, and ability to exploit, precisely those commodities shown on their coins.

The cultural context that gave rise to this coinage was a formative period of political and social experimentation. The idea of the emergence of coinage against the backdrop of economic expansion has spawned a massive bibliography (e.g., Figueira 1998; Howgego 1990, 1995; Kraay 1976; Kroll 1998; Kurke 1999; von Reden 1995, 1997; Wallace 1987; all with references) but has often clouded the issue of the origins of coinage. If we highlight the particular context of the early Achaian colonies, however, an interesting phenomenon emerges. Sometime after the Achaian colonies were established, they minted coinage in the new colonial context, whereas their mother cities did not strike coins until much later. Coinage occurring in the colony before the mother city is not the only thing that happened first in the West. In fact, all sorts of things were moving from the colonies to the mother cities: from west to east. Malkin (1987, 1994) and other scholars (e.g., de Polignac 1995; Lévêque and Vidal-Naquet 1964) have argued that other innovations essential to the whole notion of the Greek city-state started in the western colonies and then passed to the homeland. It is ironic that the idea of minting low-value coins out of a cheap metal, such as bronze—conceptually, a first step that, millennia later, led to the adoption of paper money—appears to have originated in the cities of southern Italy during the late fifth century B.C. and from there spread throughout most of the Greek world in the course of the fourth and third centuries B.C. (Williams 1997:34).

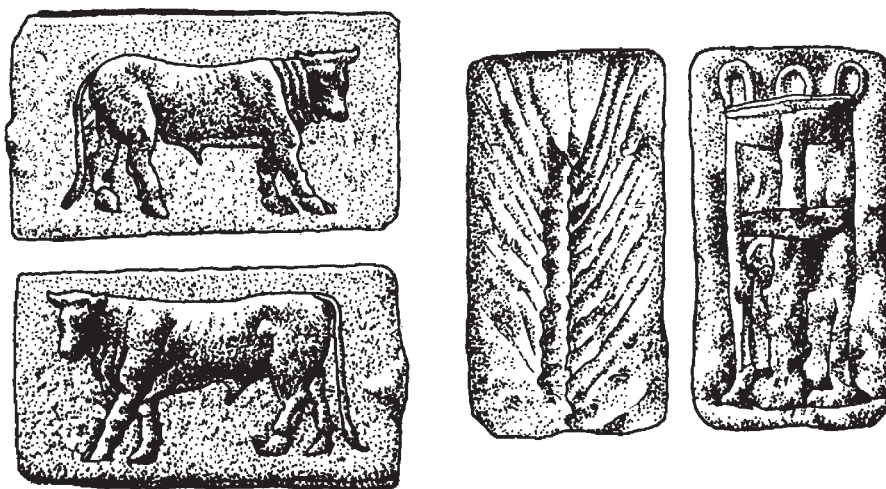


Figure 13.11. Roman bronze bars called *aes signatum*. The bar at left has a bull on the obverse and reverse (after Grueber 1910:3, number 1, plates I–II). The bar at right shows an ear of barley on the obverse; the reverse shows a tripod (from the Mazin hoard; Crawford 1969:78–79, number 142; Haeblerlin 1910:16) (drawings by Patrick Finnerty).

The efficacy of cattle, tripods, and ears of barley is not confined to the world of the colonial Achaians. Several centuries later, when the nascent state of Rome began to consolidate and expand its position in central Italy, an early form of precoinage currency emerged. It consisted of flat, rectangular bars of bronze, which bore many of the same emblems as the Archaic silver coins of the Achaian settlements. Generically referred to as *aes signatum*—a convenient modern term—the earliest of these rectangular bronze bricks are conventionally and tentatively assigned to the later fourth century B.C. (Sutherland 1974:17–18); the majority date to the third century B.C. (Crawford 1974:41). The *aes signatum* replaced the earlier *aes rude*, shapeless and unstamped rough pieces of bronze (Crawford 1974:35–46; Sutherland 1974:17–18). Whatever their original function, the cast bronze bars bore a design molded either on one side only or on both sides. Among the various designs, bulls or cows, along with tripods and ears of barley, are prominent (Figure 13.11). A tradition preserved in the Elder Pliny’s *Natural History* (33.13.43; cf. 18.3.12) states:

Servius [traditional dates: 578–534 B.C.] was the first to strike a bronze coin; Timaeus tells us that before that the Romans used uncoined bronze. The design stamped on the metal was an ox, *pecus*, which is the origin of the term *pecunia* [cf. Alföldi 1961; Crawford 1974:35–36; Thomsen 1957:20].

Although Pliny’s account of early Roman coinage is regarded as both elaborate and problematic by numismatists, particularly the early date assigned to this tradition, what is clear is that early Rome recognized cattle and bronze as the two major media of value and exchange (Thomsen 1957:20–25). A similar tradition is preserved in Varro (*On Agriculture* 2.1.9), who notes “that up to this day [the first century

B.C.] a fine is assessed after the ancient fashion in oxen and sheep; that the oldest copper coins are marked with cattle.”

Ancient authors are unanimous in deriving the Roman word for money, *pecunia*, from the word for cattle, *pecus*, whether referring to oxen or sheep (Sutherland 1974:17). The fact that the earliest designs on Roman *aes signatum* include, among other symbols, bulls (Crawford 1974:132, plate A, number 5/1; Grueber 1910:3, number 1; Haeblerlin 1910:plate 57, number 1), ears of barley, and tripods (Crawford 1974:132, plate A, number 6/1; Thomsen 1957:153–154) highlights the enduring efficacy of these emblems as symbols of value and worthy images on early forms of money.

PAYMENT TO THE GODS

In a bold and highly innovative study, Bernhard Laum (1924) formulated the concept of *heiliges Geld*: “sacred money.” In so doing, he was the first to articulate systematically a religious origin of money. Breaking loose from Aristotle’s “economic tradition” to explain coinage, Laum pointed to a religious, and particularly sacrificial, origin of coinage, one in which cattle as sacrificial animals constituted a sort of prototype of money (for food offerings and the monetization of cult, see Seaford 2004:75–87; see also Seaford 1994; Kim 2001). There was little room for market forces in this interpretation. Rather, the symbolic act of sacrifice—including the apportioning and distribution of cooked meat at religious festivals—served a variety of functions, such as payment to the gods, or even priests, to influence or ensure a favorable outcome or to amend for injuries, deaths, and other perceived social ills: atonement. Laum’s provocative study, only recently revived (see Wittenburg 1995, together with the 2006 edition of Laum’s 1924 classic), did not go down well with the classical establishment when it first appeared. As Andreas Wittenburg (1995) explains, Laum gave up his career as a classicist and in 1936 became professor of economics at the University of Marburg. As provocative as it was, Laum’s idea did not deserve the cold reception it got, and by reviving its gist, I want to extend the idea to other religious forms of payment/sacrifice, including tripods and ears of barley in addition to cattle.

One of the most interesting aspects of the emblems chosen by the Archaic Achaians of southern Italy, and later by the early Romans, is that these symbols of value were also religious dedications. Of the various emblems, the tripod is the quintessential votive dedication at any Greek sanctuary—a worthy payment to the gods. In the case of the Kroton tripods, the association with the Panhellenic sanctuary at Delphi is clear, as it is actually rendered on later coin types of Kroton, which depict Apollo, the patron god of Delphi, with bow and arrow and with Python flanking the Delphic tripod (Kraay and Hirmer 1966:plate 93, number 267). The association of Greek colonization with Delphi is appropriate inasmuch as the

Delphic oracle provided a blanket sanction for colonization and the colony itself as a gift of Apollo (Malkin 1998:21). The bronze tripod as a votive dedication par excellence is not limited to Delphi (for bronze tripods at Delphi, see Rolley 1977). On the opposite side of the Corinthian Gulf, closer to the Achaian homeland, the Panhellenic sanctuary at Olympia has produced no shortage of bronze tripods (Furtwängler 1890:plate 34; Maass 1978, 1981), and the shrine of Odysseus at Polis Cave on the island of Ithake has yielded numerous tripods (Benton 1934–1935a, 1934–1935b; Malkin 1998:94–119; Papadopoulos 2002:33, figure 20). These three sanctuaries—Delphi, Olympia, Ithake—virtually encircle the geographical extent of historic Achaia on the Greek mainland (for tripods in other Greek sanctuaries, see Papalexandrou 2005, 2008).

According to the geographer Strabo (ca. 64 B.C.–A.D. 21), the city of Metapontion so prospered from farming that it dedicated a “golden harvest” at Delphi, apparently an ear of grain, perhaps offered repeatedly or even annually (Strabo 264; see further Dunbabin 1948:212, note 5; Jacquemin 1999:342, number 365; Laum 1924:146; Mertens-Horn and Viola 1990:245–246). Indeed, a number of fourth-century B.C. ears of barley in gold are known (Simon 2000), and they provide an idea of what such a dedication in gold may have looked like (Figure 13.12). With Kroton dedicating bronze tripods at Delphi and perhaps other sanctuaries, and Metapontion dedicating gold ears of barley, what about Sybaris?

All manner of domesticated animals—from pigs to sheep and goats, and of course the largest and most expensive of the domesticates, cattle—were sacrificed at Greek sanctuaries (Laum 1924; van Straten 1995:107–109; also van Straten 1988). But beyond the actual fauna, one of the most remarkable dedications at the sanctuary at Delphi was a life-size silver bull measuring, as preserved, 2.60 m in length and 1.45 m in height (Figure 13.13). Made from a series of silver panels constructed on an armature, with details such as the dewlap and dappling on the head in panels of copper, the statue was dedicated in the sixth century B.C., perhaps the first half (Amandry 1977). It was found in the so-called *fosse de l'aire*, together with celebrated gold and ivory cult statues thought to be of Apollo and Artemis (Amandry 1991). Amandry (1991:204) noted that the identity of the city or personage that dedicated this exceptional offering at Delphi

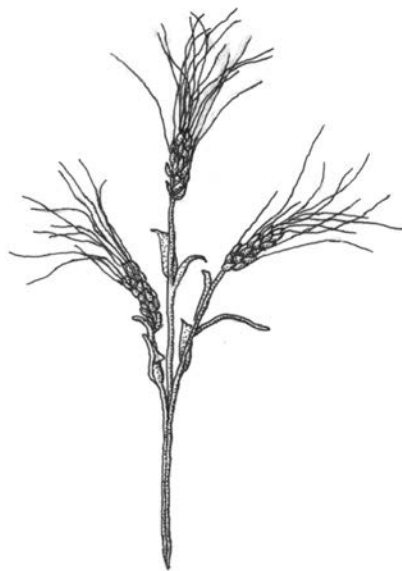


Figure 13.12. A gold ear of barley of the sort that might have been dedicated at Delphi by Metapontion (after Simon 2000, drawing by Patrick Finnerty).

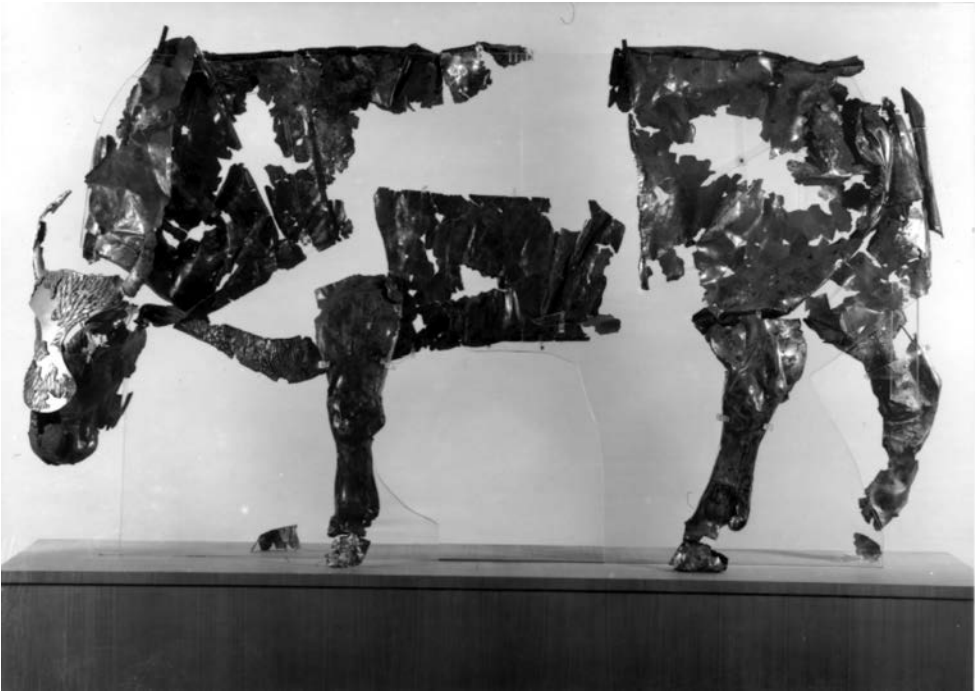


Figure 13.13. Statue of a silver bull from the *fosse de l'aire* at Delphi, perhaps dedicated by Sybaris (photo courtesy of École française d'Athènes; photo by H. P. Coulon [du cliché 44878]).

remains unknown, as there is no surviving epigraphical or literary evidence. But the existence of other statues of bulls, in bronze and stone, at Delphi and in other sanctuaries, is known from our textual sources. For Amandry, the bull, like the lion, symbolized force and power in antiquity.

In view of the lack of epigraphic or literary evidence for the city or individual dedicating this statue, any number of possibilities can be entertained. For example, in an earlier study, Amandry (1986:228) attempted to link the silver bull to Chios, but on very thin stylistic evidence, namely the undulating patterns on the plaques of the dewlap that recalled the wavy line pattern on the torsos of two statues from Chios. As for a personage, such as a wealthy tyrant, perhaps even an Anatolian potentate, such as Kroisos of Lydia, we can only speculate. But Kroisos seems an unlikely candidate, since, according to Herodotus (1.54), he sent a gift of two gold staters for each of the citizens of Delphi (having first inquired how many men there were) in gratitude for what he took to be a favorable omen, and there are no details for other presents earlier sent by the Lydians to the oracle.

Whereas bronze and stone bulls and lions are common, as Amandry noted, not so bulls or lions made of silver. In view of the bronze tripods of Kroton and the golden ears of barley of Metapontion dedicated at Delphi, it would be remiss not to consider Sybaris. Indeed, Sybaris stands out as the obvious candidate for dedicating this exceptional silver bull, for it is difficult to imagine any other city—or

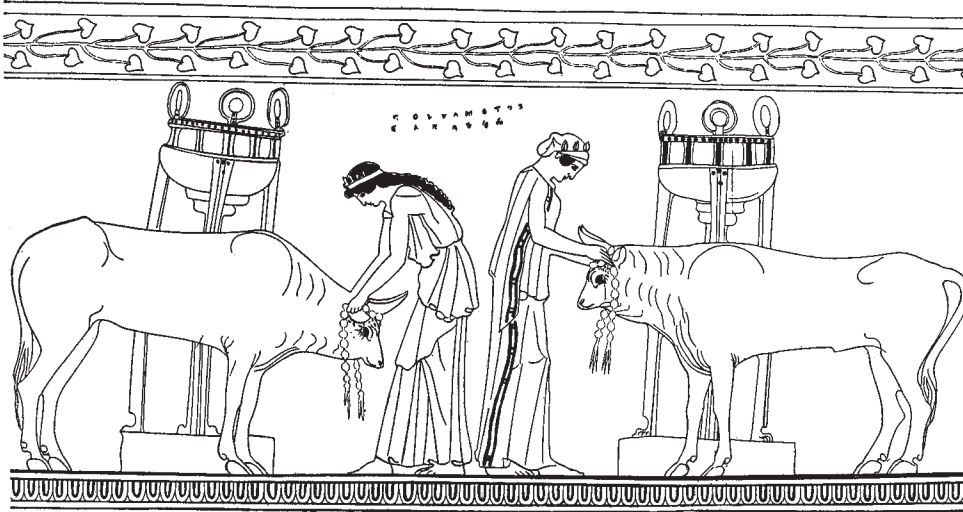


Figure 13.14. Detail of the scene on a red-figure amphora signed by Polygnotos, now in the British Museum (E 284 [755]; after Hoppin 1919:377).

individual—dedicating a massive statue of the *same animal* as that found on its coinage. Moreover, the dedication was not in stone, bronze, or even gold but in the very metal from which money was struck. As a show of wealth, this was a dedication that bordered on the belligerent: a Sybarite act if there ever was one!

The importance of cattle, tripods, and ears of barley as standard votive offerings to deities in the Archaic and Classical periods lies precisely in the fact that these were items of inherent value. Consequently, they are often illustrated together in antiquity, such as the case of the Athenian red-figure amphora signed by Polygnotos (Figure 13.14). The vessel depicts two women preparing oxen for sacrifice by placing fillets on the heads of the animals; behind them stand two massive tripods (Hoppin 1919:376–377). Many of the same elements appear in the Mycenaean Linear B tablets as dedications to deities. At Pylos, for instance, there are records of quantities of grain contributed annually to Poseidon (Ventris and Chadwick 1973:128). One tablet, Un718, preserved an entire list of offerings to Poseidon, including an ox and a considerable amount of grain, whether barley or wheat (Ventris and Chadwick 1973:128, 282–286, number 171). The pattern seen in the historic period was already well established in the Bronze Age.

ELIDING THE HEROIC AND HISTORIC

The Achaians of the historic colonies of southern Italy appropriated and exploited Achaian prehistory and in so doing constructed their own “Achaianess.” They consciously blurred the line between history and prehistory; they created a past fit for their own image of the present. By alluding to a prehistoric past through the

choice of emblems on their coinage, they took the whole process one step further, placing it squarely in the economic realm. These were not images on pottery or items of minor value, nor were they symbols of achieved or perceived individual or personal worth or rank. Struck by the state—the polis—these emblems sought to represent a collective identity in a colonial context. It is for this reason that we find early Achaian mints in the colonies and not in the homeland. But beyond authorizing for themselves their common past through representation, they chose the very vehicle of value as their medium. By minting their identity on their coinage, the Achaians of southern Italy chose money to create relations of dominance. Not only were money and art combined to create a system of value, but the coinage was actively used to produce social orders that had not existed before. As I have argued, the success of this venture, especially the rise of a Sybaritan “empire” and the subsequent hegemony of an “alliance” headed by Kroton, was not just *reflected* in the coins; the coins themselves were central to the process: active agents. The aim was not just symbolic or rhetorical dominance but *economic* dominance. The emblems on the coins were part of the very fabric of the Achaian cultural, political, religious, and economic landscape. Such emblems served as a conscious link between past and present, and in their everyday use they helped define the future.

BACK TO BASICS: WORDS FOR MONEY AND VALUE

One of the beauties of the study of the classical past is the interplay of archaeology and philology, what Emily Vermeule (1996) described as “the dirt and word.” They are, to excuse the pun, two sides of the same coin. We have already seen that in Latin, the word for money, *pecunia*, and ultimately the English term “pecuniary,” derives from the word for cattle, *pecus*, whether referring to oxen or sheep. Precisely the same is true in a number of other Old World cultures, where the term for money was irrevocably linked with cattle. In Old Norse, for instance, the word *fé* denoted cattle, sheep, and money, and in Old English, *feoh*, *fiob*, and *féo*, from which the Modern English word “fee” derives, similarly referred to cattle, property, and money. It is worth adding that the English word “money” ultimately derives from the Latin *moneta*, as in the epithet of the goddess Juno, because in Rome money was coined in the Temple of Juno Moneta, which became synonymous for a mint: a place for coining money. Unlike Latin, Old Norse, and Old English, there was no commodity that gave its name to money in Greek.

The Greek word for money was the same as that for coinage: *nomisma*. The word derives from the same etymological root as the word for law: *nomos*. In the plural, *nomismata* referred to pieces of money, coins. In addition to referring to a current coin or to money more generally, the word also meant anything sanctioned by current or established usage or custom, as well as a full legal measure (see Liddell et al. 1983:s.v. *nomisma*). Writing in the fourth century B.C., particularly in the context

of the need for a market (*agora*), Plato (*Republic*, 371b) notes: “And that will require a market, and a currency as the medium of exchange.” The word for coinage is used as a symbol or medium of exchange. Here is the concept of fungibility (itself deriving from the Latin *fungi*) fully articulated in classical antiquity. In German, the words for money (*Geld*) and gold (*Gold*) derive from the same root, a participle of the verb *gelten*, as in “to be valued at,” “to be esteemed.” Both words simply mean “that which is valued” or “that which is of value.” As for the word “value” itself, it appears as a noun in Middle English and derives from the Old French *valoir*, which means “that amount of a commodity, medium of exchange, etc., considered to be an equivalent for something else; a fair or satisfactory equivalent or return. Frequently in *value for money*” (Brown 1993:s.v. value).

CODA

.....

In this study I have focused on a series of Greek city-states, among the earliest entities in the world to mint coinage, in a specific colonial context. In so doing, I drew a common thread between the Achaians of the “Heroic Age” and those of the historic period, both material and imagined. The prehistoric allusions boldly struck on the coinage of the Achaian cities of southern Italy refer to Bronze Age measures of value that still had current value at the time these coins were first minted. Moreover, precisely the same items of value in the Bronze Age were used by the Romans when they first started minting coinage. As symbols of value, cattle, tripods, and ears of barley remained constant in Greek tradition: always there.

Beyond the quest for metals, the very commodities that define our periodization—Copper Age, Bronze Age, Iron Age (for periodization, see Morris 1997)—and well beyond the technological innovations, vicissitudes of supply, or mechanics of regional networks involved in procuring metals that characterize the Archaic Greek world, there was a real search for structuring commodities of value. This search ultimately leads to an economic system of exchange that was not limited to elites (cf. Kurke 1999; Morris 1996; von Reden 1995; see further Duplouy 2002). Coinage minted by the state, the polis—not weighed, bundled, and stamped by individual merchants or issued by kings, such as Kroisos—broke down earlier structures of control. The fact that each Greek city-state, or most of them, literally hundreds of poleis, adopted coinage within a relatively short period of time, each issuing coins with distinctive designs, resulted in an economic snowball effect, a veritable juggernaut that could not be stopped. (By 480 B.C. there were at least 100 mints producing coins; see Kim 2001:10, map 1.1; Osborne 1996:253–255.) Although various cultures of the eastern and central Mediterranean, together with a few Greek states, such as Sparta, at first resisted the idea of stamping silver, there was no going back. By the later Classical period, virtually the entire Mediterranean was minting coinage, and by the Hellenistic and Roman periods, the spread of coinage

would reach a breathtaking extent, from the Indus River and beyond in the east to the British Isles in the west. This process of globalization continued, and the rest was history.

NOTES

.....

1. An earlier and longer version of this paper, which dealt more fully with the origins of colonization and coinage and provided historical background and discussion on the coins of several more city-states, was published in the *Cambridge Archaeological Journal* (Papadopoulos 2002). The present version, although relying heavily on the 2002 paper, focuses on aspects covered in the earlier paper that I wanted to bring to the fore. I have both streamlined and added considerably to the argument. I am grateful to Chris Scarre, then editor of the *Cambridge Archaeological Journal* (and a contributor to this volume), for his assistance and advice in the course of the publication of the earlier version. Sources are acknowledged in the figure captions, but I am especially grateful to Robert and Patrick Finnerty for assistance with some of the illustrations. My thanks to Lothar von Falkenhausen for the discussion on *Geld* and to many participants in the seminar for fruitful discussion, not least Colin Renfrew and Alain Schnapp.

2. To be sure, there are modern exceptions. In the early modern period, particularly in the seventeenth and eighteenth centuries, numerous banknotes, bills of exchange, and paper money more generally, were characterized by writing only, often accompanied by florid signatures. In some cases, it was precisely the signatures that served as a guarantee of value, with certain notes bearing the signatures of numerous individuals (Williams 1997:177–192). Signatures of officials remain common on today's paper money, which also bears complex iconography.

CHAPTER 14

.....

THE CONSTRUCTION OF
VALUES DURING THE
PERUVIAN FORMATIVE

.....

RICHARD L. BURGER
YALE UNIVERSITY

ABSTRACT

.....

Values in the prehistoric Andes varied significantly over time, and this essay attempts to track notable changes among early cultures of ancient Peru. During the Middle Preceramic, values focused on the family, including a concern with the death of neonates and infants. Late Preceramic Period monumental architecture with repeated renovations evidences values grounded in community cooperation and reproduction. The first social valuables appeared in the form of biconical rectangular beads with distinctive dual drilling. In the Initial period, sea lion canines and whalebone ear ornaments associated with leaders emphasize new values of power, strength, and courage. Evidence for socioeconomic inequality appears in central and northern Peru during the Early Horizon in association with the Chavin religious cult, which emphasized harmony and balance, as well as interaction with the supernatural realm, through religious rituals, including the ingestion of psychoactive drugs and shamanic transformation. Material social valuables that symbolized the new set of beliefs included gold jewelry and crafted exotic stones, minerals, and shells brought from distant areas. Shimmering surfaces and strong colors were invested with symbolic meaning related to the religious beliefs and attributes of cult leaders.

INTRODUCTION

.....

In many respects, prehistoric archaeology is poorly positioned to engage in the academic discourse regarding the construction of values. The conscious or unconscious temptation to ascribe values that merely reflect or serve as justification for contemporary values is difficult to avoid when dealing with prehistoric peoples. Nonetheless, because of archaeology's unique ability to reach deep back in time and track patterning over hundreds or even thousands of years, it does offer an opportunity to address basic questions that can only be speculated about in other disciplines. Moreover, particular archaeological contexts, such as burials and offerings, seem to contain particularly clear expressions of value systems, and when combined with other more ambiguous data sets they justify the efforts of archaeologists to address the issue of values in the distant past, despite the many obstacles.

When do certain items begin to be seen as social valuables and why are they selected? To what degree do these valuables express larger value systems? Why were some items that were at first considered to be of great value ignored by later populations? At the same time, why do some favored elements persist as social valuables for millennia? Is this continuity an expression of the resilience of "traditional values," or does it involve the reinterpretation of these valuables within new and different value systems? And why do these patterns of value emerge when they do? By considering such issues for autochthonous civilizations such as those of the central Andes, we can begin to create an empirical foundation in the search for cross-cultural regularities, despite the unique and complex trajectories found in each region of the world.

In this brief overview, I will argue that some fundamental values and many objects viewed as being of great value in later Andean civilizations, such as the Moche, Chimú, and Inca, first became well established during the first millennium B.C. during the florescence of Chavín civilization and the cultures closely related to it. This process was tied to the emergence of significant economic and political inequality favoring an elite class of religious leaders, a religious ideology associated with them, and a set of emblematic materials used to symbolize central ideas in their cosmology and, by extension, the special status of these leaders. There is already a large literature discussing the special place of textiles in Andean value systems (e.g., Conklin 1971; Murra 1962), so I will focus on other classes of objects, although I believe that the evidence for textiles is consistent with the thesis presented here.

At Chavín de Huántar, there is evidence of an emerging socioeconomic hierarchy coming from differential food consumption, craft specialization, and domestic architecture (Burger 1984, 1992; Sayre 2010), so the linkage of the appearance of a new set of social valuables to this process cannot be dismissed as tautological. The selection of the social valuables in question is viewed as an expression of cosmological principles central to the Chavín cult and related religious belief systems of the late Initial period and Early Horizon. Some of these social variables persist for

a millennia or more, but it is likely that by Moche and Chimu times, their meanings had shifted in some fundamental ways.

VALUES AND SOCIAL VALUABLES IN EARLY PERUVIAN PREHISTORY

In considering this subject, it is worth going back in time, long before the process was under way, to reach what might be thought of as a historical baseline. For example, if we consider the Middle Preceramic (roughly between 5000 and 3000 B.C.) along the coast of Peru, we are fortunate to have a series of sites that have been investigated, including Paloma in the Chilca Valley, a village site that was extensively excavated, revealing dozens of circular houses and more than 100 burials (Quilter 1989). Numerous field seasons unearthed a representative sample of households, burials, and refuse, but the only objects that can be highlighted as possibly having special value to the inhabitants would be a series of small cut shell disks and crescents that may be associated with the interment of children (Figure 14.1, *see color plates*). These items are made from local mussel shell and do not require any special skill to produce.

In some respects, the evidence for Paloma is more interesting for what is absent than for what is present. All but a few of the raw materials utilized were available locally, and there is no indication of craft specialization. The lack of objects to distinguish status is consistent with what was probably a relatively egalitarian value system. While the inhabitants of villages such as Paloma probably had an elaborate system of values, they had not yet explicitly linked these with the imperishable objects used in life and death. However, the special treatment of children, made manifest in burial practices, is reflected in distinctive cut shells that seem to be associated with burials of infants and neonates. The apparent special funerary spaces and even the careful burial of infants and neonates by themselves indicate values—the “family” values of having children survive into adulthood (Quilter 1989).

The subsequent period, known as the Late Preceramic period (roughly between 3000 and 1800 B.C.), has recently attracted much attention because of massive amounts of public construction documented at major sites on the north-central coast, such as Caral (Shady 2004), and claims that these constructions constituted evidence for Peru’s “first civilization.” The existence of complexes consisting of large flat-topped pyramids on both the coast and in the highlands had, of course, been known long before the work at Caral (Burger 1992; Moseley 1975; Quilter 1991), but the large investigations at Caral have provided a large sample of excavated contexts without equal. It is therefore important to note the apparent absence of abundant evidence for social valuables coming from this research.

There are small circular beads made of distinctive red (jasper, garnet), green (chrysocolla, turquoise), and cream-colored semiprecious stones. There are also rare

beads of *Spondylus* shell (usually *Spondylus princeps*) from the warm waters off the shores of what are now Ecuador and far northern Peru. Nonetheless, the great scarcity of these items and their context are merely suggestive of the possible presence of sumptuary goods (Shady 2004:18–192). Notably missing are objects that would have required a craft specialist for their production. The interest in color demonstrated by these items, however, suggests that values such as fertility and life force may already have been associated with particular tones and that raw materials with these distinctive colors were sought out and transported a considerable distance.

At many of the Late Preceramic centers are examples of distinctive biconical beads with dual transversal drilling (Figure 14.2, *see color plates*). Biconical beads have been found at contemporary sites on the coast such as Aspero (Feldman 1980:148) and Bandurria (Chu 2008:176), at mid-valley sites such as Galgada (Grieder et al. 1988:89:figures 74rr–tt, 80), and in the highlands at sites such as Huaricoto (Burger 1992). At Galgada, where detailed technical studies were carried out, the biconical beads had been crafted from *Spondylus princeps* and red-toned diatomite, a rare, fine-grained, sedentary stone produced from fossilized colonies of unicellular organisms known as diatoms. The complexity of the bead production and the rarity of the raw materials employed suggest that these beads were items of special value. The dual parallel drilling of the perforations ensured that the quadrangular beads lay flat when strung and would have thus been highly visible. At the site of Aspero, an unbaked clay figurine representing a Late Preceramic leader shows her wearing a necklace made of these beads (Figure 14.3; Feldman 1985:80, figure 7); this image reinforces the impression that this unusual class of beads was one of the earliest instances of a social valuable. While these beads appear to have been widely distributed during the Late Preceramic, their production appears to have been limited in time, since examples of biconical beads with dual transverse drilling have never been found in a context postdating the Late Preceramic.

Other examples of finely crafted items encountered in Late Preceramic contexts are limited and almost exclusively include ritual equipment, such as a wooden bowl carved with frog effigies from Aspero (Feldman 1985:78, figure 5) and a set of incised flutes carved from pelican bone recovered at Caral (Shady 2004:218–221). Despite the substantial number of Late Preceramic sites that have been excavated and the relatively large number of graves that have been encountered, there is little evidence of items that could be construed as representing wealth in the burials, with the possible exception of rare *Spondylus* and semiprecious stone beads. This pattern fits well with the relative simplicity of artifacts recovered in the refuse adjacent to residential contexts, and it suggests the continuation of an egalitarian set of values.

If we search for other values in the Late Preceramic archaeological record, what is most conspicuous is the value of group solidarity and social continuity expressed by monumental architecture. As the literal reification of group labor, the numerous flat-topped pyramids of the Late Preceramic expressed an identity that transcended that of the rural homestead or small village, and through the repeated renovations of



Figure 14.3. Drawing of restored small unbaked clay figurine with biconical bead necklace; Huaca de los Idolos, Aspero, Supe Valley, Peru; Late Preceramic period (5000–3000 B.C.). Drawing Courtesy of Richard Burger.

the pyramids, the long-term viability and vitality of the group was expressed for all to see. Eventually, after many generations, the larger-than-life constructions would have spoken to the notion of the social group as a permanent immutable value, as natural and as permanent as the Andean mountain chain that served as its backdrop.

Another value that might be inferred from this architecture is the focus on pyramid summits as the appropriate spots for religious ritual, suggesting that the linking of elevation and the sacred realm had already developed in the Andean value system. This principle of seeing elevation as a physical expression of hierarchy, whether sacred or secular, is a notion of value that was pervasive in Inca times and beyond (Bastien 1985; Reinhard 1985 a, b).

I would now like to turn my attention to the Initial period (1800–800 B.C.), when the Manchay culture flourished along the central coast of Peru. Lucy Salazar and I have been studying the U-shaped pyramid complexes of this culture in the Lurin Valley since the mid-1980s, and some of the results seem directly relevant to

the issues addressed in this volume. During the excavation of the residential areas adjacent to the monumental architecture of Manchay culture centers, we failed to find any items that could be identified as having exceptional value to those living there, with the possible exception of a few greenstone beads. However, at the site of Cardal, during investigations of the penultimate atrium of the central mound, we encountered 16 burials of the group believed to be the leaders of this sociopolitical unit (Burger and Salazar 1991). Among the men, women, and children buried there, one elderly male was set apart from the others by a necklace of 13 sea lion canines (Figure 14.4, *see color plates*) and red-painted ear-spools carved from whalebone (Figure 14.5, *see color plates*). None of the other interred individuals wore jewelry of any kind (Burger 2008:20–21, figures 7, 8). The selection of these items of adornment to legitimize the authority of what I interpret as the community's religious leader is intriguing and may shed light on the values associated with early leaders along the coast.

The residents of Cardal were farmers rather than fishermen, but the main source of the group's protein came from marine foods obtained from small villages on the Pacific shore, some 15 km away. Thus the farmers of Cardal were dependent on marine foods for their protein, and the ocean seems to have played an important role in Cardal's value system. In fact, some of the most frequently depicted motifs in Manchay murals at inland public centers such as Cardal and Garagay are geometric forms interpreted as waves (Burger 1992:figure 43).

It is probably not coincidental that the two marine animals whose body parts were utilized to reinforce and construct the authority of the Cardal leader were the sea lion and the whale. These are the two largest and most powerful marine animals on Peru's Pacific coast. Judging from the faunal remains, the sea lion was not a significant source of food for the occupants of Cardal (George Miller, personal communication August, 1989). The perforated canines strung on the Cardal necklace came from male sea lions, since females lack canines of this kind. Adult male sea lions frequently weigh up to 300 kg. These animals are rarely found beached, so it can be assumed that the fangs strung on the necklace were acquired by hunting. The killing of these creatures using clubs or spears would have been a challenging feat, comparable to the killing of a jaguar in the Amazonian forests or a black bear in the temperate forests of North America. Given the number of teeth strung on the Cardal necklace, a minimum of seven adult male sea lions needed to be killed and slaughtered to acquire the perforated canines recovered.

Unlike the sea lion canines, the whalebone likely came from beached animals. However, when whales are beached, the quantity of available bone is massive. The absence of whalebone ear-spools in the other graves at Cardal and in domestic garbage suggest that its use was a special prerogative of leaders. As Annette Weiner (1985) and others have commented, in precapitalist societies, items of special social value are frequently viewed as being infused with social and symbolic meaning and as a consequence are not exchanged; nor do they circulate widely. Items of special

social value such as the sea lion tooth necklace and the whalebone necklace convey and condense value and are used to construct social identities by communicating differences between individuals or groups. These special items are often treated as inalienable possessions.

The likelihood that a symbolic meaning underlies the choice of the sea lion canines as a social valuable was reinforced by our excavations in 2008 on the summit of the northeastern platform at Cardal. We encountered an offering that included the decapitated head of a young child, an array of pottery and broken ceremonial equipment, a large ceramic effigy, two greenstone beads, and, most importantly in this context, the canine of a sea lion. The walls of the platform in which the subfloor cache had been placed were decorated with a clay frieze of repeating wave motifs (Burger 2010).

Given their late Initial Period (approximately 1,000 B.C.) contexts and associations, the sea lion canines and whale ear-spools from Cardal would appear to offer an early case of the construction of social value in the central Andes. The association of religious leaders with the Pacific Ocean and more specifically with the largest and strongest animals occupying this body of water suggests that strength and ferociousness were associated with maximal authorities and that this association was expressed through their exclusive use of jewelry made from the bodies of these animals. While this association seems both logical and “natural,” one looks in vain for the continued prominence of necklaces of sea lion teeth or the fangs of any large mammals, for that matter, as symbols of leadership in later prehistoric cultures of Peru.

However, if one consults modern ethnographic accounts of tropical forest cultures, there are literally dozens of groups that make use of necklaces consisting of jaguar canines or claws; the photographs in Wade Davis’s *The Lost Amazon* illustrate numerous cases of this pattern (Davis 2004). A review of the dozens of cases documented in the Human Relations Area Files reveals that these necklaces are often worn by a village shaman or chief (Leon Doyon, personal communication 2010). One of the few accounts that discuss these necklaces in detail indicates that owners of jaguar tooth necklaces believed that wearing them would “impart to the wearer something of the strength and ferocity of this wild beast” (Karsten 1935:90–92). Among the Shuar of southern Ecuador, it is considered proper that a man should decorate himself only with the teeth of animals he has killed himself. Thus in the case of Cardal, it is conceivable but not certain that the elderly male wearing the necklace was responsible for killing all of sea lions from whom the canines were extracted. While this cannot be established (or ruled out) archaeologically, it does seem reasonable to assume that these emblems of authority drew their symbolic force from the power and fierceness of the male sea lion and whale, as well as their association with the Pacific Ocean. In later Andean cultures, this body of water was widely viewed not only as the generator of nourishment for the community but also as the ultimate source of precipitation for crops (Reinhard 1985 b).

While the importance of marine mammal jewelry appears to have been short-lived as a social valuable in ancient Peru, the selection by the Manchay culture of other objects for their symbolic value proved to have a more lasting impact. Perhaps most notable was the use of small gold and copper sheets at the U-shaped complex of Mina Perdida around 1200 B.C. (Burger and Gordon 1994). Found on the upper back terrace of Mina Perdida, only 8 km downstream from Cardal, these objects apparently played a role in summit ceremonies (Figure 14.6, *see color plates*). None were found in the domestic refuse behind Cardal's public buildings, nor did they circulate widely in the valley, judging from the fact that none have been recovered from the extensive excavations at the other two coeval centers studied thus far—Cardal and Manchay Bajo (Burger and Makowski 2009).

The tiny metal sheets from Mina Perdida are the earliest dated examples of gold and copper from the Peruvian coast. Their discovery seems to reinforce Colin Renfrew's generalization that "in most cases early metallurgy appears to have been practiced primarily because the products had novel properties that made them attractive to use as symbols and as personal adornments" (Renfrew 1986:146). As Renfrew and others have noted, gold is inherently attractive because it reflects light efficiently and thus dazzles. It does not tarnish from oxidation, thus seeming to be incorruptible, unchanging through time. These qualities led gold to be closely associated with the sun, according to historic accounts of later Andean cultures such as the Inca.

Given the finds at Mina Perdida, it would appear that from first production, Andean metal artifacts were intimately tied with religious rituals and, presumably, values associated with the supernatural realm. Significantly, both gold and copper can be shaped by cold hammering and hold the desired form. Analysis of the Mina Perdida sheet metal indicated that both the copper and gold sheet were hammered from native metal found naturally in an almost pure state rather than extracted from ores (Burger and Gordon 1994). This observation, along with the context and associated radiocarbon measurements, confirmed that we were dealing with an early stage of Andean metallurgical production. It is fascinating that both the gold and copper sheet had been hammered to paper-thin foils whose thickness must be measured in the microns, a pattern that is also typical of later Andean metallurgy. The technique of working metals as thin sheets had an enduring impact on the kinds of metal objects produced in the central Andes until the time of the Spanish conquest (Lechtman 1980).

At Mina Perdida, thinness appears to have been actively sought out. In fact, achieving extreme thinness required producers to heat the copper, a pyrotechnology known as annealing, to increase ductility and to prevent the fragile sheets from breaking as the result of additional cold hammering. The resulting metal sheets lack the dense solidity of cast metal; instead, they more closely resemble the lightness of feathers or insect wings. Perhaps the value leading to the production of extraordinarily thin metal sheets was the notion of thinness or lightness itself, or the qualities of movement and reflection that were a by-product of this technique.

The interest in the value of light as expressed through its reflection may have earlier antecedents in the Late Preceramic, at sites such as Asia, where small mirrors were produced by attaching reflective pyrite fragments to small frames using adhesive (Burger 1992:34). Nicholas Saunders has observed that Amerindians throughout the Americas perceived the world as infused with “spiritual brilliance” and that despite a range of differing cultural conventions and significances attributed to natural phenomena such as the sun or natural materials, each of these objects held an inner sacredness manifested by its shiny surface (Saunders 2003:16).

While the tiny metal sheets from Mina Perdida are unimposing, they were produced by an innovative technology using unfamiliar raw materials. Some additional notion of the symbolism underlying their creation as objects of value can be intuited not only from the context in which they were found and their intrinsic physical qualities but also from the juxtaposition of gold foil with copper foil, thereby producing a bimetallic piece of metal sheet (Burger and Gordon 1994). Geologist Robert Gordon believes this was probably achieved by an organic adhesive that held the thin copper and gold sheets together. Dualism in Andean cosmology can be traced at least as far back as the third millennium B.C., to the Temple of the Crossed Hands at Kotosh (Burger and Salazar 1994); in later times it was often expressed by the juxtaposition of gold and silver sheet metal (e.g., Alva and Donnan 1993; see also Lechtman 2007). It seems likely that the creation of bimetallic gold–copper platelets at Mina Perdida could have been an early expression of the dynamic dualism fundamental to later Andean cosmovision and value systems.

CHANGING VALUES AND THE EMERGENCE OF SOCIAL VALUABLES DURING THE EARLY HORIZON

In central and northern Peru, the first millennium B.C. was marked by the appearance of true socioeconomic inequality; it characterized and shaped society to a degree unknown among the earlier societies of the Late Preceramic and Initial periods. The way in which this fundamental change impacted the construction of values appears to have been both profound and complex. Of the many public centers known from this period, Chavín de Huántar seems to have been the preeminent one, a “first among equals” when compared to contemporary centers such as Kuntur Wasi, Pacopampa, Caballo Muerto, and Campanayuq Rumi. While not the political capital of a large state or empire, Chavín de Huántar displays a large resident population, as well as more evidence of exchange and craft specialization than any other site investigated thus far. Due to its fame and exceptional features, Chavín de Huántar has received much archaeological attention and consequently offers a rich body of analysis to give us a sense of the value system emerging during this time.

One of Chavín de Huántar’s unique elements is its principal cult object in its original location along the site’s axis, in the center of what is generally known as the

Old Temple. The cult object is a carved anthropomorphic sculpture found at the end of a long narrow subterranean passageway; it would have been inaccessible to the vast majority of those visiting the site. This sculpted granite shaft, 4.5 m high, incorporates the basic elements of an axis mundi connecting the celestial sphere and the underworld while also providing a cosmogram for this world with its four cardinal directions. The main theme of the sculpture is an anthropomorphic deity dubbed the Lanzón by Julio C. Tello. John Howland Rowe (1962) interpreted it as the primary deity of Chavín de Huántar, and judging from its stance, it appears to express the value of harmony and balance. With one arm raised and the other lowered, and palms facing opposite directions, the deity appears in the process of balancing the opposing forces of the world (Burger 1992; Burger and Salazar 1994; cf. Cummins 2008; Tello 1960).

Other sculptural depictions of this deity, such as the famous “Medusa” stone, convey this same message using different but analogous conventions (Burger 1992:frontispiece). Even the architects at Chavín de Huántar echo this value of dynamic dualism by dividing staircases into black and white sections made, respectively, of soft dark limestone and hard light granite, or by adorning entryways with columns decorated with supernatural birds of opposite sexes and from contrasting ecological zones (Burger and Salazar 1994; Rowe 1962). Given the tensions that were probably set in motion by the emergence of conspicuous inequality, it is not surprising that a central cultural value expressed was the importance of harmony and balance in the cosmos and, by extension, in society.

Yet to achieve this value of balance, Chavín de Huántar’s leaders did not simply advocate respect for family values that were already present in the Middle Preceramic or the values of community solidarity and continuity that were pervasive in the Late Preceramic and Initial periods; nor did they emphasize the individual leadership qualities of strength and ferociousness as seen during the late Initial Period in the Manchay culture. At Chavín de Huántar, leaders appeared to be valued not only for the personal qualities they displayed in this world, such as individual strength or charisma, but also for their ability to transcend the obstacles of this world to intervene on behalf of their community of believers in the supernatural realm. To do this required an ability not usually found in even the strongest of men and women—the capacity to transform oneself from human form into that of monstrous jaguars and raptors. This strategy of community protection has survived into modern times in a number of religious systems, often described by the ambiguous term “shamanistic.” Ethnographically, these purported transformations and journeys into the sacred realm for the benefit of the community or client are often done with the assistance of psychotropic drugs in the form of hallucinogenic snuffs or drinks (Eliade 1964).

Fortunately for the archaeologist, at Chavín de Huántar these transformations were represented in stone sculpture for all visitors, both pre-Hispanic and modern, to see. And the role of psychotropic substances in this process and in the ritual

activities at the site is amply testified to in the iconography of the stone sculpture and by the presence of mortars and snuff spoons utilized in the ingestion of the psychoactive substances. Tools for the preparation and ingestion of hallucinogenic snuffs have been repeatedly found in temple refuse at Chavín de Huántar and other related sites, such as Kuntur Wasi and Campanayuq Rumi (Burger 1988, 1992; Rick 2006; Torres 2008).

Leadership thus required mastery of dangerous exotic plants with psychoactive properties, such as vilca (*Andadenathera colubrina*), which facilitated the journey from this world to the other. But this was not enough. To be successful in their endeavors, leaders needed to master bodies of complex esoteric knowledge only hinted at by complex religious stone sculptures such as the Tello Obelisk.

In summary, the values elevated to prominence at Chavín de Huántar were not those associated with everyday life and its challenges. Instead, it is the special valuation of the “other,” the “transcendent,” the mysterious, and the awe inspiring. Even supernatural figures often interpreted as symbolizing forces of nature are shown as combinations that do not exist in the natural world: jaguars with raptor claws, harpy eagles with jaguar mouths, snakes with feline ears, and caimans with elaborate tail feathers. Furthermore, given that Chavín de Huántar is located in a high intermontane valley, at 3,150 masl, the focus of its religious art on monstrous tropical forest animals as symbols likewise adds to the sense of mystery and awe, since few if any visitors to the temple would have ever encountered such animals firsthand.

The valuation of the mysteries at Chavín de Huántar helps explain its architectural design and the hundreds of complex stone sculptures that adorn its exterior, as well as the new suite of social valuables recovered at Chavín de Huántar and related centers in burials and other contexts. For example, the temple of Chavín de Huántar conceals dozens of internal passageways and chambers, invisible from the outside. Similarly, entrances into the temple and means used by priests to appear on the summit or on inset balconies were also obscured from the view of the public.

Even the imagery on the abundant stone sculpture is frequently incomprehensible to the untutored viewer. The themes of the sculptures are often buried beneath layers of conventions, such as kenning (or metaphorical substitution), anatomic design, and modular width (Burger 1992; Rowe 1962). I interpret such conventions as intentional efforts to make the cosmology seem distant, esoteric, and inaccessible. In the case of some sculptures, such as the columns of the Black and White Portal or the Tello Obelisk, the carving wraps around a cylindrical or prismatic form; since the viewer can see only a fraction of this carving at any given time, “reading” it is difficult if not impossible without a rollout drawing. Similarly, most of the tenoned heads are heavily carved with incised details that would have been unintelligible to viewers on the ground 10 m below (Burger 1992:158, figures 148–150).

It is within this context of the special valuation of the mystery and awe of the supernatural, particularly the claims of leaders to be able to transform themselves into jaguars and raptorial birds to enter the celestial sphere, that the use of precious

metals becomes widespread for the first time in the central Andes (Burger 1988, 1993). The artifacts of precious metal that appear at Chavín de Huántar, as well as in many coastal and highland sites, are frequently large three-dimensional objects that required sophisticated technological knowledge to produce. Not only did these items embody sacred elements through their distinctive metallic composition and appearance, but many of the objects were completely covered with the religious iconography using repoussé, champlévé, and other techniques (Figure 14.7, *see color plates*). Pendants and crowns were sometimes adorned with the image of the main deity of Chavin, known as the Staff God, or with images of cat-snakes, jaguar faces, and other elements known from the iconography of Chavin stone sculpture (Alva 1992; Burger 1992; Lothrop 1941, 1951; Onuki 1997; Onuki and Kato 1993). Thus it could be said that the metal objects of the Early Horizon were designed to both embody and actively communicate religious knowledge.

It is evident that a major transformation in the production of metal artifacts occurred in the centuries between the Mina Perdida sheets and the complex metal objects associated with Chavín de Huántar and Chavin-related sites such as Kuntur Wasi, Chongoyape, and Pacopampa. To understand this change better, it is important to note that metalworking during the Early Horizon was employed primarily to produce objects worn by leaders of societies, distinguishing them from all others. A wide range of highly conspicuous costume items was produced from gold sheet, including crowns, ear-spools, gorgets, nose ornaments, beads, and bracelets. This link between religious leaders and gold jewelry was a long-held hypothesis based on the accounts of grave robbers, but it now has been confirmed by scientific excavations at Kuntur Wasi and Pacopampa (Onuki 1997; Seki 2010). If gold was imagined to be infused with inner sacredness, as expressed by its shiny surface, as Saunders (2003) asserts, then religious leaders wearing gold costume elements would have likewise have been linked inextricably with this value. On some crowns, ear-spools, and nose ornaments, this quality of dazzling reflectivity was sometimes enhanced by loosely attaching small pieces of metal foil to cloth or wire hooks, thereby allowing the metal fragments to move independently and reflect light from many angles (Alva 1992; Burger 1992:figure 226; Lothrop 1941:plate XXn; Onuki 1997:figures 5, 15, 36).

Some “utilitarian” gold items, such as pincers and snuff spoons, were also fabricated; these appear to have been used as both jewelry and elements in ritual processes. A well-known example is the Dumbarton Oaks Snuff Spoon, probably created for the ingestion of hallucinogenic powder (Burger and Lechtman 1996). Despite its apparent function, the spoon was perforated so it could be worn as a pendant (Figure 14.8, *see color plates*). It appears to depict a leader with a distinctive topknot hairstyle sitting on a woven stool and blowing a *Strombus* shell trumpet. On his back is incised the image of a crested eagle, suggesting the religious leader’s power of transformation from human to bird. Silver sheet metal is used to form the miniature shell trumpet, and it contrasts with the gold sheet used in the rest

of the piece. Tiny pellets are incorporated into the hollow handle, so the spoon rattles when it's tilted.

Technical analysis of Early Horizon precious metal artifacts by Heather Lechtman revealed that to create three-dimensional objects such as the spoon and crowns, it was necessary to develop an elaborate system of connecting hammered sheets of gold and silver. This was accomplished through the use of tabs, sweat welding, and soldering. A detailed study of a small fragment of gold recovered from a residence adjacent to the Chavin temple showed that a high degree of technical knowledge would have been necessary to create the alloy used as solder and that considerable temperature control would have been crucial for successful soldering without melting the adjacent gold sheet (Lechtman 1984a).

The overall picture that emerges is one in which the religious leadership of Chavín de Huántar and other major centers supported the development of a sophisticated metalworking technology, probably involving craft specialists, whose products were not available to the general population. More importantly, gold was probably not familiar to the public; nor would they have known the secrets of the metalworkers' craft. Indeed, the techniques used to produce gold costume elements worn only by religious leaders and seen only at the temple can be interpreted as a classic example of a technology of enchantment, linking sociopolitical power with the unknown realm of the sacred and supernatural. These objects, when seen by commoners, would have been as awe inspiring as the larger-than-life sculpted heads that projected from the temple's masonry walls more than 10 m off the ground, as if resisting the force of gravity. In reality, support was provided by stone tenons projecting from the back of the sculptures and fitted into slots or mortises in the masonry wall.

While most Chavin gold has come from looted or excavated tombs of religious leaders, the single gold fragment mentioned above was recovered from refuse adjacent to elite housing at Chavín de Huántar, and its presence would seem to further confirm the use of gold jewelry by Chavin leaders. More recently, Yuichi Matsumoto and Yuri Cavero Palomino (2011) recovered a small fragment of gold jewelry with Chavin iconography from ceremonial refuse at the Chavin-style temple of Campanyuq Rumi in Vilcashuaman in Ayacucho in south-central Peru. While this piece extends the southern range in which Chavin gold objects were utilized, it also reaffirms the strong link between gold and the Chavin religious system.

A University of Tokyo excavation of eight major Early Horizon tombs at Kuntur Wasi in the upper Jequetepeque Valley has confirmed the association of Chavin gold objects with interments of the site's leaders. Of the six major tombs dating to the Kuntur Wasi phase (800–500 B.C.), all but one belonged to an adult or elderly male. Although each gold object was unique, many tombs had similar repertoires of jewelry, including crowns, ear-spools, pectorals, nose ornaments, and so forth. One tomb featured a female leader more than 60 years old, but her costume elements emphasized shell and stone rather than large gold objects. However, her burial

(tomb 4-1) did include a series of 21 contrasting silver and gold foil cutouts of birds, along with small conical gold pendants. Also uncovered were two tombs of leaders dating to the Copa phase (500–250 B.C.): one of an adult male (tumba G-Tm-5) and the other of an adult female (tumba G-Tm-4). Once again, the male was associated with a gold crown, with gold ear ornaments, a gold pincer, and dozens of gold beads of differing shapes and sizes, while the female was adorned by necklaces of 132 gold and silver beads, as well as beads of *Spondylus* and semiprecious stone. Thus, at least at Kuntur Wasi, metal objects were used to differentiate not only between leaders and commoners but among the elite along gender lines. Only male leaders seem to have worn gold crowns and ear-spools, while only female leaders seem to have worn jewelry of both gold and silver, as well as costume elements made from thousands of shell and stone beads.

Precious metal objects of the Early Horizon are found almost exclusively in burials, so it seems likely that the objects were indeed the inalienable possessions of the deceased, crucial for authenticating and reinforcing their authority. On the rare occasions when gold items have been found in refuse, the pieces are small and can be explained by loss due to breakage. Given the close link between precious metal items and individual leaders, it is relevant to recall that Samuel Lothrop (1941) observed that items from a looted tomb in Chongoyape in the Lambayeque Drainage included a series of gold ear-spools with increasing diameters. This led him to suggest that the group of ear ornaments represented the possessions of a single high-status individual at different stages of his life.

I have suggested elsewhere that the employment of novel technologies, such as metalworking, was intimately involved with the spread of the Chavin cult. This assertion explicitly builds upon Lechtman's earlier statement: "My feeling is that gold may have had special symbolic significance for the cult and that certain religious values or doctrine were expressed through its use" (Lechtman 1980:275). The development of more elaborate metalworking techniques during the Early Horizon seems to have been part of a conscious strategy of technological innovation to highlight the revolutionary values of the new religious system that underlay the emerging stratified socioeconomic system (Burger 1988, 2003). In metallurgy, as in most Early Horizon technological innovations, there was no clear-cut saving of energy. On the contrary, surpluses would have been required just to allow these technologies to exist. The images in polished granite or breastplates in hammered gold must have been awe inspiring when viewed by those unfamiliar with the new technology. The ability of a cult to convey or evoke religious awe through artistic or technological devices would have helped validate its sacred propositions and the authority of its representatives.

The explosion of gold objects in the archaeological record during the Early Horizon (Alva 1992) seems part of a larger process in which social valuables are used to create and support new social hierarchies. This process also focused on shell and stone, with their distinctive qualities of reflective brilliance and color. As in the

case of precious metal, Early Horizon leaders seized on antecedents from the third and second millennia and transformed them. In many cases, the antecedents had been present in very small quantities, perhaps because of lesser demand as well as a lack of craft specialists and underdeveloped networks of long-distance trade prior to the Early Horizon

Spondylus shell, with its distinctive red color and thorny surface, and *Strombus* shell, with its shiny white surface, which come from the warm currents off Ecuador and far northern Peru, both were being acquired in very small quantities by the Late Preceramic and Initial periods and have been found at early sites like Galgada, Aspero, Caral, and Punkuri. Yet it was only during the Early Horizon that these materials began to play a more central role in cultural life. During the first millennium B.C., for the first time large quantities of these exotic shells began to appear at select Peruvian archaeological sites, almost exclusively in ritual or burial contexts.

The famous “Medusa” sculpture, of Chavín de Huántar’s primary deity, makes explicit the deity’s association with both of the exotic shells and is shown holding them in its hands (Figure 14.9). Similarly, stone sculptures decorating the facade of the temple show costumed priests in procession blowing *Strombus* shell trumpets and holding *Spondylus* and *Strombus* shells (Burger 1988:4.3; Rick 2008:figure 1.15). The prominence of these exotic mollusks in religious iconography is paralleled by abundant examples of the exotic shells in archaeological contexts at the site. For example, during my research at Chavín de Huántar, I recovered two caches of more than 50 *Spondylus* shell beads and other partially worked fragments that had been left

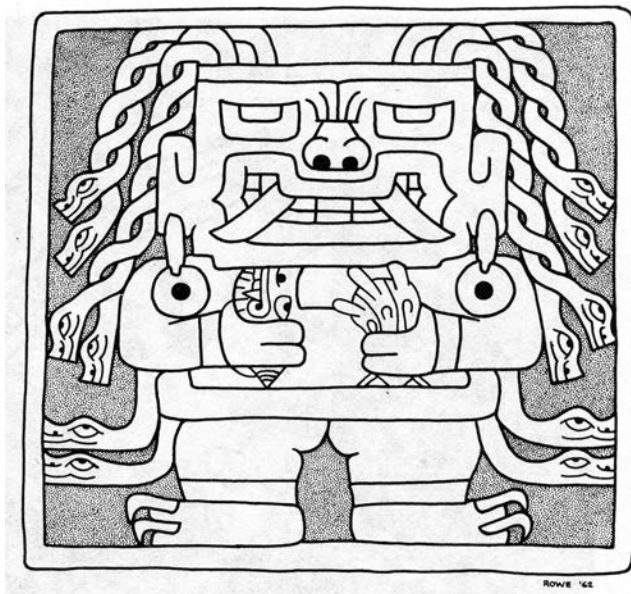


Figure 14.9. Drawing of a Chavin stone sculpture of the main deity holding *Spondylus* and *Strombus* shells; New Temple, Chavín de Huántar, Ancash; Early Horizon (800–200 B.C.). Drawing Courtesy of Richard Burger.

as a building offering in an elite residence near the New Temple (Burger 1984:216, charts 14, 15). Excavations in 2001 in the Gallery of the Caracolas, directed by John Rick (2008:26, figure 1.20), recovered 20 *Strombus* shell trumpets, many engraved with religious iconography.

At Kuntur Wasi, *Spondylus* and *Strombus* shell bead necklaces and *Strombus* shell trumpets were important components of the summit tombs of leaders of the site (Onuki and Kato 1993). An elderly female leader buried in tomb 4, for example, had necklaces consisting of thousands of *Spondylus* beads (Onuki 1997:figure 27), more than in any other tomb at Kuntur Wasi. In fact, this may be the single greatest concentration of *Spondylus* shell for this time period. Nearby, an elderly male leader (A-Tm-1) was buried with three *Strombus* shell trumpets but no *Spondylus* shells. Based on the iconography, it has been suggested that *Spondylus* bivalves had female associations while *Strombus* had male ones (Burger and Salazar 1994). The tombs at Kuntur Wasi are consistent with the hypothesis that exotic shells, like precious metals, were used to construct gender distinctions and their symbolic values as well as social ones.

Semiprecious highland stone was likewise seized upon in the project of constructing a new set of object values for new religious leaders. As in the cases of metals and shell, there had been antecedents, most notably in the use of different types of greenstone, usually identified as chrysocolla (copper silicate) or turquoise (aluminum copper phosphate). According to Terence Grieder, “Any blue or green stone seems to have been treasured and used in jewelry” (Grieder et al. 1988:87). Both chrysocolla and turquoise occur at multiple deposits in Peru (Petersen 2010:4, 12). At Galgada, greenstone was used as inlay in bone hair or shawl pins in group burials dating to the Late Preceramic and early Initial periods. In the case of Galgada, greenstone inlays in bone hairpins were confirmed to be turquoise. At Caral, some greenstone beads were identified as jasper, a type of chalcedony. Regardless of the geological identifications, the distinctive green-blue color was clearly of special interest to early groups. It probably already had symbolic values associated with fertility and plant growth.

During Chavin times, the amount of green and blue stone beads spikes sharply. Beads of chrysocolla, turquoise, and jasper continued to be produced, but some beads when analyzed proved not to be chrysocolla or turquoise but sodalite, a rare mineral associated with volcanic rocks. This identification is important because there are no known high-quality sodalite deposits in Peru. A recent technical study of sodalite beads from Kuntur Wasi by University of Tokyo scholars demonstrated that the sodalite source being exploited was at Cerro Sapo, an outcrop located in central Bolivia, 150 km south of La Paz (Yoshio Onuki, personal communication November, 2008). The only concentration of sodalite beads ($n = 496$) at Kuntur Wasi was found with beads of jasper, chrysocolla, and *Spondylus* in the burial of Kuntur Wasi’s female leader, buried in tomb 4 (Figure 14.10, *see color plates*; Onuki 1997:93, figure 26).

Finally, male and female leaders buried at Kuntur Wasi and Pacopampa were covered with red cinnabar pigment. Cinnabar (mercury sulfide), also known as vermillion, is a rare mineral that was ground into powder to serve as body paint (*limpi*) in late prehistoric times. The inclusion of cinnabar in the Kuntur Wasi and Pacopampa burials is probably the result of body painting, with special attention given to the face. As with other social valuables, there are antecedents of painting the body with red pigment in the Middle and Late Preceramic, but the source of the pigment was ground hematite (anhydrous ferric oxide), which is widely available in Peru. Cinnabar, in contrast, is mercury based and may have come from a single source in the south-central highlands of Peru, near the modern town of Huancaavelica (Burger and Matos 2002). A sourcing study of cinnabar is currently being carried out by the author and Canadian geologist Colin Cooke. While both ground hematite and cinnabar are red, the intense vermillion color of cinnabar can easily be distinguished from the duller tones of hematite.

In reviewing the roster of social valuables that rose to prominence during the Early Horizon, a number of patterns can be recognized. There is special concern for color: the intense vermillion of cinnabar, the distinctive blue of sodalite, the purple-blue of lapis, the red-pink of *Spondylus*, and the cream of *Strombus*. The importance of strong hues in the predominantly monochromatic environments of the highlands and coast is something that has to be appreciated firsthand to be fully understood, and the role of these colors in symbolizing qualities such as fertility or gender categories was probably significant. There is also interest in glimmering and shining objects, as exemplified by gold jewelry and the way it was polished and utilized hanging platelets to enhance this shimmering effect (Saunders 2003). There seems to have been an interest in fine craftsmanship (Helms 1993) and a level of technological skill that was previously absent in the central Andes and must have been completely unfamiliar to the general public. This is particularly evident in the precious metal objects. There was an explicit link between object values and religious ideology, marked both by depictions of valuables in the iconography and the physical contexts in which these rare objects are recovered. Finally, there was a conscious effort to replace (or complement) local items whose symbolic value had long been established with exotic items from lands outside the experience of the general populace, such as tropical shell from more than 500 km to the northwest, vermillion body paint from 500 km to the south, and semiprecious highland stones from more than 1,200 km to the southeast.

CONCLUDING THOUGHTS

The social valuables introduced during Chavin times, during the first millennium B.C., were used to construct and legitimize the authority and gender divisions of the religious elite, who for the first time succeeded in establishing a pattern of profound

inequality in the central Andes. The elements they chose to represent the symbolic values with which they wanted to be associated, and these symbolic meanings, were encoded in the reflectivity and chromatic qualities of the materials. The objects created from these materials were designed to be visually conspicuous to commoners while at the same time mysterious and inaccessible. It is worth recalling Mary Helms's important cross-cultural observation on the way in which distance and fine craftsmanship is central to creating objects of sacred power (Helms 1993). In Peru during the first millennium B.C., both distance and craftsmanship played crucial roles in the creation of a class of materials construed to be of exceptional value. These social valuables were used not only to distinguish between levels of the social hierarchy but also to construct and reinforce the existence of gender divisions within the elite. Most importantly, they symbolized the values of the Chavin cult promoted by religious specialists of the temple—values associated with transcendence and the power to intervene in the sacred realm on behalf of individuals and communities within and beyond Chavín de Huántar. As illustrated in this essay, these values, like the social valuables that embodied them, were very different than those of the much less complex societies of the preceding three millennia.

ACKNOWLEDGMENTS

.....

Special thanks to Jeffrey Quilter, Lucy Salazar, and Jason Nesbitt for their suggestions and to Leon Doyon for his assistance with the resources of the Human Relations Area Files. I also wish to thank Gary Urton and John Papadopoulos for their kindness and patience.

CHAPTER 15

.....

BRONZE, JADE, GOLD,
AND IVORY:
VALUABLE OBJECTS IN
ANCIENT SICHUAN

.....

ROWAN FLAD
HARVARD UNIVERSITY

ABSTRACT
.....

If negotiations about value are essentially political (Graeber 2001:115), our understanding of past political systems is illuminated by an understanding of how and through what processes value is attributed to objects in a particular context. We cannot examine this “object value” through a focus on only one attribute or set of attributes, such as scarcity of raw material or labor investment, but instead must consider the intersection of several factors: raw material, labor investment, the identity of producers, the identity of consumers, the divisibility or “commodifiability” of an object, and its capacity to accumulate history. In fact, the value attributed to objects is dynamic and contingent—the consequence of practices of production, use, and discard through an object’s life history. We must therefore consider both the production of objects and their discard in our attempts to discover the relationships between object value and political power. This paper considers this relationship in ancient Sichuan, China, during the late second and early first millennia B.C. By looking at aspects of production, use, and discard of valuable objects at the sites of Sanxingdui and Jinsha, we observe changes in the ways that bronze, jade, gold, and ivory were employed as valuable objects in the context of political and ritual practices.

INTRODUCTION

The period from the late second to early first millennia B.C. was a time of impressive political developments in the Chengdu Plain of China's Sichuan Basin. This region was long considered a political backwater that became important only after the Qin conquest in 316 B.C.—prior to the unification of China under Qin Shihuangdi, China's first emperor. Discoveries in the past 20 years, however, have shown that Sichuan was also a center of political complexity and dynamic social change in the Late Neolithic and Early Bronze Age.

Among these discoveries was the identification of multiple Late Neolithic walled sites scattered across the Chengdu Plain (Figure 15.1; Wang 2006)—evidence of collective labor mobilization paralleling developments across northern China that are associated with the development of complex societies throughout the Longshan Interaction Sphere (Chang 1986). Some of these Baodun culture (ca. 2700–1700

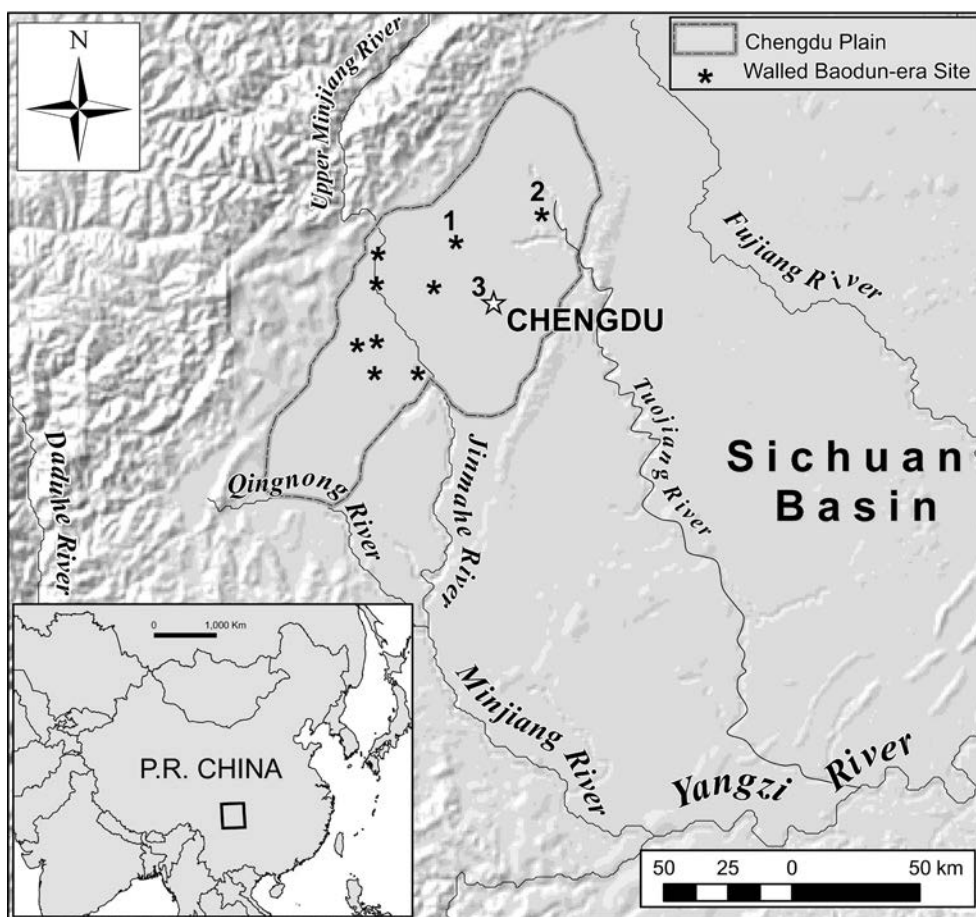


Figure 15.1. Locations of sites mentioned in the text, including the nine known Baodun culture walled sites (*), Pi Xian Gucheng (1), Sanxingdui (2), and Jinsha (3) (map by the author).

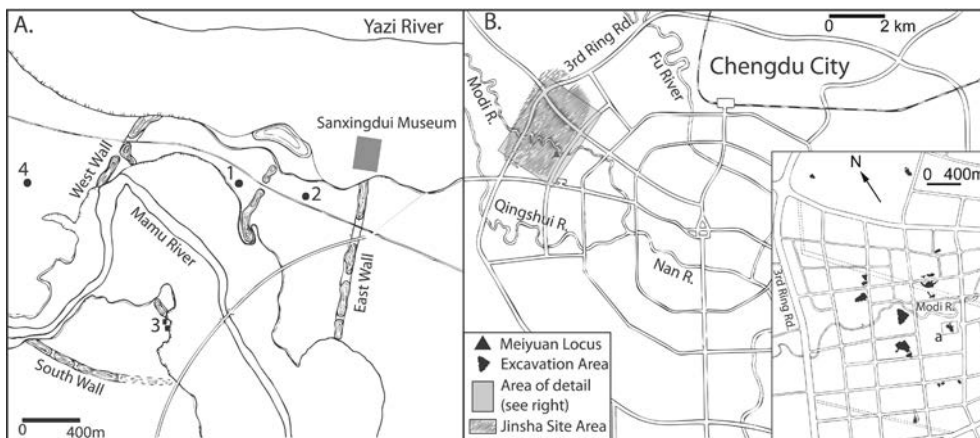


Figure 15.2a. The Sanxingdui site showing locations for Yueliangwan (1), Cangbaobao (2), K1 and K2 (3), the Rensheng cemetery (4), and the enclosure wall (map redrawn after Xu 2001b:24).

Figure 15.2b. The Jinsha archaeological district showing locations for the Meiyuan locus (a) and the Modi River (map redrawn after Chengdu 2006a:6).

B.C.) walled sites may have acted as regional central places, where people gathered from smaller, scattered homesteads in their immediate vicinity. The site of Gucheng in Pi County, for example, contains a large rectangular building in the center of a 30.4-ha rectangular walled area that may have acted as a communal gathering place (Chengdu and Pi Xian 1999, 2001a, 2001b; Jiang et al. 2000). These sites are the first evidence of any degree of supercommunity social integration in the region.

One of the walled sites, called Sanxingdui, is located in Guanghan, in the north-east of the plain, and contains features that reflect further changes following the Baodun culture period (Figure 15.2a). In 1986, two pits containing a surprising array of “valuable objects” were accidentally discovered at the site (Sichuan 1999). These pits—called sacrificial pits K1 and K2 by the excavators—resulted from the intentional burial of pottery vessels, elephant tusks, jade artifacts, gold objects, bronze vessels, weapons, anthropomorphic heads, and a variety of other items on two separate occasions. The contents of these and similar pits can help us understand what sorts of objects were valuable to the people at Sanxingdui and how these objects were related to political practice. These discoveries also point to Sanxingdui being a principal political center in the Chengdu Plain during the era of the Sanxingdui culture (ca. 1700–1150 B.C.).¹ The construction of value represented by these pits and objects reflects a significant avenue through which members of Sanxingdui society established and maintained institutions of power.

The process of value construction in this context was not static or monolithic. We can observe variability in the relationship between valuable objects and political practice in the Chengdu Plain by examining chronological and spatial differences in the production, use, and disposal of valuable objects, such as those found in the Sanxingdui pits. In particular, we can juxtapose Sanxingdui and the site of Jinsha, where deposits containing bronze, jade, ivory, and gold have also been found.

Jinsha is located in Chengdu City—the current capital of Sichuan Province—and comprises a cluster of archaeological loci in the western part of the city, particularly on both banks of the meandering Modi River (Figure 15.2b). The site dates to the Shi'erqiao period (ca. 1200–800 B.C.), which immediately postdates the Sanxingdui era.

There is some chronological overlap in the early twelfth century B.C. between the remains at Sanxingdui and Shi'erqiao culture remains in Chengdu, including those at Jinsha (Xu 2006). It seems that Sanxingdui and Jinsha represent a shift in the center of political power in the Chengdu Plain between two sites that coexisted for a short time. Consequently, the remains of objects at the two sites provide an excellent means by which we can compare the political construction of value during the formative period of civilization in Sichuan at two locations.

How do valuable objects made of bronze, jade, gold, and ivory differ between Sanxingdui and Jinsha? What does this comparison tell us about the different tastes, attitudes, and political practices at these two sites and about the nature of their political institutions? This paper seeks to address these questions by examining three aspects of the life histories of valuable objects—production, use, and final disposal.

THE ARCHAEOLOGICAL INVESTIGATION OF OBJECT VALUE

How do we assess object value in archaeological contexts? This is a principal question being explored in this section of the current volume, and it requires that we consider the concept of value more generally. As a starting point, I use the work of David Graeber (2001), who has outlined the inherent complexity of the problem.

Theories of value have been swinging back and forth between two equally unsatisfactory poles: on the one hand, a warmed-over economism that makes “value” simply the measure of individual desire; on the other, some variant of the Saussurean “meaningful difference” [Graeber 2001:46].

Accordingly, “object value” might refer to the degree to which an object is desired or to characteristics of an object that distinguish it from others. Although Graeber may have failed to move adequately beyond this dichotomy (Renfrew, this volume), in his attempt to do so he points out two important points, namely that value must be understood to be “dynamic”—not static or unchanging—and “social”—the product of a social network of individuals who “matter” to one another (Graeber 2001:77). Consequently, an examination of object value must consider: (1) the social context within which an object was used; and (2) how this social context changed over a single object’s life history and over time as various valued objects were produced, used, and discarded in different social contexts.

By understanding value generally as dynamic and socially contextual, we are forced to consider life histories when investigating regimes of value in which specific objects circulated (Appadurai 1986a; Gosden and Marshall 1999; Kopytoff 1986).

Object value is inherently variable, multiple/partible, and changing, and essential value cannot be uncritically ascribed to any object without considering actions involved in the production, use, and disposal of the object (Clark 2007; Flad and Hruby 2007; Graeber 2001; Munn 1986). The “intended” or “expected” value associated with an object by its producers may be very different from the “ultimate value” associated with the same object on its deposition, and both of these “states of being” may differ from the various values associated with the object throughout its use life—and these statements hold true whether one is referring to the “measure of desire” for an object or its “meaning” in distinction from other objects.

This is not to say, however, that it is impossible to identify or discuss certain things as “valuable objects.” Graeber (2001) proposes that valuable objects act as “measures of value” by their presence or absence, their positioning in a hierarchy of things, and their ability to represent difference proportionally. They likewise act as “‘media of value,’ as they are the concrete, material means by which . . . value is realized” (Graeber 2001:75). Finally, they are “seen as *ends in themselves*” (Graeber 2001:76) and consequently fetishized as embodying value itself. All these characteristics provide the means for identifying culturally specific valuable objects in ancient contexts. Object scarcity, quantitative and qualitative relationships to other objects that are similar in form or medium, labor invested in production, qualities that make objects “singular” in their broader material context, and evidence of use as media of exchange or as objects of fetishism allow us to evaluate the role of objects in systems of value.

Furthermore, Graeber (2001:34) calls particular attention to the “capacity to accumulate history” as a feature that endows objects with value. This capacity may be manifest in different ways. Some objects obtain value in a public arena as vital elements in communal rituals or public display. Others obtain private value as adornment or as objects associated with specific persons or events.

I believe that Graeber’s observations point us toward specific sources from which objects derived their value in the past. These sources can be separated into aspects of production, use, and discard (Figure 15.3). Evidence for each of these sources should be sought in archaeological and historical contexts in any attempt to understand how objects are valued and how valuable objects relate to political practices.

First, the *production* of objects often imbues them with value in a particular cultural context. The production stage of an object’s life history instills initial object value through a series of mechanisms. Among these are the scarcity and inherent properties of the raw materials necessary to produce the object in question, the labor investment required to manufacture the object, the creation of similar objects with identifiable differences that comprise gradations of value, the relative size of objects, and the social identity of those involved in the production process. (See Miller 2007:212–217 for a related discussion of archaeological investigation of object value.)

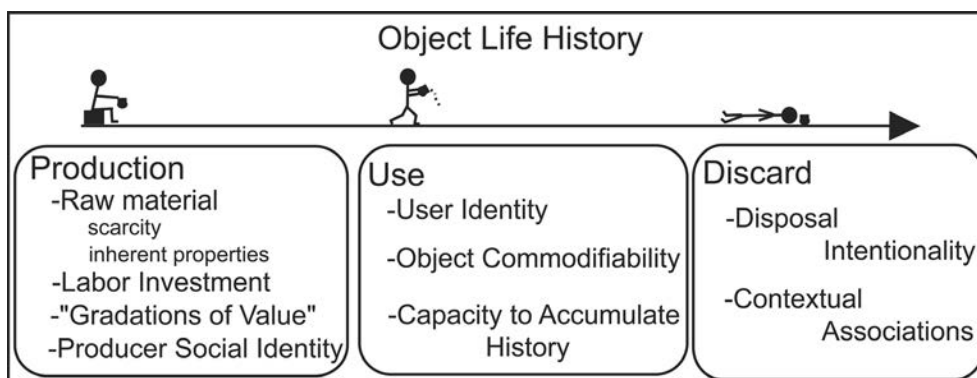


Figure 15.3. Attributes associated with production, use, and discard that can be used to study object value.

Concerning raw material, factors to be considered are the difficulty of procurement, qualities of raw materials that encourage a sense of singularity or distinction in the final products, and the degree to which complicated transformations are necessary to produce a final product from the materials. Objects produced using rare or difficult-to-acquire raw materials are both highly desired and imbued with special meanings relative to other objects in the same cultural context (Helms 1993). They are therefore both “highly valued” and “specially valued.”

Labor invested in the production of objects similarly affects their value in both senses. Hypertrophic objects have been demonstrated to be highly sought after and particularly important for the reification of social status differences in many contexts (e.g., Carter 2007; Clark and Parry 1990; Malinowski 1922). Differences in labor investment in otherwise similar objects reflect decision making within the context of production that acts to distinguish certain objects from others. Measures of absolute labor investment and of the investment of particularly skilled labor can therefore be used to examine certain aspects of object value.

When objects are produced as part of a corpus of related items that comprise “gradations of value,” higher-quality raw materials and more substantial labor investment become particularly salient. Likewise, similar objects of different size may be related in a hierarchy of value. By linking objects together, such gradation provides “a fertile source of metaphors for evaluating people and their social actions” (Lesure 1999a:24). These metaphors are materialized during object production through variations in the materials used to create objects and the various qualities and sizes produced.

Moreover, object value is affected by the employment of a specific class of laborers in the production process. The social status of these laborers may directly affect the status of products they are involved in making. For example, in Classic Maya contexts, where literacy was limited to elite individuals, the participation by elites in the production of objects with hieroglyphic inscriptions contributed to the value of the final objects (Inomata 2001). Likewise, when objects are created

in a highly ritualized or politically charged context, the resulting products retain associations with this production process in the subsequent value attributed to them (e.g., Hruby 2007:83).

Secondly, object *use* plays an important role in determining associated value(s). As objects are used and perceived by those other than the producers, their values change from those initially instilled through the production process. A number of factors affect the values attributed to an object through its use life. These include the identity of those who use the object, the degree to which an object is commodifiable and/or divisible, and the capacity an object has to accumulate history.

Identifying the users/consumers of objects is often difficult. This issue can sometimes be approached by examining the various contexts within which an object or class of objects would have been employed. Other factors, including whether functional aspects of object design are salient and what functions are implied, may reflect the identity of those for whom an object was intended. Valuable objects were often used for display (Graeber 2001:chapter 4), either as individualizing ornaments used for bodily adornment or in public contexts as objects with shared significance.

Commodifiability refers to the degree to which an object can occupy a state of being wherein it can be exchanged for other objects without the creation of some form of reciprocal social relationship (Clark 2007; Flad and Hruby 2007). Objects that take on a commodity state during their use life tend to be things that are multiple or divisible as opposed to being unique, “singular,” or indivisible (cf. Appadurai 1986a). It tends to be more difficult for the latter to take on a commodity state, although they are often exchanged as parts of (broadly defined) gifting practices. The latter also more easily “accumulate history,” as their singularity encourages unique associations (see, e.g., Carter 2007).

Commodifiable, multiple, and divisible objects accumulate history more easily the farther they are from their original source in time and space. Objects that are common, multiple, and frequently commoditized in one context may become singular, highly valued objects in another. This is true of heirlooms passed down through generations, thereby fundamentally altering an object’s value over the course of its use life (Lillios 1999). In archaeological contexts, objects that are chronologically out of place and found in highly intentional deposits (such as burials) often represent such curated items.

The context of use and the identity of consumers are not limited to those responsible for the final deposition of an object. Instead, final disposal is only one stage in a process of continuous reevaluation of an object. This final stage, however, can tell us a lot about an object’s life history and hence certain values associated with it. In some cases, the context of final disposal represents the use for which an object was intended; this is true for objects that were intended for burial in graves, for example. Furthermore, the giving up of objects in ritual events may provide a window on a particular process by which the value of an object is demonstrated. The intentional destruction of objects of value in competitive prestations, such as

potlatches, is an example of this. Accordingly, the degree to which contexts of final disposal are public or private, and intended for recovery or not, speaks volumes about object values in the past (cf. Rissman 1988). Following final disposal, objects may be revalued in subsequent eras, by antiquarians, collectors, and archaeologists, among others, but this aspect of object life history as it pertains to value is not considered here.

Before I attempt to consider the variability of object value in ancient Sichuan through a consideration of production, use, and disposal of certain valuable objects, it is worth adding an additional caveat. As Appadurai (1986a:77) has noted, “Not all parties share the same *interests* in any specific regime of value,” and any attempt to reconstruct object value in ancient contexts will inevitably be limited by the aspects of production, use, and disposal that can be identified. Therefore, our understanding of object value will necessarily be partial and incomplete.

THE CHENGDU PLAIN: SANXINGDUI AND JINSHA

Despite little evidence for a long period of Neolithic developments in the Chengdu Plain, a regional political network seems to have emerged in the second millennium, only slightly later than the development of states in the Central Plains of the Yellow River valley of northern China. To date, however, our understanding of social organization during the second and first millennia is based on a small number of sites—two of which are particularly important: Sanxingdui and Jinsha.

Sanxingdui

The site of Sanxingdui, located in Guanghan, Sichuan, was first identified in 1929 and subsequently subjected to small-scale excavations (Graham 1933–1934). Occasional excavations at the site became more regular in the early 1980s and continue today (Sichuan et al. 1987; Xu 2006). These decades of research have revealed a massive set of walls enclosing more than 3 km² (Figure 15.2a). The wall seems to date to the period of the Sanxingdui culture, to which most of the remains at the site date. This period is most well known for the two sacrificial pits—K1 and K2 (Sichuan 1999; Sichuan et al. 1987, 1989).

Because many of the excavations at Sanxingdui have not been published, most discussions of Sanxingdui have focused on these two pits (e.g., Bagley 1990a, 2001; Li Boqian 1996; Li Shaoming et al. 1993; Li Xueqin 1997; von Falkenhausen 2006; Yu Weichao 1996; Zhao Diansheng 1996; Zou Heng 1996). Both pits date to around 1200 B.C., although K1 is thought to be slightly earlier than K2 (Sichuan 1999).

K1 is rectangular and contained dozens of stone and jade items; four gold objects; 200 bronze artifacts, including weapons, vessels, rings, and anthropomorphic heads; burned animal bone and wood and bamboo ash mixed with small objects; 13 elephant tusks; cowrie shells; and 40 pottery vessels (Sichuan 1999; Xu 2001a:table 1).

The artifacts were deposited in a careful, stratified sequence roughly corresponding to the order listed here (that is, with the ceramics near the top), and most had been burned before burial.

Approximately 30 m away, K2 is narrower, has straight instead of sloping walls, and lacks the entrance ramps found in K1, but K2 is approximately the same depth and similarly oriented. About 1,300 artifacts or artifact fragments were discovered in this pit, and these were deposited in three distinct layers. The lowest level included fragments of massive and intricate bronze treelike objects decorated with bronze birds, cowrie shells (more than 4,600), and small stone and jade objects. The second stratum contained mostly bronze items, including a 2.6-m high human figure on a pedestal; more than 40 bronze human heads, 6 or more of which were covered in gold foil; 29 bronze masks, generally more fanciful than the heads; other fragmentary gold foil objects; and around 20 complete or fragmentary bronze *lei* and *zun* vessels. The uppermost level contained 67 elephant tusks and covered the bronze-containing level.

In general, the objects in K2 are more elaborate than those from K1, and there are many more types in K2 than in K1. However, lithics, bronze rings, and weapons are quite similar in both contexts, and both pits were sealed with layers of pounded earth (*bangtu*). Some of the K2 contents were burned, and most were broken or deformed before burial. Both pits, therefore, exhibit signs of preinterment ritual destruction.

The two pits are not the only caches discovered at Sanxingdui. An elongated, rectangular pit covered by stone disks and containing other objects, including jade knives, beads, and pottery, was found at the Yueliangwan locus in 1929 and was originally identified as a burial (Graham 1933–1934). Furthermore, another sacrificial pit containing bronze plaques inlaid with turquoise and various stone and jade objects, including disks, adzes, axes, and pendants, was discovered in 1987 at the Cangbaobao locus (Sichuan and Guanghan 1998). Like those of its more elaborate cousins, the Cangbaobao pit contents exhibit signs of burning, and like the pit found in 1929, the Cangbaobao feature was lined with stone disks, indicating that the 1929 feature may have been a similar ritual pit.

The objects in these pits (particularly K2 and Cangbaobao) provide evidence of long-distance relations between Sanxingdui and other regions (So 2008; von Falkenhausen 2006), while they also reflect an important, highly localized form of ritual activity. Among the remarkable objects in these pits are bronze, gold, jade, and ivory artifacts; these media each required distinct and specialized methods of raw material acquisition and production. Although raw material and production contributed to the values attributed to bronze, gold, jade, and ivory objects at Sanxingdui, it was the way the objects were used and discarded that seems to distinguish the Sanxingdui valuables from those at Jinsha.

Jinsha
.....

Located about 5 km west of the center of modern Chengdu City, Jinsha was discovered accidentally during construction in 2001² (Figure 15.2b). The archaeological zone at Jinsha extends over more than 5 km² and includes more than 20 separate loci. Features unearthed at these loci include large building foundations, pits, “wells” (deep pits with bottomless pottery jars filled with pebbles), kilns, graves, and house foundations (Chengdu 2001, 2003a, 2003b, 2004b, 2004c, 2004d, 2005a, 2005b, 2006b, 2007). These are scattered in all directions around the features first discovered at the site—a series of so-called sacrificial contexts at a locus called Meiyuan (Chengdu 2004a, 2004e).

In 2001, during extension of Shufeng Huayuan Road at Meiyuan, a backhoe ripped through a pit (Jinsha K1) filled with elephant tusks and other artifacts. Nearly a decade of intensive investigation of the Meiyuan locus has followed. The initial work at Meiyuan recovered 1,417 artifacts from both the spoil heaps of the road construction and the subsequent scientific excavations (Table 15.1). These artifacts included 56 gold objects—mostly decorative attachments of various forms and sizes; 479 bronze objects—including weapons, bells, disks, various decorative attachments, and a small human figurine; 558 jade objects—mostly tools and weapons but also 12 *cong* tubes (tubular stone artifacts with circular cores and rectangular outer sections), 62 *bi* disks (circular disks with perforated centers), and 107 small objects such as beads and polished stones; 248 stone objects—60 of which were weapons and tools and the rest including 134 stone disks, 10 human figurines, 19 animal figurines, and 25 other objects; 57 pieces of worked bone; and 18 pottery objects.

Table 15.1. Contents of the ritual deposits at Sanxingdui (K1 and K2) and Jinsha (Meiyan) discussed in this paper.

K1	K2	Initial Meiyuan Deposits
13 anthropomorphic bronze heads	44 bronze heads; 20 human masks; nine animal masks; one bronze figure	479 bronze objects (weapons, bells, disks, various decorative attachments, small human figurine)
44 bronze weapons	17 bronze weapons	
121 other bronze objects	360 other bronze objects (including a tree; 20 bronze vessels)	
166 jade and stone items	486 stone and jade items	558 “jades”; 248 stone objects
	61 gold objects	56 gold objects (mostly decorative attachments)
13 elephant tusks	67 elephant tusks (plus four fragmentary tusks; 120 ivory beads)	32-plus elephant tusks
124 cowry shells; ash of burned animal bones, wood, and bamboo	4600-plus cowry shells	57 pieces of worked bone
40 pottery vessels		18 pottery objects

Although most of the initial finds were not well provenienced, subsequent investigations at the site exposed an array of deposits in a 15-ha “sacrificial zone” along the bank of the Modi River. At least 60 “sacrificial contexts” seem to represent periodic

rites of abandonment or dedication. Jinsha K1 is among the largest of these, while many are much smaller, consisting of only a few objects. To date, no pits on the scale of Sanxingdui K1 or K2 have been discovered at Meiyuan or elsewhere at Jinsha, despite extensive excavations.

The sacrificial contexts found at Jinsha have been divided into three phases by archaeologists working at the site (Chengdu 2005c, 2006a). The earliest contexts, dating to the transition between the Sanxingdui and Shi'erqiao cultures (and therefore more or less contemporaneous with K1 and K2 at Sanxingdui), are characterized by ivory and stone objects, along with some pottery and small numbers of jades. Among the ivory material were complete elephant tusks, more than a dozen of which were discovered in the pit (Jinsha K1) that initially brought attention to the Jinsha site in 2001. The stone objects from this phase included *zhang* blades with incised decoration, *bi* disks, and figurines of kneeling humans, tigers, and snakes. Later contexts, dating to the Shi'erqiao culture, more commonly contain bronze, jade, ivory, and gold objects. In one context alone (H6), archaeologists discovered more than 300 items, including more than 150 jades and 110 bronzes. More than 200 gold objects have been found at the site, most from contexts that date to this phase of activity.

BRONZE, JADE, GOLD, AND IVORY IN PRE-QIN SICHUAN

The objects found in the pits at Sanxingdui and along the Modi River at Jinsha all were significant components of regimes of value in ancient Sichuan. By investigating the different ways that object value changed over time in this area, we can illuminate changes in political relationships and strategies during a formative stage in social development in this area. We will examine bronze, jade, gold, and ivory in relation to the various factors that help us understand object value in archaeological contexts.

Bronze

Bronze production in East Asia began at least as early as the beginning of the second millennium B.C. (Li Shuicheng 2005; Linduff et al. 2000). The earliest metal objects were small ornamental items, but the focus of bronze production shifted radically in the early second millennium, when the first bronze vessels were made at the site of Erlitou (Bagley 1999; Liu 2003). Bronze production involved the alloying of copper, tin, and lead and the coproduction of ceramic molds and model combinations in which the metal objects were cast (Bagley 1990b; Chase 1991; Li Yung-ti 2007). Vessels and weapons became the principal bronze object types throughout Bronze Age polities across ancient China, and bronzes were quintessential “valuable objects” that were intimately tied to the maintenance of social status by elite members of society. We see bronze vessels used in the commemoration of ancestors, from whom many of the elite obtained their privileged positions, and bronzes were used in elaborate burial practices that reified existing social hierarchies.

Societies in the Sichuan Basin were somewhat separated from the interpolity interactions that fostered similar use of bronze in many other parts of ancient China. In fact, until the discovery of the Sanxingdui pits, bronze production in the Sichuan Basin was thought to be relatively late and primarily focused on the manufacture of weapons in a particular local style (so-called Ba-Shu-style weapons; see Sichuan 1991).

The bronzes from Sanxingdui and Jinsha, however, force us to consider aspects of production, as well as use and discard, in our assessment of the value of bronze objects. Bronze production and bronze objects would have had associations with far-away places—associations that would not have easily been divorced from the values attributed to bronze. The raw material for locally produced bronzes likely came from points to the south or southeast of the Chengdu Plain. Lead may have come from sources in the mountainous region in southern Sichuan and northern Yunnan. Tin most likely came from sources in the rich tin belt stretching from Yunnan through Guizhou to Hunan and Jiangxi.³ Copper may have been won from sources in the mountainous region west of the Sichuan Basin or acquired from more distant sources, such as mines in the Middle Yangzi region (Xia and Yin 1982). In any case, the raw materials were not available in the immediate proximity of either Sanxingdui or Jinsha, and production of bronze objects therefore necessitated that those involved in the production become linked to relatively extensive networks of trade and exchange.⁴

The bronzes from Sanxingdui demonstrate local production on a relatively large scale. The heads, tree, masks, and especially the large human figure all required idiosyncratic skills and techniques, as well as significant amounts of copper, tin, and lead and specialist knowledge of the procedures necessary to create alloyed metal and mold–model combinations. Some bronzes were singular, distinctive, uniquely local objects, while others call attention to distant connections, and still others were relatively generic and commodifiable. This variability reflects the complexity of bronze as a medium of object value.

Some local products, such as the elaborately clothed 2.6-m tall bronze sculpture (Figure 15.4) and the bronze heads, were made by highly skilled artisans. The bronze heads are highly varied yet still generic in appearance.



Figure 15.4. Bronze figure from Sanxingdui (K2[2]:149, 150) (photo after Xu 2001a:73).

They clearly represent a number of distinct social roles. The excavators identify three distinct varieties among the 14 K1 heads, and these possessed individual variation. K2 contained at least five distinct variations of the three-dimensional heads; four distinct types of anthropomorphic masks and several fanciful monster masks were found in this pit as well. This corpus of bronze heads and masks represents a concerted, organized effort among bronze casters to produce a collection of objects that must have been commissioned by group leaders with a specific purpose or set of purposes in mind. These were almost certainly used for ritual occasions, during which the social order was instantiated and maintained. The complete bronze sculpture was the most elaborate of a vast group of similar individual personages. The producers of these objects must have been closely tied to the people or social roles the bronzes were meant to represent.

Many of the bronzes, such as the bronze trees, heads, masks, and the sculpture in K2, would have been valued for their distinctiveness. Even the many generic bronze ornaments discovered in K2 would likely have been combined with other materials to create elaborate objects publically displayed in ritual contexts. These various ritual objects probably all represented idealized concepts—cosmologically significant in the case of the trees and other decorative objects, perhaps, and idealized social roles or positions in the case of the anthropomorphic images.

Other bronzes represented, quite explicitly, the long-distance connections that were necessary for the local production of bronzes (von Falkenhausen 2006). The 20 bronze *lei* and *zun* vessels, for example, all represent a tradition of bronze production tied to the Central Plains. These objects likely came from or drew directly upon prototypes from the Middle Yangzi River valley—hundreds of kilometers to the east and beyond high mountain ranges—one possible source of copper for metallurgists at Sanxingdui. The long-distance connections these objects represent were not trivial, as it is almost certain that the technology for bronze production itself came from generally the same places referenced by these objects.

I suspect that many of the bronzes, such as the heads, masks, trees, and ornaments, reproduced indigenous objects of value in a new, foreign medium. The majority of the heads and masks must have been mounted on some sort of perishable material, perhaps wooden posts and figures, and it is not too much of a stretch to think that earlier figures may have been made entirely of wood. The complete bronze sculpture was thus the most singular of a graded series of sculptures, with the heads being mounted on bodies constructed of perishable materials and perhaps production of another grade of sculpture that has not been preserved. This co-option of bronze for indigenous ritual purposes illustrates the value (both in terms of desirability and distinctiveness) that bronze had at Sanxingdui.

The bronze vessels were used quite differently at Sanxingdui than they would have been farther east. In the Yellow River valley or the Middle Yangzi region, bronze vessels were used for the presentation and consumption of food and liquid in ritual contexts. At Sanxingdui, some were used as containers for storing other

valuable objects, including cowrie shells—another category of object acquired from distant sources (see Li 2003). One bronze *zun* (K2[2]:129), for example, contained 935 cowrie shells, and another (K2[2]:146) contained 602. Yet another vessel (a *lei* vessel numbered K2[2]:103) contained a staggering 1,233 cowries. In K1 cowries were also included in a *zun* (K1:258), as well as in one of the bronze heads (K1:6). This practice calls attention to connections to the south in Yunnan, where bronze objects similarly were used as cowrie containers, albeit much later (Xiao Minghua 2004). As Yunnan was a possible source of lead for Sanxingdui bronze production, these ties may also have been quite significant.

Still other bronzes were more generic. The 61 bronze halberd blades discovered in the two pits were mostly of a serrated form unique to the Chengdu Plain, but they were generic and potentially commodifiable, qualitatively different from the more singular bronzes mentioned previously. Bronze collared disks/flanged bracelets⁵ (Figure 15.5a) and flat “hoe-shaped” objects with square holes (Figure 15.5b) were also found at Sanxingdui, as well as at Jinsha. In total, the Sanxingdui pits contained 116 collared disks and 58 hoe-shaped objects, which, like the bronze weapons, might have been bronzes that circulated more widely. Sun Hua (2002) has suggested that the hoe-shaped objects might reference agricultural tools, and both forms might have been markers of status, perhaps worn or carried by local community leaders, who came together on occasions like those that resulted in the creation of the two pits. Perhaps it is not a coincidence that the number of disks and flat objects are nearly the same in the two pits. (K1 had 59 collared disks and 33 square-holed objects, while K2 had 57 disks and 25 square-holed objects.) Is it possible that these objects were “fungible,” to some extent (see Renfrew, this volume)?

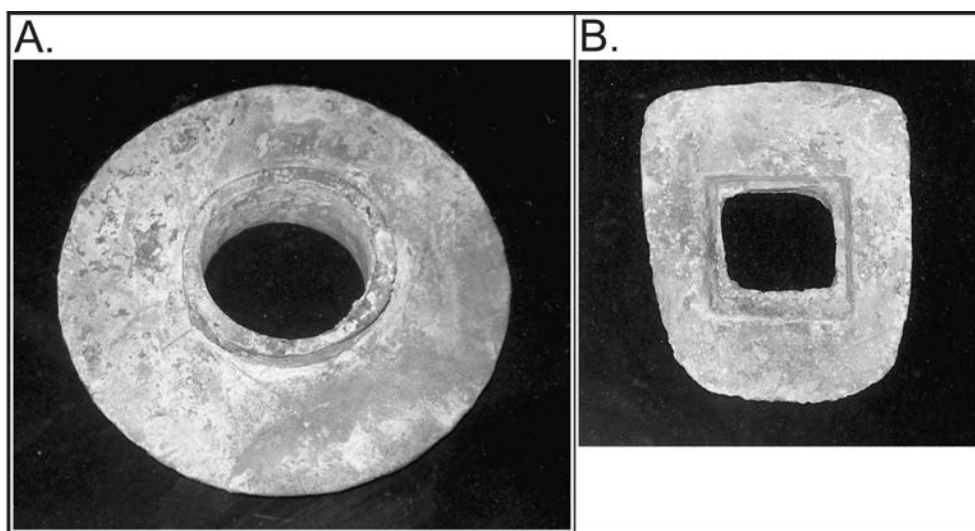


Figure 15.5. Bronze collared disk (a); bronze hoe-shaped object with square hole from Jinsha (b) (photos by the author).

Or maybe they are materialized representations of participation by the same groups on different occasions. These speculations are worth future consideration.

The creation of the two pits, the moment of disposal in the use life of all these bronze objects, involved the intentional destruction of many of the bronzes. Some of the vessels were badly damaged, and most of the singular objects, such as the trees and the human figure, were broken into pieces. It is unclear whether these events were acts of destruction brought about by conflict or, as might be suggested by the careful layering of materials in K2 and the repetition of the practice, ritualized events of renewal and immolation (Xu Jie 2001b:31). In either case, these single events involved the large-scale “sacrifice” (in the sense of “renunciation,” which Valeri [1994] emphasizes is at the core of sacrificial behavior) of many types of bronze objects in a prominent, and probably public, event. The statues with bronze heads were destroyed, along with scores of bronze weapons, vessels used to store tokens of wealth, other bronze ritual paraphernalia, and objects of value that may have been individual possessions, such as disks and flat objects. Bronzes at Sanxingdui were valued in a variety of different ways, but the termination of many of these different types of bronzes was the same.

Bronzes are a less monumental component of the assemblage of valuable objects known from Jinsha. Many of the Jinsha bronzes were quite small, including the most famous piece—a small standing bronze figurine that was probably attached to some other object (Figure 15.6). Other small bronzes include another small bronze human head and animals, including birds, a water buffalo head, a tiger, and a tapir. Some of these may have been appended to large bronze vessels. Others may have been attached to other, nonbronze objects, as were a series of small decorative bronze objects, including eye-shaped objects, hanging ornaments, and bells.

The bronzes so far discovered at Jinsha contain 12 examples of rectangular bronze plates with rounded corners that appear to be top panels for life-size anthropomorphic heads (Figure 15.7a). These cover elements were cast separately from the rest of the heads at Sanxingdui, so it is possible that similar heads were present at Jinsha. Another possibility, however, is that these plates actually came from Sanxingdui. A number of bronze heads at Sanxingdui are missing their associated plates (Figure 15.7b). Perhaps these plates were removed to be recycled, possibly to supplement the hard-to-acquire raw materials needed for bronze production.

Relative to Sanxingdui bronze production, the Jinsha objects published to date suggest much smaller-scale production operations.⁶ The producers may not have been as integrated or as closely connected to those who used the bronze objects as



Figure 15.6. Small bronze figurine from Jinsha (photo by the author).

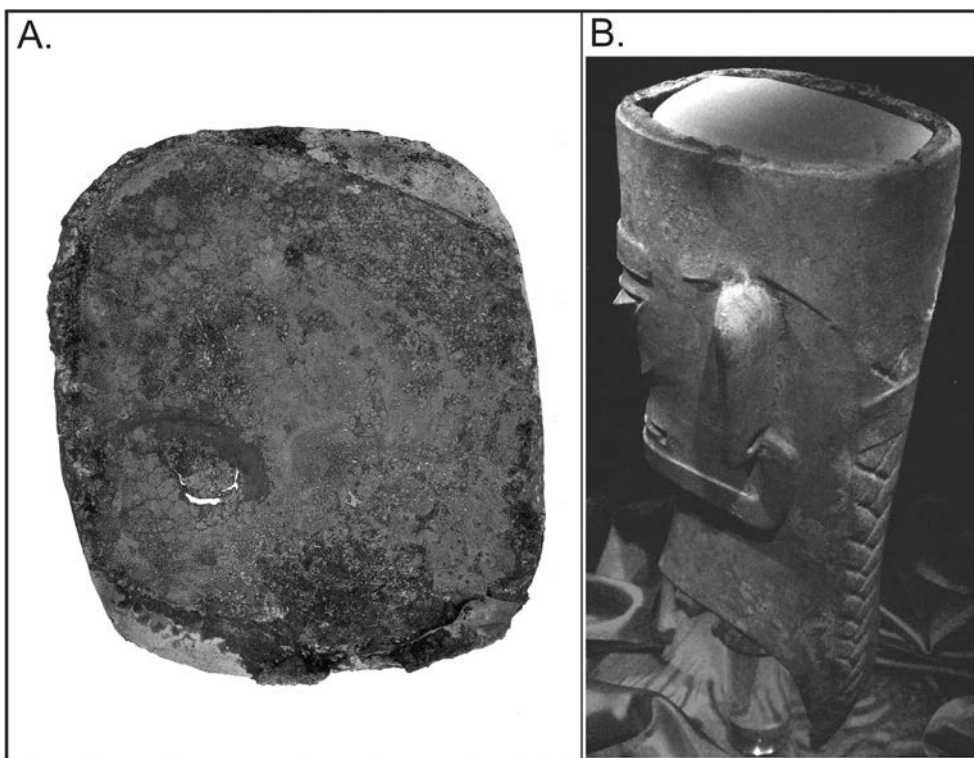


Figure 15.7. Bronze plates from Jinsha (a); head with missing bronze plate from Sanxingdui (b) (photos by the author).

were the Sanxingdui casters. Furthermore, some of the Jinsha bronzes may even have been heirlooms produced at Sanxingdui. The bronze plates that seem to have been parts of bronze heads are examples. Few of the Jinsha bronzes were singular objects that would have lent themselves to accumulating elaborate histories. A small figurine with a sun-shaped (or typhoon-shaped) headdress may be an exception.⁷ There is also less evidence in the Jinsha bronzes for a continuum of ranked types, an aspect of object value that is attested to by the series of bronze heads and masks at Sanxingdui.

Finally, based on currently available evidence, the disposal of the Jinsha bronzes seems to have occurred on a smaller, more private scale than at Sanxingdui.⁸ This is actually a general statement about the contexts from which valuable objects at the two sites have been found. At Jinsha, the disposal contexts were smaller than either K1 or K2 at Sanxingdui but were densely distributed across the “ritual precinct” at the Meiyuan locus. I return to this point in the discussion.

Jade and Stone

A variety of hard-stone minerals fall under the rubric jade. Those that include some degree of nephrite or jadeite can be called hemijade (Wen and Jing 1992); those that

are mineralogically distinct are pseudojades (Middleton and Freestone 1995). In East Asia nephrite was first used to make ornaments, particularly slit earrings that have been found at early Neolithic sites in the Northeast (Zhongguo and Xianggang 2006). In the Sichuan Basin, Sanxingdui provides the earliest evidence for substantial working of raw materials that fall under the hemijade and pseudojade rubrics, including nephrite, turquoise, quartz, limestone, and marble.

Even before the discovery of the sacrificial pits, “pits containing workshop debris—tools, uncut boulders, and partly worked implements—were encountered several times in the area within the walls, suggesting that a thriving stoneworking industry once existed there” (Figure 15.8; So 2001:153). In fact, the raw materials for the jade objects at both Sanxingdui and Jinsha probably came from the mountainous region to the northwest of the Chengdu Plain, where these resources are available, and some may have come from cobbles in the river courses in the Chengdu Plain itself. In fact, analysis of jades from Jinsha show that they are similar in composition to raw materials collected in Longxi Township in Wenchuan County, northwest of the plain (Chengdu 2006c:18).

At Sanxingdui, pit K1 contained a total of 129 “jade” objects and an additional 70 made of “stone” (Sichuan 1999)—the contrast, in theory, being based primarily on visual inspection of workmanship and fineness of the material, but in reality this distinction is rather arbitrary and is not based on mineralogical examination (see Xu Jie 2001b:29, note 32). The jade/stone objects included “ritual objects” such as



Figure 15.8. Block of jade raw material found on the bank of the Yazi River, north of the Sanxingdui site (photo by the author).

cong tubes, collared *bi* disks, ritual weapons (labeled as such because they seem too fragile to have been actually used in combat), tools, fragments of raw material, and a variety of forked blades often called *zhang*—which were the single most common object type. Pit K2 contained 17 *zhang*, 31 *ge*-shaped⁹ halberds, and 43 chisel-shaped objects, as well as disks, beads, bracelets, a knife, an ax, grinding stones, strings of beads, and raw material.

Some of the finely crafted stone objects might have been imports from jade producers far to the east or north (So 2001). Other objects, including *ge* blades, were clearly based on northern prototypes, even if they were locally produced. Some “jade” objects were clearly produced at Sanxingdui, as evidenced by the raw materials and production tools found at the site. While some objects may have been brought to Sanxingdui as finished products, it is likely that raw materials were also brought in, mostly from nearby (but not local) sources, and worked at the site by specialist craftspeople into many of the finished objects observed in the pits and other contexts.

Jade and stone objects were accorded high value across ancient East Asia in part because of the luminosity and color of the raw materials from which they were worked. Furthermore, in the case of nephrites and other particularly hard materials, the labor invested in the manufacture of objects would have contributed to their value. Fewer than 6 percent of the objects labeled as jade from Sanxingdui are actually nephrite (Sichuan 1999:500–21; So 2001:154). These may have been items of particularly high value, relative to the other, similar objects at the site. Objects made of softer stone but in the same form as objects made of hemijades drew on the high-value associations of the harder material, but their relative ease of manufacture would have probably situated them at a different value grade. At Sanxingdui, the production of objects out of both hard-to-work luminous jade and rougher stones suggests gradations of value (Figure 15.9a).

Jade and stone objects that show gradations of value include stone disks and *zhang* blades. Some large stone disks were found in the original cache of objects discovered at the Yueliangwan locus in the 1930s, as well as at Cangbaobao. Although stone disks of that variety do not appear in K1 or K2, these pits do contain jade collared disks/flanged bracelets, which range widely in size. The size and raw material used in these objects were likely significant factors in the values associated with them (Lesure 1999). Collared disks furthermore were made in both stone and bronze, representing two distinct grades of this sort of valuable object (Figure 15.9b). It is even possible that the bronze collared disks, bronze hoe-shaped objects with square holes, and jade collared disks all acted in similar ways as markers of prestige in the Sichuan region. Stone *zhang* occur in a range of sizes, including some that were very large and some that were quite tiny. The presence of miniature *zhang* reflects the importance of the *zhang* as a symbol of power that was incorporated into ritual activities. Some of these blades would have been further embellished by the addition of gold foil (see below).

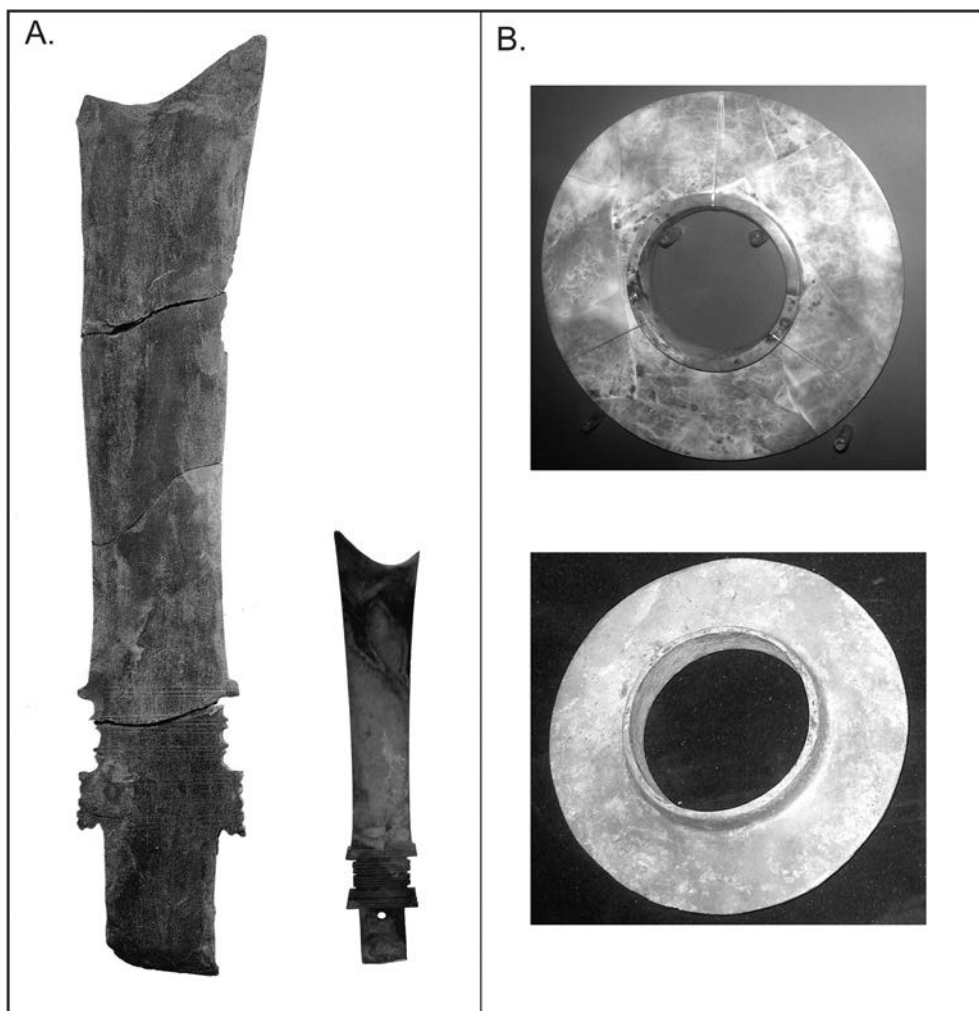


Figure 15.9. *Zhang* blades made of rough stone (left) and tremolitic jade (right) from Sanxingdui (approximately one-quarter actual size) (a). Collared disks made of tremolitic jade (top) and bronze (bottom) from Jinsha (b) (photos by the author).

Excavations and salvage work at Jinsha have recovered nearly 2,100 objects made of “jade” in addition to more than 700 stone artifacts (Chengdu 2006c:13). In this case, investigators have identified a wide variety of stone raw materials used at the site, with a majority of the jades identified as being primarily nephritic (Yang et al. 2002). The repertoire of stone objects is similar to that found at Sanxingdui, with *zhang* of various forms and *bi* disks being among the most common forms. Other forms include ax-shaped objects; *ge*-shaped objects; long, wide chisel-shaped objects; heads of figures; rings; and cowrie shell-shaped objects. At Jinsha it is certain that many of these objects were locally made.

Among the products of local manufacture at Jinsha, one group of stone objects that may have been a new product in the Shi'erqiao period is a collection of human



Figure 15.10. Stone figurines from Jinsha (a). Stone figurine at the Sanxingdui Museum (b) (photos by the author).

and animal figurines from the Meiyuan locus (Figure 15.10a). In total, at least 28 of these figures have been found at Jinsha (Chengdu 2004a); 10 are human figurines with hands tied behind their backs, and 18 are animal figures. The latter include eight tiger figures, nine snakes, and a turtle. These figurines were made out of different raw materials and are not limited to Jinsha. One is displayed at the Sanxingdui Museum, for example, and although its context is not given, it probably came from deposits at Sanxingdui contemporary with those from Jinsha (Figure 15.10b). The figurines reinforce the impression that the representation of human and animal forms was valued in Sichuan to a degree not seen elsewhere in Bronze Age China.

In many ways, the assemblage of jades and stone objects from Jinsha is very similar to that from Sanxingdui. Aspects of labor investment, producer identity, divisibility, and gradations of value as represented by continua of ranked types are not qualitatively different. The gradations of value suggested by the collared jade and bronze disks, for example, are also evident at Jinsha. It does seem, however, that variability of quality is more pronounced in several categories of stone objects at Jinsha. There are more examples of *zhang* made of poor-quality stone at Jinsha than at Sanxingdui, for example. Perhaps this reflects differences between the large-scale pits at Sanxingdui and the small-scale deposits at Jinsha. Differences in *cong* tubes, however, suggest that the Jinsha pits did not always contain lower-quality stone objects. *Cong* are based on a form that has its roots in the Lower Yangzi River valley in the Liangzhu culture (Chang 1989; Hayashi 1990; Sun 1993). The one *cong* discovered at Sanxingdui (K1:11-2) was a short, undecorated example made of a coarse stone, but 12 *cong* have been discovered at Jinsha, and they range widely in size and raw materials. The largest is 22.2 cm long and has 10 registers of decoration, while others are as short as 2.6 cm tall. They are made from stones of a variety of colors, and possibly of local manufacture yet drawing on symbolism that reflects connections with distant places and times.

As noted in the discussion of the bronze above, the disposal of jades at Jinsha was dispersed among many individual episodes, possibly the remnants of rituals that were smaller in scale and more private than those represented by the Sanxingdui pits. Many of the published objects from the Meiyuan locus were not found in situ, but subsequent excavations have revealed large numbers of small deposits, including clusters of jade objects. The final loci of disposal represent a very different use of valuable objects from that reported at Sanxingdui.

Gold

Gold was not a common medium used in the creation of valuable objects in the Central Plains and surrounding areas of China until the middle of the second millennium B.C. In northern peripheral regions, gold was used for personal ornaments during the second millennium (Turner 1996), but the use of gold at Sanxingdui and Jinsha is unprecedented.

Gold is available around the Sichuan Basin in rivers that tumble out of the highlands to the west (e.g., Ji et al. 1997). Large gold placer deposits are found north and east of the Chengdu Plain in the “gold triangle” where Sichuan, Gansu, and Shaanxi converge (Zhou et al. 2002). The producers of the gold objects found at Sanxingdui and Jinsha almost certainly made use of these relatively local gold sources. Where exactly the objects were made and in what fashion the gold was brought to these manufacturing loci is completely unknown at present.

At Sanxingdui, four gold objects were discovered in K1 and 70 in K2. The K1 pit included an unidentifiable gold foil object, a gold foil mask (Figure 15.11a), a small tiger-shaped gold foil object, and a gold foil skin used to encase a staff and decorated with a design featuring four fish impaled by spears, four birds, and two faces with crowns (Figure 15.11d). K2 contained two masks, a foil crown-shaped object with four peaks, 14 gold foils that would have covered miniature stone *zhang*, 19 fish-shaped gold foils, and 30 fragments, in addition to four gold foil masks used to cover the faces of bronze heads.

The gold objects were all made by hammering to make thin foil, which was then applied to other objects such as stone *zhang*, a wooden staff, and bronze heads. The gold was therefore a superficial embellishment that added a layer of distinction to certain objects, perhaps enhancing their value relative to other similar items. This process of embellishment has been called transmutation in other contexts, such as when gold was added to stone axes in the Balkans (Renfrew, this volume) or the “gilding of people” in the Moche world (Donnan, this volume). In the Chengdu Plain, gold was mechanically attached and therefore not made as an essential part of the objects. This situation contrasts with other prehistoric contexts where the value of gold was made evident by fusing the gold with other metals (Lechtman 1984c).

The presence of gold foil on only four of the bronze masks (Figure 15.11b) might indicate that gold on other masks was removed prior to burial, perhaps to be reused

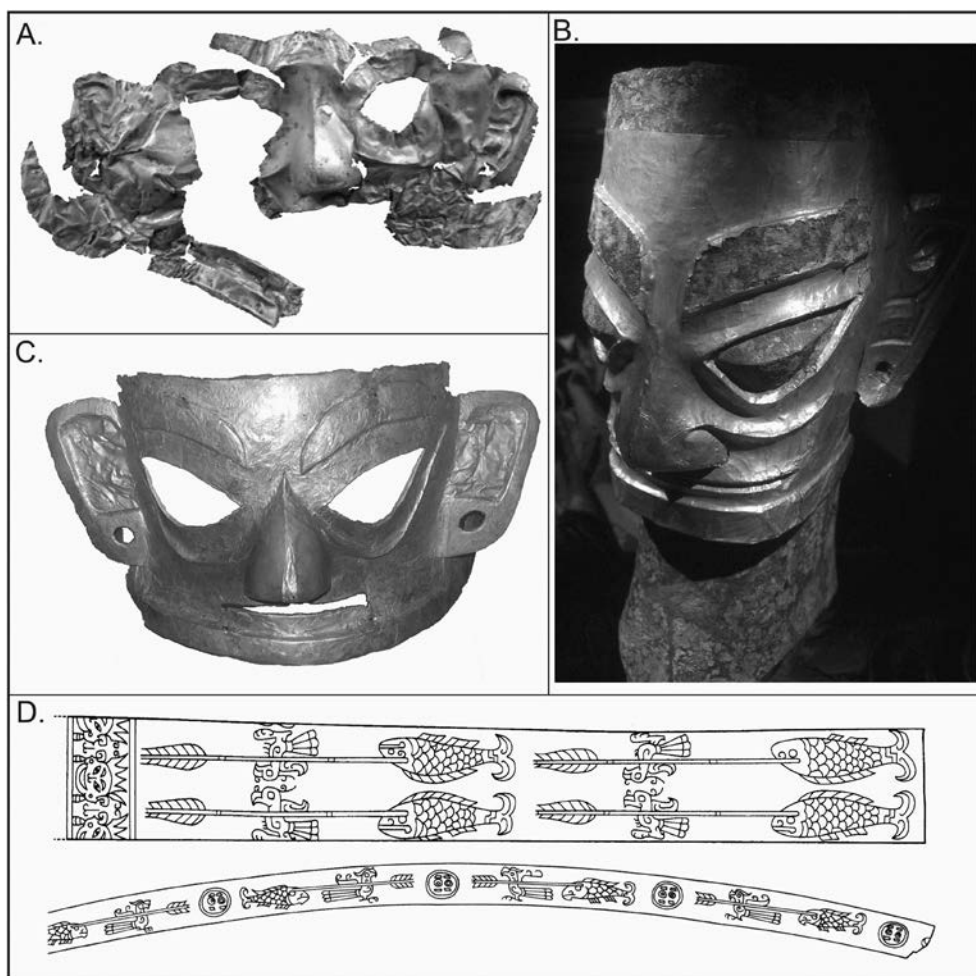


Figure 15.11. Gold mask from Sanxingdui (K1:282) (a); gold covering on a bronze head at Sanxingdui (K2[2]:45) (b); gold mask from Jinsha pit K8 (c); bird and arrow motifs on the Sanxingdui gold shaft sheath (top) and the Jinsha gold crown (bottom) (d) (photos by the author. Line drawings after Sichuan 1999:61 and Chengdu 2006a:29).

on other objects, although it may also indicate that gold was used for the sort of transmogrification that would distinguish certain heads from others. Several heads that did not have gold preserved on them may have been covered in antiquity, but some certainly were not. Gold was thus a means to enhance further gradations of value among the objects used in ritual at Sanxingdui.

At Jinsha a variety of gold objects have been found, including a gold band that may have been a crown; gold straps 22 cm long; a small gold face; decorative gold-foil artifacts such as frog-shaped objects, a triangular object, a fish-shaped item, and a band that may have fitted along the rim of some other item; a trumpet-shaped object that would have been fitted to a similarly shaped bronze item; a gold mask similar to the one found at Sanxingdui (Figure 15.11c), and a famous gold foil “sun disk” (“typhoon disk”?) with four birds that is now the national symbol of cultural

heritage in China. The possible crown band had the same motif on it as the shaft sheath from Sanxingdui, strongly suggesting that these objects share a particular symbolic significance (Figure 15.11d).

The gold foil objects at Jinsha were all between 0.1 and 0.4 mm thick and were heated during their production (Xiao Lin et al. 2004). They ranged from 83.2 to 94.2 percent gold, with other metal content comprising copper and silver. The variability in the elemental composition of these objects suggests that these were naturally occurring alloys. Again, the labor involved in producing these objects need not have been particularly specialized.

The gold objects seem to have been abandoned as individual items in the sacrificial zone at Meiyuan. Both the gold sun disk and the gold mask, for example, were found in situ in otherwise unremarkable contexts in the sacrificial zone. Gold, therefore, follows a pattern similar to bronze and jade in terms of final contexts of deposition, wherein the Jinsha pattern of sacrificial discard seems smaller in scale relative to the pits from Sanxingdui.

Ivory

The exploitation of elephant tusks has great antiquity in East Asia, with evidence stretching back into the Paleolithic at Pan Xian Dadong, for example (Schepartz et al. 2005). Neolithic sites also contain evidence for elephant exploitation (Shelach 2000; Underhill 1997; Zhejiang 2003), and elephants were more ubiquitous in the last couple millennia B.C. than more recently (Elvin 2004; Fiskesjö 1990). Elephants were present in the Central Plains during the era contemporary with Sanxingdui, and elephant ivory was used to create elaborate, highly valued objects at Anyang, such as a turquoise-inlaid ivory cup discovered in the tomb of Fu Hao (Karlgrén 1964; Zhongguo 1980). Ivory obtained at least some of its value from its association with the hunt, a practice that held particularly strong political significance in the Central Plains during the Bronze Age (Fiskesjö 2001).

In Sichuan, elephant tusks have been found at both Sanxingdui and Jinsha. Elephants were almost certainly local to the area during the Sanxingdui period, only having disappeared more recently (Elvin 2004; Jiang Yuxiang 1993). Although it is possible that elephants were domesticated (or tamed), there is no evidence, zooarchaeological or iconographic, that would support this. Instead, the elephants were probably wild and the area around Chengdu from which these tusk specimens came was probably quite large. In modern populations, female Asiatic elephants typically lack tusks, so we can presume that the dozens of elephants represented by the finds in the Sanxingdui sacrificial pits and at Jinsha (as well as finds at other loci at Sanxingdui, such as the burials at Rengshengcun) were all male. Adult male elephants tend to be solitary, and it is unlikely that the tusks all came from one or two herds. It is more probable that elephants were killed across the Chengdu Plain

and that the tusks from Sanxingdui and Jinsha represent a form of tribute that traveled into the sites from scattered communities.

The elephant remains at Sanxingdui are primarily tusks, with few postcranial elephant bones reported. In fact, the brief report mentions no confirmed postcranial bones that were large enough to be from pachyderms. Elephant tusks have been found in several contexts, including the burial area at Renshengcun (Sichuan 2004; Song 2005) and the sacrificial pits (Jiang Yuxiang 1993; Sichuan 1999). Together the two ritual pits contained at least 80 elephant tusks—13 in K1 and 67 (and an additional four fragmentary tusks) in K2—representing at least 40 elephants. A few smaller items were made out of elephant ivory, including a couple of decorated fragments, but most tusks were left in their natural form, sometimes split into sections. In Renshengcun, for example, burials with ivory contain segmented tusks. In the sacrificial pits, however, the tusks were complete. These tusks may have been displayed in conjunction with the bronze human figures found in the sacrificial pits—perhaps even in the hands of figures such as the life-size bronze sculpture, since it has appropriately sized holes in its hands (Figure 15.4).

Ivory would have been valued as a token of the integration of the various communities that brought tusks into Sanxingdui and as a symbol of dominion over both the natural world, represented by elephants, and the people who brought in the tusks. The procurers were possibly members of communities dispersed across the plain that took part in ritual activities at Sanxingdui. The tusks were cached. Sometimes they were divided and used in burial contexts (such as at Renshengcun). Some were prominently displayed in rituals when the bronze figures found in K1 and K2 were on display. Like the disposal of other objects discussed above, the disposal of many tusks was likely part of elaborate public rituals—although it is possible that some were stored for redistribution or later ritual use.

In the case of Jinsha pit K1 at the Meiyuan locus, at least a dozen elephant tusks were found neatly placed together. The longest of these measured to date is 1.5 m. These were complete tusks and may have been deposited either as a cache or as some form of public sacrificial ritual. As was the case with Sanxingdui, no postcranial elephant elements have been reported from these loci, and it is likely that the tusks were brought into Jinsha from dispersed communities.

To date, more than 100 elephant tusks have been found across the entire sacrificial zone at Jinsha (Chengdu 2006:37a). These include both complete tusks, such as those found in Jinsha K1, and many examples of tusk segments, found in small groups (Figure 15.12). The tusk segments and slices may indicate that tusk value was partible and divisible. The tusks and tusk fragments join a host of other faunal remains that seem to have been intentionally deposited along the banks of the Modi River. In one area, for example, a large number of boar teeth and deer antlers were discovered densely distributed along one bank of the river (Figure 15.13). Specific animal parts were collected and used as valuable objects in rituals at Jinsha.

Not all objects of bronze, jade, gold, and ivory were equally valued; nor are these the only media of value. Other valuable objects could be considered as well. Among these we have already mentioned cowrie shells—particularly because they were found in abundance in several vessels and heads discovered in the Sanxingdui pits. It is worth noting that imitation cowries were discovered at both Sanxingdui (a turquoise cowrie-shaped bead K2[3]:12) and Jinsha, where a hemijade cowrie shell was found (Figure 15.14). These imitations suggest that cowries were involved in the creation of gradations of value.

DISCUSSION: CHANGING OBJECT VALUES

Given the data from Sanxingdui and Jinsha presented above, what difference can be observed in production, use, and disposal of valuable objects made of bronze, jade, gold, and ivory? What do such differences tell us about shifts in political aspects of society during the period when the center of power in the Chengdu Plain seems to have shifted from the Guanghan area to the region of Chengdu? My impressionistic answers to these questions provide fertile ground for future research.

Production

Differences in production may involve changes in the nature of raw material acquisition, the identity of producers, labor invested in manufacture, and gradations of value apparent in products (see Figure 15.3).

No definitive differences in the nature of raw material acquisition at Sanxingdui and Jinsha are apparent—at least as far as the current data show. This is generally true for materials used to create bronze, jade, gold, and ivory objects. Lead and tin were acquired from great distances, and copper may have been as well, while jade, gold, and ivory were all relatively local—won from the mountains surrounding the plain in the case of jade and gold and from elephants in the plain in the case of ivory. Whereas the acquisition of materials for bronze production speaks to the importance of access to long-distance trade routes, and the procurement of jade, gold, and ivory speaks to the integration of communities spread around the plain and surrounding areas, there was little significant change over time.

One possible change concerns long-distance resources. There is considerably less bronze present at Jinsha, at least in discoveries up to the present. Although the Jinsha bronzes are distributed among a larger number of individual deposition episodes, the scale of bronze production is apparently quite different. Also, other objects necessarily obtained from distant sources, including cowrie shells, are more numerous at Sanxingdui than at Jinsha. Furthermore, the presence at Jinsha of plates from the tops of heads, but the absence of heads, might suggest that some bronzes were recycled at Jinsha, perhaps because raw material was scarcer. These impressions suggest that Jinsha elites may have had somewhat less control over

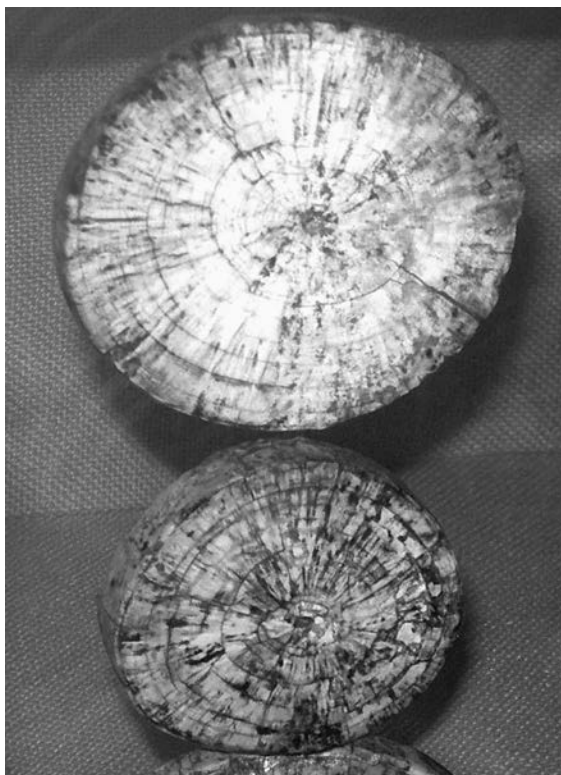


Figure 15.12. Tusk segments found at Jinsha (photo by the author).



Figure 15.13. Boar teeth and antlers deposited along the Modi River (photo by the author).

or access to long-distance trade networks than their predecessors at Sanxingdui. This is not to say long-distance exchange elsewhere stopped or diminished, but the Chengdu Plain seems less involved. Nevertheless, long-distance connections were still symbolized. The replication of stone *cong*, for example, drew on a distant symbolism in the production of valuable objects.

Little evidence speaks explicitly to the identity of the producers of these objects of value. They may be loosely identified as “attached specialists” (Costin 1991), at least those involved in bronze, jade, and gold production, although this category encompasses quite a few qualitatively different social identities (Flad 2007). At least some of the producers of bronze at Sanxingdui were clearly skilled craftspeople who understood how to construct mold–model assemblages, cast on various pieces, and alloy metals effectively (Xu 2001a). Gold production, however, did not require a high degree of technological sophistication—although the fact that it was clearly practiced together with bronze production at both Sanxingdui and Jinsha speaks to the intimate relationship between these producers. They may even have been the same people engaging in a multicraft production process (Stark 2007).

Stone and jade production would have involved both a considerable amount of artistic skill, in the case of objects that were elaborately decorated, and a fair amount of labor investment. At Sanxingdui, miniature *zhang*, as well as huge stone blades, suggest that size mattered in the display of valuable objects but also that a tiny stone object of a certain form could draw on a shared symbolism of value. The specimens at Jinsha included more low-quality stone used to make objects that symbolized social power (such as *zhang*) but also very fine, translucent materials. This variability shows a more intentional use of gradations of value by stone workers in their production processes, perhaps indicating a conscious attempt to make certain symbols of prestige available to a larger group of individuals while maintaining levels of distinction.

Both Sanxingdui and Jinsha show evidence of gold objects being produced to add further distinctiveness to certain bronze and stone items through transmogrification. In the case of Sanxingdui, gold was used to more dramatic effect in the embellishment of bronze and jade items. In cases such as the gold crown, gold objects at Jinsha may have been objects of value in their own right.

Use

The remains from Sanxingdui and Jinsha also reflect a few differences in aspects of object use that relate to regimes of value: the identity of users, the commodifiability and divisibility of objects, and their capacity to accumulate history.

Although there is little evidence that speaks clearly to the identity of those who used these objects during their period of circulation, the apparent increase in gradations of value among jades might reflect an increase in the population of individuals who had access to jade and stone objects as prestige items.

Some of the more generic bronze and jade items, such as the collared disks and objects with rectangular holes, may have been commodifiable but were more likely exchanged as gifts that established and maintained social ties despite their rather generic forms. Among the most interesting evidence of the manipulation of object

value during use life was the cutting of elephant tusks into segments. Presumably partial tusks would have been valued quite differently than whole ones.

Singular items typically have a greater capacity to accumulate history. The bronze sculptures and trees at Sanxingdui are good examples of singular objects. They may not have accumulated much in the way of history beyond their role in particular ritual occasions, however. The bronze heads and masks were stylized and idealized, and several of each type may have been cast from an identical set of molds. They too would have served very specific ritual purposes, probably in the context of public display.

Objects that circulated, in contrast, would have had more complex stories to tell. The bronze *lei* and *zun* vessels, for example, would have been valued as much for their specific associations with people and events responsible for their acquisition as for their generic association with distant places. Similarly, the large jade *zhang* blades would have had a “capacity to tell stories” related to their history of circulation and the associated potential for social “enchainment” (Strathern 1988). The large *zhang*, more easily than the bronze heads, may have linked together people and places outside the Sanxingdui site, perhaps places farther to the north (So 2001). Based on analyses of both bronze and stone objects, extensive and varied connections between the Chengdu Plain and other regions have been proposed (So 2008; von Falkenhausen 2006).

At Jinsha, few bronze objects have the singular nature of those from Sanxingdui. Instead, the capacity to accumulate history was vested in high-quality jades, gold items (such as the sun-disk and the crown), and elephant tusks. The divisibility (or fragmentation)¹⁰ of the tusks would have contributed to this capacity—as the tusks were altered, their stories would have been as well.

Deposition

.....

Perhaps the biggest difference in the use lives of valuable objects at Sanxingdui and Jinsha relates to the known contexts of final deposition. At Sanxingdui, ritual pits such as K1, K2, and possibly the pits at Cangbaobao and Yueliangwan seem to have been the remnants of public, ritualized abandonment of objects.¹¹ These rituals may have been conducted in the context of more elaborate communal events—perhaps with individuals from many communities contributing to the material to be destroyed or perhaps competitive displays of destruction and conspicuous consumption.

In contrast, the Jinsha remains suggest a different scale of ritual event, with a different sort of participation and consequently a different set of values associated with the destruction of the bronze, jade, gold, and ivory objects that have been discovered. The sacrificial zone at Meiyuan was probably used continuously over a long period of time by individuals or small groups in private, ritual practices. This contrasts sharply with the situation at Sanxingdui and represents a political order

that is less centralized, perhaps more administratively complex, and more open to negotiation of social roles. The people who lived and interacted in and around the Jinsha site cluster were possibly part of a community in which valuable objects made of bronze, jade, gold, and ivory were not concentrated into a few hands but instead were spread more widely and unevenly.

These observations serve only as a starting point, as it is quite possible, even probable, that other changes affected regimes of value in the Chengdu Plain during this period of transition.¹² For example, changes in the specific sources from which raw materials for bronze production were acquired would have impacted value systems in the region in numerous ways. Therefore, we must continue to pursue data that further illuminate the production, use, and disposal of valuable objects.

ACKNOWLEDGMENTS

I thank the organizers of the conference on which this volume is based—Gary Urton and John Papadopoulos—for including me in what proved to be a stimulating weekend in Los Angeles. I appreciate the feedback I received on the paper at the conference, particularly from John Chapman and Elizabeth Carter, as well as comments on versions of this paper from Lothar von Falkenhausen, Joshua Wright, Pochan Chen, Jenny So, TzeHuey Chiou-Peng, and Francis Allard. Mistakes and omissions remain my own responsibility.

NOTES

1. It should be stressed that the absolute chronology of this culture has not been thoroughly worked out in the published material.

2. An extensive summary of this location and early excavations is Zhu et al. 2006. Previous research at the Huangzhongcun locus, which is now associated with the Jinsha site, took place starting in 1995 (Chengdu 2001).

3. One *bi* disk-shaped bronze object (2001CQJC:924) discovered at Jinsha was made of an alloy of bronze, tin, and arsenic. Arsenical bronze is known from the second-millennium site of Donghuishan in Minle, Gansu (Gansu and Jilin 1998), but it is rare in Sichuan. This object may have been an import (Xiao et al. 2004).

4. The Middle Yangzi sources in eastern Hubei are known to have been exploited in antiquity (Xia and Yin 1982). Other, closer, substantial known copper sources in East Asia include mines in the Three Gorges on the eastern side of the Sichuan Basin, in western Tibet, and in mountains south of the Sichuan Basin near the border of Sichuan and Yunnan, all between 500 and 600 km from the Chengdu Plain (see www.mindat.org). More modest sources are in the Qinling Mountains to the north of the Sichuan Basin and in southern Sichuan near Jiulong (Zhu Xun 1999:188). The latter mines are between 200 and 300 km from Sanxingdui and Jinsha. None of these mines have documented exploitation during the Bronze Age.

5. Jenny F. So (personal communication March 2010) notes: “These flanged bracelets reveal another connection with Yunnan in the late 1st mill. BC. Bronze representational plaques from

Shizhaishan and related sites show ritual dancers and hunters wearing wide-flanged bracelets. Graves as far as northern Thailand show buried persons wearing these flanged bracelets. The bronze versions at Sanxingdui were probably made as less valuable substitutes for rarer jade versions to meet local demands.”

6. It must be stressed that the scale of bronze production at Sanxingdui would also seem meager if not for the discovery of the two large pits (K1 and K2). Some of my conclusions will require reevaluation if similar pits are discovered at Jinsha.

7. In the present day, this figurine certainly has been subjected to a great deal of interpretation, particularly focused on the possibility that it represents a specific deity.

8. Given the lack of comprehensive publication, it is not clear whether more small-scale sacrificial contexts, such as the Yueliangwan pit mentioned above, may exist at Sanxingdui. To date, there is no mention of such contexts in any publications or discussions of the site, or at the site museum.

9. *Ge* are traditional halberds that vary slightly in form both chronologically and spatially but are a consistent component of weaponry throughout the Bronze Age.

10. On the interpretation of meaningful fragmentation in archaeological contexts, see Chapman 2000a and Chapman and Gaydarska 2006, 2009.

11. Additional, potentially complementary functions also exist. At the conference that gave rise to this volume, Elizabeth Carter suggested that deposition in pits may have functioned to take certain objects out of circulation, thereby preserving the high value of certain scarce materials. If this were the case, perhaps the pits were storehouses of wealth, accessed when necessary—with the elephant tusks being reused and the bronze melted down for new bronzes.

12. It is important to note that archaeological discoveries from both Jinsha and Sanxingdui have not yet been fully published, and other data may affect our interpretations of the differences between these two sites.

CHAPTER 16

.....

THE VALUE OF AESTHETIC VALUE

.....

JAMES I. PORTER
UNIVERSITY OF CALIFORNIA, IRVINE

“Beauty is lifesaving. . . . Beauty quickens. It adrenalizes. It makes the heart beat faster. It makes life more vivid, animated, living, worth living . . . it saves lives . . . [it] confers the gift of life. [It is] the structure of a perception.

Elaine Scarry, *On Beauty and Being Just*

ABSTRACT

.....

This essay attempts to outline a theory about the role played by aesthetics in the formation of cultural value, with a special focus on ancient Greek culture. Its starting points are the mechanisms by which anything comes to have value, which is to say a primary and immediate significance, relevance, interest, or care-worthiness, prior even to entering into more complex systems of negotiated value (economic, religious, political, and so on). Aesthetics arguably lies at the foundations of these concerns, because aesthetic perceptions help condition value creation in the very act of attending to objects, in the experience of culture, and in the differentiation of values according to the varying degrees of intensity in one's attention. The thesis here is that cultural objects are best viewed as collecting points of attention and therefore of value, and that aesthetics plays a fundamental role in guiding these acts of attention and in charging them with significance at all levels of cultural expression. To make these assumptions is not to aestheticize culture but to remap its mechanisms as embodied, sensate, vital, value producing, and value contesting. Illustrations and test cases are drawn from philosophy (Kant, Spinoza, Dewey, Aristotle, Epicurus) and literature, including inscriptions (votive and civic) and Homer.

INTRODUCTION

.....

Some time ago, as I was preparing this essay, I did what so many scholars in the digital age resort to: I ran a JSTOR search, guided in my case by the terms “value,” “Greece,” and “ancient.” The results pulled up very little that was, well, of any real value. As far as I could tell, “value” doesn’t appear all that frequently in recent titles of works or articles in my field. How odd, I thought. Everyone thinks of Greece as the source of Western values, but no one seems to want to look into the ways the Greeks framed the concept or problem of value. (One exception, which I happened on only much later, is Arafat 2009, which provides a nuanced take on Pausanias’s perceptions of economic and other value.) Earlier that day, I had been paging impatiently through Louis Gernet’s essay on the mythical notion of value in Greece (Gernet 1982 [1948]). A classic from 1948, its focus is principally on economics and ritual objects (*agalmata*). True, there has been a good bit of recent work done in Gernet’s wake, and in the same vein, some of it by people in this volume (Carson 1999; Kurke 1999; Seaford 2004; see Papadopoulos, this volume). And, as everyone knows, money is the only bottom line.¹ On the other hand, economic value affirms empty relational values. (A coin is intrinsically meaningless, even if its conventional value is not.) And economic value, no matter how deeply embedded it may be (Gemici 2008; Granovetter 1985; Polanyi 2001:60, 73, 279 [1944]; Zelizer 1997), is hardly exhaustive of the value that inheres in socially constructed relations. If it were, “why not put everything up for sale?” (Anderson 1993:xi).

Consequently, my interest in this essay lies elsewhere. I am interested in what I will be calling the root problems and origins of value, in what gives *anything* value, its basic status of having value—by which I mean a primary and immediate significance, relevance, interest, or care-worthiness, prior even to entering into the more complex systems of negotiated value in a culture (even if some or all of this priority is itself already culturally shaped to a large degree)—and then, eventually, its secondary values. (For this distinction, or one like it, see Anderson 1993:chapter 1.) That is, I am interested in the primary and secondary processes of valuation and how these looked at various moments in the cultures of Greece and Rome (though I will be staying with Greece for much of this essay). And because my own specific interests at the moment lie in the realm of aesthetics, I will be nudging this inquiry in that direction, though things need not end up there. On the other hand, I doubt that any inquiry into value expressions in a culture can be considered complete if aesthetic value is left out for very long, as I hope to show. And because my own thinking on this particular aspect of the problem is still inchoate, I will at best be gesturing at a possible sketch of one way to join together a few concepts (aesthetic, cultural, and economic) while pointing to future avenues for study.

My basic aim will be to suggest that values in a culture generally and aesthetic values specifically are closely linked, perhaps more so than they are usually thought to be; that they communicate with one another via a reflexive, two-way network;

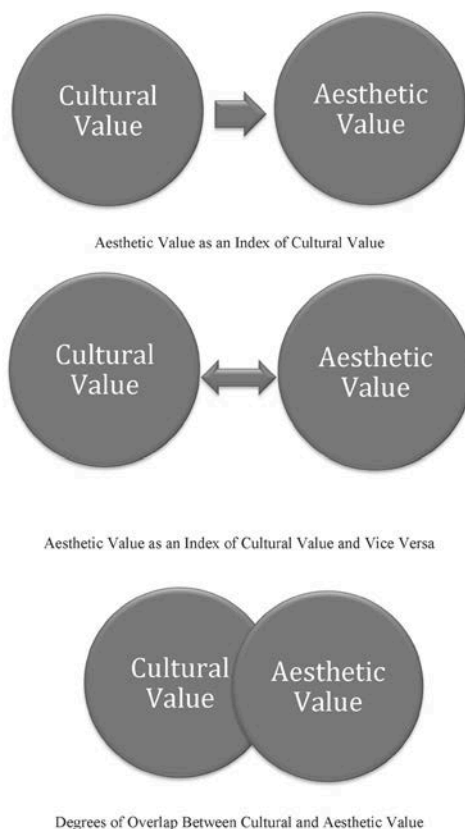


Figure 16.1. Aesthetic value as an index of cultural value and vice versa.

and that locating the one can help us locate the other. In fact, I want to make a strong claim—namely, that aesthetic processes, in their primary function of *aisthēsis* (in their immediate connection to the senses, sentience, pleasure, and pain), are actually *indices* of cultural value, and vice versa. Hence the value of aesthetic value lies well beyond its presumed aesthetic framework. At the same time, paradoxically, value inquiry will never take us entirely beyond the realm of aesthetics. Whether this is because, in the end, the two spheres necessarily overlap or are identical to some degree that needs to be determined may depend on how we ultimately define the various terms in question. But I do believe these are fruitful questions to ask (Figure 16.1).

ACTS OF ATTENTION AND THE CREATION OF VALUE

To get this inquiry off the ground, we will have to indulge in a bit of unclassical thinking and some peremptory assumption making. Accordingly, let's start with a few axioms, which will be backed up with ancient corroboration as we go along. First, how does value come into existence? Obviously, cultures create values, because

values are not natural kinds and they show no obvious invariance from place to place or from time to time—as was recognized even in ancient Greece. Parmenides, the Eleatic philosopher (born around 515 B.C.), rejected the relativity of value (*nomos*, which can mean anything from conventionally sanctioned values to man-made law; it is related to *nomisma*, or currency value); many of the fifth-century Sophists accepted it, as did later thinkers (Heinmann 1987 [1945]).² But just because values are cultural artifacts does not mean they are passed on from one generation to the next like school lessons. On the contrary, values and processes of valuation assume the look, feel, and force of natural artifacts, and more often than not they pass themselves off as noncultural givens, partly because values are embedded less in culture than in the experience of culture.

Whence a first assumption, which I doubt will be very controversial among most readers of this volume: (1) *The experience of culture is itself an articulation of culture*, perhaps not quite at the level of language or names but *at the level of attention*, whenever objects and phenomena are apprehended and dwelled upon. Such experience is one of the valid ways in which cultural forms are objectified and shared.

This point is multipronged, but it contains one element that needs to be drawn out further and that also happens to be my second assumption: (2) *Acts of attention create value*.

A roundabout defense of this last proposition would perhaps start with modern rationalist philosophy in the wake of Spinoza and then Kant, both of whom are particularly eloquent exponents of a related view, according to which acts of attention *affirm* value. For Spinoza, thought (reflection), perception, and sensation are all expressions of God, who himself embodies pure positivity and a principle of untrammelled vitality and indeed is nothing other than life itself in its perpetual (self-) affirmation. Hence, for Spinoza, “Joy (*Laetitia*) posits the existence of the joyous thing, and posits more existence, the greater the affect of joy is” (Curley 1994:166; cf. 182). Similarly, “the definition of any thing affirms . . . the thing’s essence,” by reference to *conatus*, or the striving for existence that inhabits all things (ibid., 159). Spinoza’s God is the pinnacle of this self-affirming world. Reflecting on the world, he reflects on himself, affirming all that is and taking pleasure in both the experience and what he finds in his thoughts at the same time (ibid., 260). In a word, there is no act of mind or body, conscious or unconscious, that does not participate in this festival of attending to the world and of experiencing value in Spinoza’s grandiose and greatly influential vision.

Looking farther ahead, such a tradition will find allies in a long list of critics and philosophers who talk about “the vivacity of sensation” and “perception” (in the British empiricists’ sense of these terms) and who tie such acts of awareness to the condition and value of life and to the dynamic interplay between life and its objects, such as critics in the wake of the Russian formalists (who were really sensualists at heart), for instance Viktor Shklovsky: “Art exists that one may recover the sensation of life; it exists to make one feel things, to make the stone *stony*. The purpose of art

is to impart the sensation of things as they are perceived and not as they are known” (Shklovsky 1965:12 [1917]). One notable fellow traveler of these critics was Jan Mukařovský, who developed an entire theory of value around this core inheritance in his *Aesthetic Function, Norm and Value as Social Facts* (Mukařovský 1970 [1936]; see especially pages 89–91). At the root of the affirmationist tradition I have been sketching, which in the modern era runs from at least Spinoza onward, lies a basic insight into the nexus that connects acts of attention with value creation and both of these with the value of life. But it so happens that there is an almost natural—even inevitable—convergence of these three factors around aesthetic considerations in the same tradition. For this reason, I would also include here a moral philosopher such as C. I. Lewis, who usefully draws out this very connection, which is to say the connection between aesthetics (understood as sensation in the broadest possible sense), value, and life: “The value that may be resident in practical activity could be classed as esthetic in the broad sense: it is an immediate goodness of life which inheres in the living of it. But it will not be esthetic in the narrow sense, because this value of it inheres in no object nor in anything directly contemplated” (Lewis 1947:454). I will have more to say about Lewis below, once we arrive at Kant. Antecedents in Greek antiquity would include Epicurus and Aristotle.

This string of references, not only to philosophers but also to lay thinkers, could be shown to build an informal tradition of sorts, one that is concerned with the affirmation of life and living. In this way of thinking, attention to things just *is* an affirmation of things and their value, with life being the highest value there is, and affirming value constituting the most distinctive activity of living qua living. Because this is so (if it is), affirmations of value are accompanied by pleasure more than by pain, though pain is perhaps a negative affirmation, hence a negative value, but not a negation of value. I won’t go into the peculiar corollary of this tradition, which makes the negation of value virtually impossible, inconceivable, and indeed incoherent for anyone who would attempt it, as Spinoza, Freud, and Nietzsche clearly saw (for Spinoza, see Curley 1994: 159, 161; for the latter two, see Porter 2005; Porter 2009b). On the affirmationist view of things, the mere presence of sensation (*aisthēsis*) will be a sure sign of value, just as it will be the immediate sign of the value of life and living. From here, which is to say from aesthetic perception broadly conceived, the move to aesthetic value in a narrow and more conventional sense is but a short, even trivial, step.

Thus, for Epicurus, the idea I just sketched lies at the foundation of his epistemology and his ethics, which are linked. “All good and evil . . . lies in sensation [ἐν αἰσθήσει], whereas death is the absence [στέρησις, literally deprivation or removal] of sensation,” he writes in his protreptic *Letter to Menoeceus* (Long and Sedley 1987:1:149, section 124), while the self-evidence of sensation, on the one hand, and mental focusing or the production of clear mental apprehensions, on the other, can be connected with *ataraxia* as its pleasurable sources. This spells out a kind of condition of beauty (or of high aesthetic value), even if Epicurus would

be reluctant to acknowledge this to be the case. Lucretius here is a better witness, given his penchant for indulging in the poetry of the senses. His doing so does not mark a departure from Epicureanism; on the contrary, it is a testament to the school philosophy (Porter 2007).

For Aristotle, things are (as always) a bit more complicated. The unimpeded actualization of the senses and the mind in the face of their most fitting objects (those most apt to actualize the senses) constitutes their highest pleasure. It is unclear whether the pleasure taken lies in, or primarily in, the object or in the sensation, but that is perhaps irrelevant, since the same indeterminacy applies across the board to all the cases I will be discussing in this essay. Nevertheless, in *On the Soul* we read both that “actual knowledge is identical with its object” (3.7.431a1; trans. J. A. Smith), which shows a kind of assimilation or adequation that obtains between the mind and its objects (a point that will be of interest when we arrive at Kant) and, more intriguingly, that “to perceive is like bare asserting or thinking [τὸ μὲν οὖν αἰσθάνεσθαι ὁμοιον τῷ φάναι μόνον καὶ νοεῖν]; but when the object is pleasant or painful, the soul makes a sort of affirmation or negation, and pursues or avoids the object” (3.7.431a8–10). Here is one of the earliest anticipations of Spinozan affirmation and of the later school tradition, which Kant will inherit, according to which positing (*Setzung*) objects in the mind or by way of the senses is called *affirmatio* (see Maier 1930).³ Aristotle also happens to believe strongly and unequivocally in the coherence of perception with the feeling of life and the pleasure of living:

But if life itself is good and pleasant (which it seems to be, from the very fact that all men desire it, and particularly those who are good and blessed; for to such men life is most desirable, and their existence is the most blessed); and if he who sees perceives that he sees, and he who hears, that he hears, and he who walks, that he walks, and in the case of all other activities similarly there is something which perceives that we are active, so that if we perceive, we perceive that we perceive, and if we think, that we think; *and if to perceive that we perceive or think is to perceive that we exist* (for existence was defined as perceiving or thinking); *and if perceiving that one lives is one of the things that are pleasant in themselves (for life is by nature good, and to perceive what is good present in oneself is pleasant); and if life is desirable* [αἰρετὸν δὲ τὸ ζῆν], and particularly so for good men, because to them existence is good and pleasant (for they are pleased at the consciousness of what is in itself good); and if as the virtuous man is to himself, he is to his friend also (for his friend is another self)—*then as his own existence is desirable for each man, so, or almost so, is that of his friend. Now his existence was seen to be desirable because he perceived his own goodness, and such perception is pleasant in itself*

Nicomachean Ethics 9.9.1170a14–b13; trans. W. D. Ross, rev. J. O. Urmson; emphasis added.

Such a view places an irrefragable value on perceptual awareness. A question to ask is whether Aristotle is innovating or expressing an inherited view. If the latter, is he refining a philosophical or a popular *endoxon* (received belief)? My inclination is to suspect a popular inheritance, given Aristotle’s tendency to argue from nature based on empirical observation and given some of the available evidence prior to Aristotle. One powerful precedent is the Homeric tradition, which places

a preeminent value on perceptual wonder (*thauma idesthai* and related expressions) as a marker of prestige, be it of ritual or craft objects or other objects clamoring for attention (see Prier 1989). Perception and value are here powerfully linked. This linkage undergoes a secular transformation in the wake of the Presocratics, who liberate the expressive possibilities of sensation and empirical experience for the fifth-century B.C. Greeks. Thus, as Xenophanes says of the rainbow, “What they call Iris [rainbow], this too is cloud, purple and red and yellow *to behold* [πορφύρεον καὶ χλωρὸν ἰδέσθαι]” (Kirk and Raven 1983:173). Similarly, Empedocles writes, “All . . . things come together to be one only, not suddenly, but combining from different directions at will. . . . And as they mingled countless tribes of mortal things poured forth, fitted with forms of all kinds, *a wonder to behold* [θαῦμα ἰδέσθαι]” (Kirk and Raven 1983:296).

In the wake of the Presocratics, the naturalistic premises of value transformed into purely conventionalist ones, starting roughly with the Sophists in the mid-fifth century. Gradually, appearances were liberated from supernatural thaumaturgy and made available for secular consumption and evaluation. Protagoras was a key player here, since he helped usher in the new tide of values on a human scale with his famous doctrine of *homo mensura*, or “man is the measure of all things.” That doctrine rested on a thoroughgoing assumption and analysis of phenomenal appearances: “[Protagoras] puts it something like this, that as each thing appears [φαίνεται] to me, so it is for me, and as it appears to you, so it is for you—you and I each being a man” (Plato, *Theatetus* 152a; trans. Levett, rev. Burnyeat). Read a bit farther on, and it becomes clearer how appearances are nothing more for Protagoras than the inverse of perceived reality: “Protagoras: ‘But this expression “it appears” means “he perceives it” [τὸ δέ γε ‘φαίνεται’ αἰσθάνεται ἔστιν]? Yes it does!’” (152b). And though Protagoras does not seem to have contributed directly to aesthetics, his theory of perception had obvious implications for art understood in relation to appearances, as is often noted (see Pollitt 1999:69 [1972]). One carryover of Protagorean phenomenalism into art is Lysippus’s “phenomenal idealism” (Stewart 1990:1:80, 186), which is encapsulated by Pliny: “[Lysippus] used to say that his forerunners made men just as they were, while he made them as they appeared to be [*dicebat ab illis factos quales essent homines, a se quales viderentur esse*]” (Pliny, *Natural History* 34.65). The question of whether aesthetic value, so conceived, is intrinsic and nonutilitarian or extrinsic and utilitarian is another issue. We can say, provisionally for now, that the question remains productively unresolved, both in Greek antiquity and even today. But we need to complete our steps forward before going back to Greece.

Now to turn briefly to Kant. Kant likewise makes deep demands on perception. But he does so above all in his work on aesthetics. It is here that we read his astonishing remark (which is too little heeded) that to have an aesthetic perception is to experience a “feeling of life” (a *Lebensgefühl*) “under the name of the feeling of pleasure or displeasure.” The original passage is worth citing at length, for reasons that will become apparent:

To apprehend a regular and appropriate building with one's cognitive faculties, be the mode of representation clear or confused, is quite a different thing from being conscious of this representation with an accompanying sensation of delight. Here the representation is referred wholly to the Subject, and what is more *to its feeling of life*—under the name of the feeling of pleasure or displeasure—and this forms the basis of a quite separate faculty of discriminating and estimating, that contributes nothing to knowledge. All it does is to compare the given representation in the Subject with the entire faculty of representations of which the mind is conscious in the feeling of its state. Given representations in a judgment may be empirical, and so aesthetic; but the judgment which is pronounced by their means is logical, provided it refers them to the object. Conversely, be the given representations even rational, but referred in a judgment solely to the Subject (to its feeling), they are always to that extent aesthetic [Meredith 1952:42].

Kant finds it impossible to distinguish the consciousness of the formal purposiveness of an object from the pleasure taken in the contemplation of the object. Because this consciousness seems to be just what the contemplation is, pleasure and the activity of contemplation must, as in Aristotle (and in Spinoza), be identical or nearly so. In point of fact, *aisthēsis* in Aristotle can bear both meanings (sensation or conscious perception), even if his preferred term would be *theōria* (Kahn 1966; Kosman 1975, especially 508, 515–519). Sensuous perception and sentience here merge in a self-contained activity—though, as we shall see, such activity is not really all that self-contained in the end, and its value is not exactly intrinsic for this same reason. In Lacanese, one might call the value “extimate” (Miller 1988). At any rate, for Kant, aesthetics merely describes the experience of any subject in the face of the world, which is to say the essential congruence of the mind and its objects. In short, Kant's position is that our fundamental posture toward the world, and the world's posture toward us, is aesthetic.

Whence a third and final postulate: (3) *Whenever we attend to objects and dwell upon them with our mind or our senses*, we tend to label those objects attractive, along some sliding scale of *aesthetic intensity*, from repulsive (which includes attractions of its own) to beautiful, marvelous, wondrous, sublime, or the like.

The important feature here, apart from intensity, is the duration of the attentive gaze. Thus Kant notices our tendency to “linger [*weilen*] in our contemplation of the *beautiful*,” whereby this lingering contemplation (*Verweilung*) “strengthens and reproduces itself” (Meredith 1952:64; translation adapted, emphasis added; cf. *ibid.*, 143: “quickenning activity,” “furtherance” [*belebend, Beförderung*]). The verbs are telling. They point to the vivacity of the sensation (in Hume's terms, for example, in *A Treatise of Human Nature* or in “Of the Standard of Taste”) and also to its vital function (in Kant's terms)—its provision of a *Lebensgefühl* (feeling of life).⁴ Thus, taking our cue from but also departing somewhat from Kant, for the term “beautiful” in the last quotation I suggest we substitute “source of value”—or rather “deposit of value,” since it is we, not it, that are the source of its value. The list could go on, not indefinitely, but for a long while. Not all schools or habits of thought openly embrace the affirmationist viewpoint, even if, according to that

same viewpoint, they necessarily adopt it whatever else they might wish to say or claim. Indeed, any general theory of value that fails to include this larger set of concerns about life's value is bound to be deficient, I believe, while all theories of value imply them.

VALUE IN ANCIENT GREECE

So much for the heavy lifting. Let us see what we have gained up to this point and then return to Greece. If paying attention to objects creates value, then cultural attention to objects creates cultural value. Displays, from malls to museums, are only the most obvious venues for focusing the public eye. Anything seen, heard, felt, witnessed, and registered has value by virtue of these acts of registration; secondary processes of valuation and evaluation will further filter the primary values conferred on these events. Cultural objects act to pool attention and thus to create, consolidate, or shift and remake value. Further, values tend to be vulnerable to aesthetic registration. It may be easier to get at this last point from the other end in the following way: aesthetic values are tied up with larger operations of evaluation or value judgment and can be shown to be present wherever positive or negative ascriptions of value are at work, much along the lines of praise and blame or like and dislike. Such ascriptions ultimately reach down to the level of basic sensations (pleasure and pain) and up to the highest and most complex forms of socially embedded judgments—feelings of cultural prestige, social status, gender, cultural identity, heritage, Greekness, and Latinity. For, as Michael Baxandall and others have so well shown, the arts are “deposits of social relationships,” as are, indeed, the worlds inhabited by the senses (Baxandall 1980:chapter 6, 1988).

But the reverse is true too: valuation is hard if not impossible to dissociate from aesthetic factors, the way, for example, Greek and Latin terms for goodness (*kalos*, *bonus*, *bellus*, *decorus*) and their opposites (*aischros*, *kakos*, *malus*, *informis*, *indecor*, *turpis*) tend to share aesthetic connotations. Thus *kalos* can mean good and socially elevated but also beautiful; *aischros* can mean bad, socially inferior, ugly, and so on down the line. Valuation is tendentially aesthetic, and it's not clear that the two spheres are distinct as processes. (For the same reason, I do not find arguments in favor of distinguishing between moral, social, and aesthetic values all that compelling—though, to be sure, these arguments usually come at the problem by asking whether aesthetic values are autonomous, not whether moral and other values are somehow aesthetic.) But if we concede that experiences are at some basic level affirmations of perceptions and of objects perceived, and that experiences necessarily carry an aesthetic component, the rest follows pretty seamlessly (cf. Dewey 1989 [1934]; Lewis 1947:chapters 13–14; Livingston 2004)—which is not to say that the problems on our hands are any less complex. The immediate consequence of this

fusion of the social, ethical, and aesthetic is a true thickening of our descriptions, a real entanglement for any observer, not to speak of the social agents involved.

Of course, one risk in this line of reasoning is that everything we can pick out in a culture threatens to become value laden. If everything is a thing of value, what is not? And if we make aesthetics coextensive with all values, how do we draw the line between aesthetics and extra-aesthetic domains? What isn't aesthetic in that case? And where is there room for disaffirmation or critique? My answer to the first query, about pan-value, is: That is right. Everything one can point to in a culture has value by virtue of its indexicality, its original capacity to be pointed to. All that can be named, thought, beheld, and indicated implies and is proof of value—not value in some absolute sense but in the sense of having a discussable, contentious, and debatable value. (Cf. Osborne 2010:238: “But there is nowhere that a statue or painted pot can be placed that will render them insignificant.”) What is more, values are never fixed but rather are fluid and contested: that is the ultimate proof of value, while stale neglect is the ultimate proof of value indifference. Whatever is of value is worthy of attention—differential attention, which obviously includes disvalue and critique. Affirmation in the sense I am using it is not equivalent to blind acceptance.

In other words, we can remap the psychological face of cultural objects by viewing them as pools—collecting points—of attention and therefore of value, whether these values are mutually competing or collaborating or both. As for the second query, about how to draw the line between the aesthetic and the nonaesthetic, my response to that is, in short, Why do we need to? I am more interested in letting the lines dissolve a little more than they have in the past. We would do far better to expand the reach of aesthetics, which has been too narrowly conceived along a narrow, beaux-arts model of the kind championed by Kristeller and others (Kristeller 1990 [1951–1952]; contra, Porter 2009a), which ultimately leads to an elitist view of what counts as art in antiquity and to an exclusion of a huge swath of potentially valid aesthetic experiences, if not to an outright denial of the categories of art and the aesthetic to antiquity altogether. There are a number of ways of challenging this view, whether on the grounds of sensation and its spheres, on an expanded view of what should count as aesthetics, or on an enlarged view of value. C. I. Lewis, mentioned earlier, points to the ways in which all three of these categories are ultimately relatable. We may accept Lewis's connection of value, life, and aesthetics (understood as sensation) while disputing his refusal to include in this nexus aesthetics narrowly conceived.

That is precisely the kind of narrow-minded distinction I wish to contest, as indeed others have in the past, for instance John Dewey in his outstanding but too little read classic *Art as Experience* (Dewey 1989 [1934]). For Dewey, art and experience lie on a continuum that is organic—he suggestively calls this continuum “the stream of living”—and that renders distinctions between common experience and aesthetic experience fruitless (Dewey 1989:12 [1934]; cf. 42–43). Modern

approaches at least since Dewey have conceded the futility of drawing a pristine boundary around the domain of art, never mind fine art. They have done so partly in the wake of the experimental arts of the twentieth century and, earlier, the arts and crafts movement of the fin de siècle, both of which did much to demolish the quaint museum culture of the nineteenth century. Such ground and rubble cleaning allowed art historians and art critics to see with clearer eyes into earlier cultures and with fewer preconceptions. The notion that aesthetics is parasitic on a concept or practice of art can be safely dismantled (Sibley 2001). Ask most artists (not aestheticians), and that is what you will find out:

What was the first man, was he a hunter, a toolmaker, a farmer, a worker, a priest, or a politician? Undoubtedly the first man was an artist. . . . Man's first expression, like his first dream, was an aesthetic one [Newman 1947:59].

Once we are rid of the fallacy that aesthetics is unthinkable until art has been labeled as such, the preciousness of art and all its odd equipage (its pedestals and framing supports, its isolation from life in all of life's rich and variegated hues, its immunization from use value)—art's "autonomy," in a word—begin to look rather wobbly, which in turn allows for an expansion of aesthetics to sectors well beyond the well-patrolled modern—though perhaps not postmodern and certainly not premodern—sectors of art and aesthetics.⁵

What is needed, at least in the field of classics, is a broader exploration of value processes, where these are understood as sophisticated responses to objects and events across a broad range of domains (the vocabulary for which exists and can be charted), including ordinary experiences and what is increasingly coming to be known as "everyday aesthetics" (Saito 2007), and hence what might be called everyday values (see Lesure, this volume). What is needed are both a lexicon and a grammar of (aesthetic) evaluation for classical antiquity at different historical moments. This is not a job for a single person to undertake, so I am simply throwing the idea out as a task for a future workforce. Good places to start would be encounters with nonart objects (natural scenery, streets, puddles [Lucretius has a fine passage on a puddle, even if it also serves him as an emblem of physical inquiry],⁶ tables and chairs [the non-Platonic variety], faces, clothing, food, smells, tastes, and the like), as well as people (as we shall see) and objects not conventionally accounted for in aesthetic terms. Of interest is how all this plays into the processes of attending to and affirming the most basic conditions of perception, sensation, and life acts—which would be a massive project but of broad interest. Evidence will of course be an issue, given the spotty nature of our sources for ancient Greece in particular, since we must content ourselves with glimpses and most of what there is comes already filtered through the literary traditions. But glimpses may suffice to overturn long-standing prejudices if we widen our search criteria. Stray comments in odd places can afford revealing insights. A comment from Xenophon's *On Household Management* about how shoes and utensils arranged in rows look pleasing

to the eye deserves to be set alongside high-brow theory like that found in Plato's *Phaedrus* or Aristotle's *Poetics*:

What a fine impression [ὥς δὲ καλὸν φαίνεται] is given by footwear of all different kinds when it is kept in rows [τετάχθαι]! What a wonderful sight is clothing of all kinds, and blankets, and metalware, and tableware, when each item is stored separately! What a wonderful sight is a regular display [εὖρυθμον φαίνεσθαι] of jars all kept nicely separate! . . . This regularity explains why everything else too looks more beautiful when it is arranged and ordered. We are faced with a dance-troupe of utensils [χορὸς γὰρ σκευῶν], and the unobstructed space between them all is beautiful too, just as the dancers in a circle-dance do not only make a beautiful spectacle [καλὸν θέαμα] in themselves, but the space in the middle also looks beautiful and clear [καλὸν καὶ καθαρὸν φαίνεται]” [*Oeconomicus* 8.19–21; trans. Tredennick, rev. Waterfield; slightly adapted].

This is everyday aesthetics exemplifying in an interesting fashion the typical Greek love of order and arrangement (*taxis*), which makes its way even into as unlikely a context as Aristotle's *Metaphysics*: “The chief forms of beauty are order and symmetry and definiteness [τάξις καὶ συμμετρία καὶ τὸ ὀρισμένον]” (*Metaphysics* M 3.1078b1–b5; trans. Ross). A compilation of such insights is sorely needed (see Purves 2010:214–215 for an analysis of the Xenophon passage; also Kurke in this volume). But I doubt that all we would find are mere exemplifications.

Then there are the subliterate genres. Votive inscriptions are not a bad place to start. Though inevitably witnesses to the elite classes, while they do emulate elevated poetry, they don't always strive for poetic grandeur and they do bring us face to face with a simpler, everyday reality and its corresponding aesthetics. To take one example pretty much at random, consider the Antiphanes inscription from around 490–480 B.C.:

To all men I answer [ἡποκρίνομαι] the same thing [ἴσ'], whoever asks [ἐ[ρ]ο[ι]τᾷ] me which man dedicated me: “Antiphanes, as a tithe” [*IG* I³ 533 = *CEG* 286 = *DAA* number 315]

The epitaph is simple to the point of stammering out its response to passersby (it repeats “the same things” again and again, as Plato would later say). But it cleverly draws attention to itself by voicing the question that is on everyone's lips and then by preempting the answer, all the while requiring the viewer to circle the monument to read the inscription in full, verse by verse, one side (one view) at a time (Figure 16.2).

No object could be more self-promoting or self-designating, though all dedications are tendentially of this kind. Of course, we do not know how elaborate was the statue that adorned the base, which is all that survives. But it, too, evidently wished to be seen in the round; the inscription is the invitation to this viewing. Reading the first words of the inscription, the viewer would begin at the front of the statue, or rather statuette (1), and proceed counterclockwise, from the top flange of the base first, then passing to the bottom flange (5), until completing the circle at the opposite side of the image (7)—a small bronze statue of (presumably) the Athena Promachos type (see Figure 16.3), to judge from its find spot (the acropolis), the

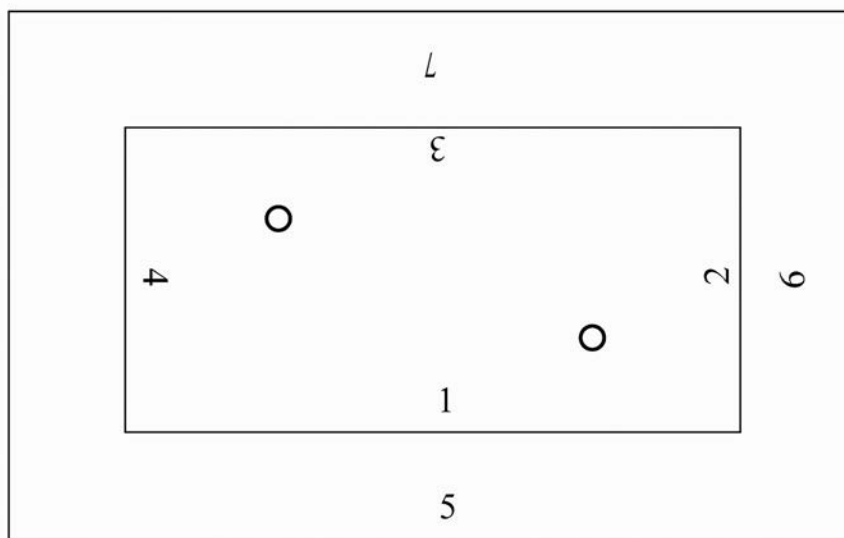


Figure 16.2. Base of the Antiphanes inscription (after Hansen 1983–1989:1:154). The numbers represent the two outer perimeters of the plinth, which has two levels (flanges). On each surface (totaling seven), a different portion of the verse inscription appears:

1. πᾶσιν ἴσ' ἀνθρώποι 2. [ς] ἡποκ 3. ρίνομαι, ἡόστις ἐ[ρ] 4. [ο]τῷ :

5. ἡός μ' ἀνέθηκε ἀνδ 6. ρόν· Ἀντι 7. φάνες δεκάτεν

The two Os mark two dowels, where the feet of the votive statue dedicated by Antiphanes would have stood (facing sides 1 and 5). Dimensions: 8.4 x 6 cm at the widest part of the base. Writing dimensions: .075 x .038 cm (upper flange) and .085 x .05 cm (lower flange).

size of the plinth (it measures 8.4 × 6 cm at the widest sides of the base), and the striding, attacking position of the feet, the left foot in advance of the right (as shown by the dowels, all that remain of the sculpture).⁷

The visual tour thus complemented, and solved, the riddle of the inscription itself. Side 4, the short end, coincides with the question posed in the epigraph, thus propelling the reader forward to the solution.⁸ This side also happens to coincide with the spear-bearing arm of the goddess, as if mimicking and doubling the impetus of the forward action. Here we find no words for beauty, as we do on other inscriptions, which at times immodestly label themselves beautiful or marvelous (to behold) with expressions like *perikalles agalma* (“very beautiful [dedicatory] object”; CEG 291; 418; etc.). All we have in the present case is a monument that performatively says, “Look at me, behold me,” or rather, “Pay attention as I speak,” which in turn triggers (or else certifies) the act of beholding. The aesthetics is all implicit, at least in the narrow sense of the term “aesthetics,” though in the wider sense it is present in the very (public) act of beholding and attending itself.

The Antiphanes inscription was a public inscription made for public consumption, one that used writing to lure the beholder into glimpsing and thus confirming the aesthetic and prestige value of the monument and the person it named and honored in the course of honoring a goddess. One of its peculiarities is the question and response formula, which is possibly as rare for ex-voto inscriptions as it is



Figure 16.3. Bronze Athena Promachos statuette dedicated by Meleso from the acropolis, ca. 470s–450s B.C. (NM Br. 6447) (E.–M. Czako; copyright © DAI Athens, neg. NM 4742).

for grave inscriptions of the period, but thereafter it is a common feature of grave inscriptions.⁹

Grave markers share a certain number of traits in common with dedicatory monuments. Above all they are objects that, despite their private purposes, are likewise made for public consumption and social display (Oliver 2000; Sourvinou-Inwood 1995). Prestige aside, there is a still more basic function at work in sepulchral monuments, be they oars, turning posts, mounds, or mausoleums. They bring their beholders face to face with a simpler, harsher reality and its corresponding aesthetic. In doing so, they confront the living with life in the form of its absence. As a Roman mausoleum from second-century A.D. Cillium (present-day Tunisia) eloquently puts it with its 100 lines long verse inscription written all over its three-story face, “And now the lines [of verse] are marked with names assured | and *a life is seen* trusting in its inscriptions [*cernitur et titulis credula vita suis*]” (Thomas 2007:261–262). What one sees, and consequently affirms, while looking on the monument is *a life*. This is a constant in the epitaphic tradition, which stretches from the pseudo-inscriptions in Homer down to the Roman period. Consider the following example. In Plato’s *Menexenus*, which contains a Socratic funeral oration of sorts, Socrates states that

“[epitaphic speeches praise] the war-dead, all our ancestors before us, and us ourselves, the living [καὶ αὐτοὺς ἡμᾶς τοὺς ἐτι ζῶντας ἐπαινοῦντες]” (235a; trans. Ryan; cf. 249c). Perhaps this is why epitaphic speeches as a genre were thought to be so great a comfort to the living (Thucydides 2.44.1; Demosthenes 15.35; Loraux 1981:77). They were, after all, aimed at the living even more than the dead.

At the other extreme, public inscriptions (decrees, memorials, laws, boundary stones) were likewise visually striking, and they took on an aesthetic function as a coefficient of their purpose. But by comparison with grave markers they were relatively mute, and so their primary function was to serve as *markers of value*. For, as Rosalind Thomas acutely observes, the iconic, material, visual, and symbolic functions of public inscriptions frequently outweighed their semantic functions. The “mere physical presence” of inscriptions as “material objects”—what we might call their performative, material function—typically sufficed to convey their meaning, or rather their value (Thomas 1989:45–57). Here, aesthetic features were put in the service of civic values, but they were also indissociable from them, just as the monuments stood in metonymically for the laws, decrees, treaties, and honors they materially embodied, often in abbreviated form on their surfaces. They did not need to be read but merely to be beheld and observed. Massive stone objects encapsulated power; orderly stoichedon lettering, arranged rationally by means of a checkerboard square, was the visible product of high-level organization (Figure 16.4). Tomb arrangements, decorated with the names of war dead sometimes reaching into the hundreds, likewise in stoichedon columns (see Figure 16.5; *CEG* 5 = *IG*³ 1163 + *IG*² 942)—the sight must have been staggering to behold—bespoke sacrifices for the state and a higher cause that, despite depredations, was still intact and capable of honoring its own—a life substance that produced collective acts of (self-)affirmation and riveting public acts of attention, even if this paradoxically meant doing so in the breach by honoring the absent and the dead.

But value is always a matter of such exchanges, fair or unfair, whether of gold for bronze, tombs for altars, or remembrance for lamentation: “Their tomb an altar, for lamentation remembrance, pity praise” (Simonides, *PMG* 531.3; cf. Loraux 1981:104).

Elaine Scarry makes the striking point that “beauty is lifesaving” (Scarry 1999:24). She illustrates this by recalling the way Odysseus, swept up on Scheria, compares the beauty of Nausicaa to a palm tree he once beheld on the island of Delos, contemplating it long and hard (δῆν):

I have never with these eyes seen anything like you,
neither man nor woman. Wonder [or “awe,” “reverence”] takes me as I look on you [σέβας
μ’ ἔχει εἰσορόωντα].

Yet in Delos once I saw such a thing, by Apollo’s altar.
I saw the stalk of a young palm shooting up. I had gone there
once, and with a following of a great many people,
on that journey which was to mean hard suffering for me.



Figure 16.4. Stoichedon-style inscription fragment from Athens (*IG I³ 19*); *proxenia* decree, 426/425? B.C. (Copyright © Centre for the Study of Ancient Documents and Epigraphical Museum, Athens).

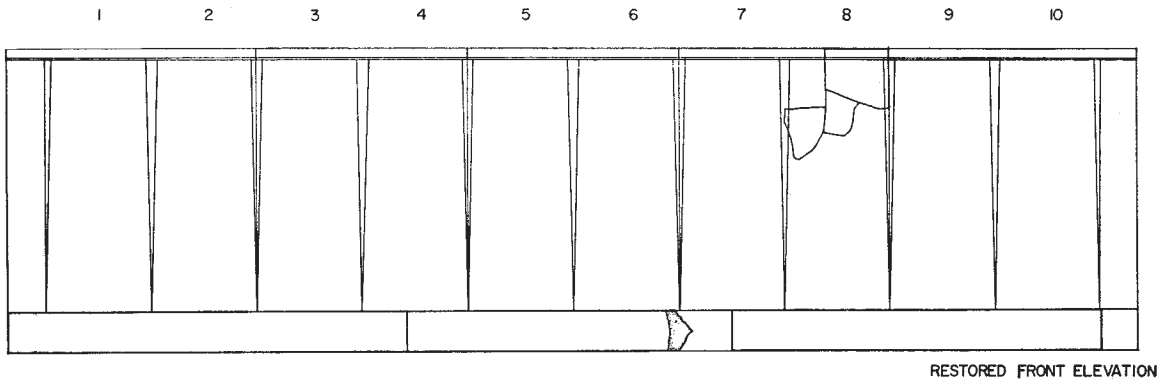


Figure 16.5. A monument bearing Athenian casualty lists, possibly for the Battle of Koroneia (447/446 B.C.). The monument contains five large *stelai*, or marble blocks, each with two columns of 40-plus names of Athenian casualties per column in orderly stoichedon lettering (some of these are preserved), totaling between 550 to 850 names. Height: ca. 1.30 m (after Bradeen 1964:26, figure 1; courtesy American School of Classical Studies at Athens).

And as, when I looked upon that tree, my heart admired it [κεῖνο ἰδὼν ἐτεθήπεα θυμῷ]
long [δῆν], since such a tree had never yet sprung from the earth, so
now, lady, I admire you and wonder [ἄγαμαί τε τέθηπά τε], and am terribly
afraid to clasp you by the knees. The hard sorrow is on me.
[*Odyssey* 6.160–169; trans. Lattimore]

The passage marks an intriguing moment in the epics (as is any isolated act of contemplation in those early works). Odysseus looked long and hard on the palm tree—but how? What was his posture there? Was it that of a model spectator? Did he look on the palm as one would a work of nature? As a temple? A piece of sculpture? A marvel of creation? A woman? Or a god? “I have never with these eyes seen anything like you, neither man nor woman. Wonder takes me as I look on you,” he says. Wonder, not beauty—wonder bordering on religious awe, marvel, admiration, and reverence (*sebas*). Strictly speaking, it is not beauty that is lifesaving but *value*, which creates bonds between one person and another, between a traveler and a palm tree, between a present and a past.¹⁰ For as Nausicaa knows, Odysseus will return home, and if he has any sense at all, he will remember how it was to her that he owed his life:

Goodbye, stranger, and think of me sometimes when you are
back at home, how you owe your life above all to me.
[χαῖρε, ξεῖν', ἵνα καὶ ποτ' ἐὼν ἐν πατρίδι γαίῃ
μνήσῃ ἐμεῖ' ὅτι μοι πρώτη ζῳάγρι' ὀφέλλεις.]
[*Odyssey* 8.461–2; trans. adapted]

He owes her his life—not “above all,” as she exaggerates, for she was neither the first nor by any means the last to whom he owed his most valuable commodity, his life. But that his life’s value depended on forces outside himself, on acts of attention and the exchange of gazes even more than the exchange of goods and commodities, is no exaggeration whatsoever.

NOTES

.....

1. As Euripides puts it in *Phoenician Women*, “Men honor [literally “hold in greatest value”]: τιμώτατα . . . ἔχει] possessions [or money: τὰ χρήματα] above all else; these have the greatest power in human life” (439–440; trans. Wyckoff)—fateful lines in the mouth of Eteocles, who will be tragically undone by this wisdom in the sequel and whose view will almost immediately be refuted 100 lines on (at 536–560 and especially 554–560) by his mother, Jocasta, and then by himself (597).

2. As Heinmann (1987:58 [1945]) notes, Parmenides does not use the term *nomos*, but he does invoke the conceptual distinction between nature and convention, which he culminates and then passes on to the Sophists.

3. See also Lewis (1947:432), according to whom value is just a positivity (disvalue would be a negativity): “All value in objective existents is extrinsic; it consists in a potentiality of the thing for conducing to realization of some positive value-quality in experience. When this realization of goodness to which the object conduces is one found in the presence of that object itself, the value attributed is here called an inherent value”—which is not to say that Lewis is always or

entirely in favor of collapsing aesthetic value and experiential value (see above and, e.g., Lewis 1947:477). But I do believe his position tends in this direction willy-nilly. If “esthetic objects are those the value of which is an inherent goodness, consisting in a potentiality for affording satisfaction in the presentation of them” (Lewis 1947:455) and if there is nothing that fails to meet this criterion, then what is not potentially aesthetic or actually aesthetic in virtue of its potentiality? Aesthetic values are a class of inherent values (Lewis 1947:477) or else they exemplify inherent values in a perspicuous way. Compare further Lewis 1947:438–439: “In a broad and literal sense, all direct apprehensions are esthetic. And all evaluations are broadly moral in significance. . . . And again, the moral *end*, however delimited, will have its esthetic significance.” Thanks to Paisley Livingstone for discussion of Lewis.

4. Similarly, and standing in the same direct line of influence, is Frances Hutcheson’s *Inquiry into the original of our ideas of beauty and virtue in two treatises*, according to which beauty is a function of attending to the world and a sign of life and life’s value itself. See Hutcheson 2004:62, 66, 78, 81 [1725–1726]).

5. This is not to say that the distinction between the aesthetic and nonaesthetic has gone unchallenged among philosophers of art. See Berleant 1964:186: “Every perception is potentially aesthetic”; Dewey 1989 [1934]; Nehamas 2004:30: “Perhaps no experience is completely unaesthetic”; Prall 1929:26–29; and Sibley 1959, 1965. Nehamas (2004:60) quotes from Hickey 1993 to the same effect. Addison held a similar view (1856:6:334), as did Thomas Reid, the eighteenth-century Scottish commonsense philosopher (1983:453, 498 [1846]). See further Walton 1993:505: “Let’s define *aesthetic pleasure* as pleasure which has, as a component, pleasure taken in one’s admiration or positive evaluation of something; *to be pleased aesthetically is to note something’s value with pleasure*” (emphasis added).

6. Lucretius, *On the Nature of Things* 4.414–419: “A puddle of water no deeper than a single finger-breadth, which lies between the stones on a paved street, offers us a view beneath the earth to a depth as vast as the high gaping mouth [*hiatus*] of heaven stretches above the earth, so that you seem to look down on the clouds and the heaven, and you discern bodies hidden in the sky beneath the earth, miraculously [*mirandel*]” (Bailey 1910). Lucretius has a keen eye for commonplace beauties in the physical, mundane world, being the materialist he is.

7. See Keesling 2003:81–88 on the evidence for such dedications, which were frequent. I am grateful to Catherine Keesling for helpful clarifications about this object (personal communication). She also provided information on the dimensions of the base. The dimensions of the letters are reported in *IG I²* 410.

8. I owe this last observation to students from my Poems on Stones seminar, held at UCLA during the winter quarter of 2010.

9. For a sepulchral inscription predicated on the dialogue (question and response) form, see *CEG* 120 (ca. 450?)—aptly addressed to a guardian sphinx placed over the tomb. For a similar inscription, which anticipates the dialogue form, see *CEG* 110 (Boeotia, ca. 500). For a contemporary votive example, see *CEG* 429 (Halicarnassus, ca. 475?). See also *AP* 16.23 (Simonides?), Page 1981:245, and Kassel 1983:11, note 47 (date contested). Of course, to some extent all inscriptions appeal to the reader one way or another (Rasche 1910; Svenbro 1993).

10. Not that Scarry (1999:66) doesn’t recognize this too, for her underlying point is to affirm “the value of human attention”—so much so that one has to ask whether her book is really about beauty or rather about human care, attention, and value. I prefer to think the latter.

CHAPTER 17

.....

LIGHT AND THE
PRECIOUS OBJECT, OR
VALUE IN THE EYES OF
THE BYZANTINES

.....

IOLI KALAVREZOU
HARVARD UNIVERSITY

ABSTRACT

.....

This paper is an art historical study addressing the concept of value in Byzantine society and the way its worth was established. Byzantium, a Greco-Roman culture with a strong classical philosophical tradition, onto which a Christian world order was superimposed, saw great significance in the natural world and its creation. This essay, through a discussion of a variety of objects considered of high value, will attempt to identify how this value was constructed. Support for the arguments presented is sought in contemporary texts of various types to give insight and expression to the Byzantine perspective of where value lies. Besides discussing gold objects and the porphyra dye used in silks with gold embroideries, the paper gives a more extensive analysis of the use and handling of marble, especially when used as revetment. The Byzantines' extensive knowledge of the material, and their exploitation of its color and vein designs, created in their eyes works of immeasurable value not made by human hands. In addition to marble, the paper focuses on another most priceless natural substance: the pearl. The application of pearls endowed an object with energy and light, their most precious qualities. The source of light and its divine quality raised any work to a higher and more valuable status, emanating its own radiance.

Besides the making of splendid mosaic surfaces that decorated the interiors of their churches, the Byzantines are renown for the precious objects that surrounded the court and the wealthy society of Constantinople and its provinces. These works of art or luxury objects have been admired and highly valued from the time of their production and retained a prominent place as valuable works of art throughout the centuries. Not only did the Byzantines praise their qualities, but these works of art were highly sought after in the Western and Near Eastern worlds. Already during the Middle Ages, numerous Byzantine objects entered collections and church treasuries of mainly western Europe, and found a place within those cultures. What made these objects so desirable was the high quality of craftsmanship apparent in their manufacture on the one hand, and the materials from which they were created and their specific properties on the other. A further dimension of value could be added to an object if it had a Christian devotional significance or other religious use within the church.

Under luxury objects, or objects of value, as we understand them today, we find a large variety of works of art, which are primarily made of costly materials such as gold and silver, precious and semiprecious stones, ivory, silk, and pearls (Cutler 1994:289–327; Kalavrezou 1997:219–223). A nice example is an open dish in the San Marco Treasury in Venice (Figure 17.1, *see color plates*; Buckton 1984:number 25). It is a wide bowl made of glass/crystal, cut to create a honeycomb pattern, which rests on a silver gilt foot. The foot is connected with the wide lip of the bowl by four silver gilt bands. The lip itself is covered in silver gilt and is decorated with large, oval, emerald and sapphire cabochons, which alternate to form a continuous chain framed on either side with pearls. This is a typical Byzantine pattern of embellishment on metal, especially when joined by strings of white pearls that, through color contrast, emphasize the green and blue of the stones. The bowl most likely was an object for use at the imperial courtly circles.

Such precious objects exhibit perfection in craftsmanship that is technologically highly developed and often not reproducible today, and often considered unmatched even at the time of manufacture. All required specific knowledge of the properties of each material used and specific technical skills to work each material according to its requirements. We have to assume that we are dealing with only a small number of objects that have survived and that the majority of them has been lost. For sure, major losses are to be counted among objects made of fine metals such as silver and gold, which also had precious stones and pearls attached to them. In most cases, these objects would have been melted down for their material wealth not only in Byzantium itself in times of need but also in western Europe, where the material prevailed over the artistic value or function attached to the object.

These artworks were primarily made for the imperial household and the court more broadly—that is, high officials of the government—as well as for the church and its representatives. These precious objects—various dishes and other utensils—were produced for a specific purpose and use, but at the same time they could also

be displayed for aesthetic pleasure and value. They are representative of Byzantine material culture even though limited to the affluent parts of that society.

Value is measured most often in terms of cost in monetary equivalents. In the Byzantine sources, this information is rare, and when monetary values are given, they are for buildings and not necessarily for works of art. In the early textual sources, for example, those from the fourth century listing Constantine I's gifts to churches that he had built, the value of the objects, usually made of precious metals, is given by weight.¹ Since precious metals such as silver were costly, the weight, usually of many pounds, was to impress, without having to give a precise monetary value.

For the middle and later Byzantine periods, the value of costly objects is expressed mainly through a description of the materials from which these works are made and their workmanship. What makes them so special and valuable are the properties of the individual materials, which are brought out and given qualitative adjectives that describe their specific and often unique qualities and the effects they have on the viewer.

This paper will attempt to analyze the Byzantine attitude toward the value of works of art and the materials used and how this value came to be associated with them. This analysis will endeavor to gain an understanding of the character of Byzantine art and the reaction that most Byzantine objects evoked and still do. This perception of Byzantine artworks is reflected in titles given to museum exhibitions in the past twenty years. For example, *The Glory of Byzantium* at the Metropolitan Museum in New York or, more recently, *Der Glanz des Himmels: sakrale Schätze* and *Byzanz: Pracht und Alltag* in Germany (Evans and Wixom 1997; Albani 2001; Frings 2010). These titles express an admiration for the luxurious look of the objects, not only because of their extraordinary high craftsmanship but mostly for the use of valuable materials that invoke splendor and glitz (Althaus and Sutcliffe 2006; Stiegemann 2001).² This reaction can now be put into more specific terms.

Before taking a closer look at this material, we have to realize that Byzantium's cultural heritage is that of the classical Greek and Roman worlds. Its artistic aesthetic is a continuation and development, with slow changes taking place over the thousand years of Byzantium's history. Its visual appreciation is based on the repertoire of those classical forms, materials, and images. Thus, when studying materials used by the Byzantines for their most precious art objects, we are dealing with this heritage and its development within a Christian society.

What was recognized as valuable? What gave value to a material? The Byzantines, like the people of many ancient cultures, were closer to nature and its resources than societies today. What nature provided was appreciated as a gift of God, and much was perceived as miraculous and wondrous. Colorful materials found in nature, which in their original physical state had an inherent sheen or translucent quality, were especially admired. For example, gold, which throughout the world has been recognized as one of the most desirable and valuable materials, found the

same appreciation in the Byzantine world. Other natural products that were highly valued by the Byzantines, which like gold could be mined, were the large variety of precious and semiprecious stones and minerals. These were desired for the spectrum of colors and the transparent and translucent qualities they could produce. Since these materials are numerous—all products of nature in their pure form—I will limit my paper to only a few of them.³ I will briefly discuss the significance of some but devote a more detailed analysis to marble and pearl. Both were used for their exceptional qualities—one to add splendor to large-scale works and the other, although small, to attach brilliance to already precious objects.

One substance to which the Byzantines assigned great value was the purple colored *porphyra* dye, which was extracted from a gland of the murex shell. This dye was historically produced by the Minoans and Phoenicians and had been used in royal robes and other ceremonial or ritual garments since antiquity. In Byzantium, murex purple was so highly prized that laws tightly controlled its production and limited its use mainly to the imperial court; its circulation was a prerogative reserved for the emperor. It was labor intensive to produce and thus very costly. Its intense and rich color was increased even more when used in combination with silk. Silk was the best material to dye purple because it could display its richness. With its natural sheen and luster, properties pleasing to the eye and touch, *porphyry*-colored silk became extremely desirable. The combination of *porphyra* dye and sensuous silk created the purple-colored textile, the most expensive and sought after luxury fabric in Mediterranean and western markets. Beyond purple silk, general luxury silk textiles were part of the sumptuous gift exchange between political boundaries. One should also remember that both the thread produced by the silkworm and the murex shell dye, with little human intervention, were natural products, which added a miraculous quality to them. (Byzantine silk has been extensively studied. An early study on production and economics is Lopez 1945; selected other studies include Jacoby 1991–1992, 2004; Muthesius 1993; and Oikonomides 1986).

Very little survives of the imperial garments and textiles of purple silk, so we depend mainly on their representations in imperial portraits in mosaic and manuscript illustrations. There is, however, an extant example of a *porphyry* textile from 1261, an imperial gift to the city of Genoa by emperor Michael VIII Palaiologos, now in the Museo di Sant'Agostino in Genoa (Figure 17.2, *see color plates*; Cutler and Nesbitt 1986:318). It is preserved in very good condition and is representative of the highly valued imperial textiles with gold embroidery, in this case depicting scenes from the lives of Saint Lawrence and associated saints. Not only was the textile made of *porphyry* silk, but the gold thread used for the narrative images added further richness (Armani 1983–1985; Di Fabio 2005; Falcone 1996; Hilsdale 2010; Johnstone 1976; Paribeni 1999; Schreiner 1988). A contemporary description of this *peplos* or *pallium*, as it is called by the Genoese, has survived. It gives us in contemporary terms the appreciation and value attributed to works such as this. The text is an encomium to emperor Michael VIII Palaiologos, written by Manuel Holobolos

in connection with a treaty between Michael VIII and the Genoese (Siderides 1926:174; Treu 1906:30–50). The silk *peplos*, Holobolos states, was embroidered in gold threads and depicts the noble sufferings and trials of Saint Lawrence and his associated martyrs. While addressing and praising the emperor, Holobolos also elaborates on the exchange of diplomatic gifts, where this specific silk is described. He explains that the Genoese ambassadors, after receiving their silk gifts, swore oaths to and honored the Byzantine emperor: “And after taking oaths of faith to you, and receiving the two most splendid *peploi*—your power’s generous gift, which is worth everything to them—they turned back home, praising in high-pitched tones your goodness and proclaiming you in loud voice a King the likes of whom are nowhere to be found” (Siderides 1926:188; Treu 1906:47).

Luxurious gold embroidered *porphyry* textiles such as this *peplos* were not only highly valued diplomatic gifts. From a few surviving silk textiles and from several epigrams, we learn that these precious materials were made to be given as gifts by members of the imperial family and other aristocrats. Mostly they were given by women to churches and more specifically and appropriately to the Virgin Mary; some women mention in the epigrams that they embroidered the silks themselves. One such epigram of the twelfth century written by “Manganeios Prodromos” provides an example. It was composed for a purple cover cloth to be given to an icon of the Virgin Mary, probably with an image of the Virgin and Child embroidered in gold. This gold embroidered purple textile was offered by Maria Komnene, daughter of Andronikos *sebastokrator*; a member of the imperial family.

*About a sacred hand-woven textile made by the honorable Komnene daughter of the renown
sebastokrator lord Andronikos*

- The pearls are mere soil before the “margarites” (pearl/Christ)
whom you have affixed to your virginal womb,
10 the one who is a spirit of dual nature caused from lightning.
I honor you thus with these [pearls] I own, you the Virgin,
as the purple cover of the logos through porphyry,
as the purest one through a gold embroidered image with pearls,
as the daughter of David.
.....
Therefore having embroidered with gold the purple (cloth),
30 the daughter of Sevastokrator Andronikos, the pious Maria Komnene,
offers it to you (the Virgin Mary).

[Miller 1883:38–39; on icon textiles, see Nunn 1986]

Clearly, in this poem not only is great value attached to the gold embroidered purple cloth but a number of other ‘values’ are expressed. The poem has a strong symbolic and theological subtext. Allusions are made to the Annunciation and the Incarnation. Each subject in this poem is used like a metaphor, adding a further dimension. Christ is compared to the pearl, the Holy Spirit to lightning, the Virgin Mary to the purple cloth because of its *porphyry* color, and again the Virgin Mary,

the purest being, to gold and pearls (Evangelatou 2003). Thus all the enumerated precious materials in this epigram receive the highest possible praise, since they partake of or are themselves part of the mystery of salvation.

Porphyry was also the name of a deep brown–purple rock mined from the Mons Porpyritis in Egypt. Regarded as the royal color, this marble was prized and used especially in Rome for various imperial monuments and building projects. In Constantinople, Constantine I introduced porphyry in his forum with his monumental 30 m column built of seven stacked porphyry drums, celebrating the founding of his capital. Porphyry could no longer be mined after the fifth century, so this rare stone became the most desired marble for imperial monuments and was often removed and reused from earlier monuments. Although porphyry when available remained the most desired marble, the Byzantines turned to other marbles and explored their colors and natural formations, taking to marble a new and different approach, almost daring its “stoniness.”

Marble thus became a medium, where the challenges of nature were put into the hands of craftsmen and architects, and marble became the most luxurious natural stone for the adornment of a building. It added splendor to a structure, vastly increasing its value and beauty. Since the early Christian period, the walls and floors of churches were surfaced with marble slabs, revetments, usually of varying colors, which gave the building a multicolored and thus lively interior. This aesthetic was continued with fervor through the centuries.

What made this special stone so attractive and sought after throughout the Mediterranean world were a number of qualities endowed by nature. For example, marble from Paros and the Pentelic mountain was fine grained, semi-translucent, and pure white. Although flawless, it had a faint yellow tint that made it shine with a golden hue under sunlight. Other desired qualities, especially for the architectural elements, which the Byzantines favored for their buildings, were its colors, veins, or spots; its strength and endurance; and its reflectivity when polished. The great variety of colors and intricate patterns provided craftsmen with almost endless possibilities in its application. Beyond the high gloss, which brought out the special colors and patterns, marble could reflect light within an interior and thus lighten up a closed space. We have to keep in mind that the only light sources available to illuminate interior spaces at the time were the natural light of the sun entering a building through windows and other openings, and fire—that is, candles and oil lamps. Thus a reflective surface which in addition emphasized colors and natural patterns was highly sought after. Through a careful study of the marble block, its veins and patterns, the Byzantines acquired a sophisticated understanding of the natural formation of this material. They developed the technical expertise to work marble in such a way as to produce revetment pieces of the most sophisticated and fanciful designs to cover wall surfaces (Figure 17.3, *see color plates*). This technique, of slicing the stone and applying it onto walls in book-matched patterns (with the sliced marble slabs opened up like a book and placed next to each other), brought about much awe

and admiration (Figure 17.4, *see color plates*). Placing the slabs adjacently created a new symmetrical design, concealing the joining of the slabs and thus producing an original creation, seemingly not made by human hands (Barry 2007:641). Paul the Silentiary, in his poem on the second consecration of Hagia Sophia in A.D. 563, takes notice of these special forms, which he compares to painting:

Upon the stone wall curious designs glitter everywhere. These have been produced by the quarries of sea-girt Proconnesus. The joining of the cut marbles resembles the art of painting for you may see the veins of the square and octagonal stones meeting so as to form devices: connected in this way, the stones imitate the glories of painting [P. Silentiarius, *Descriptio S.Sophia*, 605; Mango 1972:85].

In historical and literary sources, we read of the effect and pleasure these works produced for the viewer. Most renowned is the marble revetment of Hagia Sophia. Prokopios, the court historian of the emperor Justinian, gives a splendid description of it in his *Peri Ktismaton (On the Buildings)* of this emperor. While praising the building of Hagia Sophia, he says of the marble surfaces and colors:

Who could recount the beauty of the columns and the marbles with which the church is adorned? One might imagine that one has chanced upon a meadow in full bloom. For one would surely marvel at the purple hue of some, the green of others, at those on which the crimson blooms, at those that flash with white, at those, too, which Nature, like a painter, has varied with the most contrasting colors. Whenever one goes to this church to pray, one understands immediately that this work has been fashioned not by human power or skill, but by the influence of God [Mango 1972:76].⁴

Prokopios places great emphasis on the variety of colors by enumerating each one and by comparing them with a meadow. This, he declares, is the work of Nature, who like an artist has created a marvelous work of art. It is important to recognize that in the eyes of the Byzantines, when such perfection and beauty is expressed, the work is a miracle. This is the highest praise that can be said for a work produced by “human power.” If Nature had her hand in its production, it becomes a wondrous and almost divine masterpiece. The experience of standing in a place surrounded by such a sight becomes an inspiring encounter of spiritual value.

Later, in the ninth century in an *ekphrasis* of the palatine church dedicated to the Virgin of the Pharos, Patriarch Photius described entering the church, surrounded by its marbles and its gold and silver surfaces. After discussing the white and “gleaming bright and cheerful” facade from the courtyard, he continues:

But when with difficulty one has torn oneself away from there and looked into the church itself, with what joy and trepidation and astonishment is one filled! It is as if one had entered heaven itself with no one barring the way from any side, and was illuminated by the beauty in changing forms (*polymorphos*) shining all around like so many stars, so is one utterly amazed. . . . It seems that everything is in ecstatic motion, and the church itself is circling around. For the spectator, through his whirling about in all directions and being constantly astir, which he is forced to experience by the variegated spectacle (*poikilia*) on all sides, imagines that his personal condition is transferred to the object” [Mango 1972:185].

After describing also the golden altar, the silver sanctuary, and the pavement fashioned with stone segments into forms of animals, more marvelous in skill than those works of Pheidias or Praxiteles, he continues:

In one respect only do I consider the architect of the church to have erred, namely that having gathered into one and the same spot all kinds of beauty, he does not allow the spectator to enjoy the sight in its purity, since the latter is carried and pulled away from one thing to another, and is unable to satiate himself with the spectacle as much as he may desire [Mango 1972:186].

With these quotes and the last inverse compliment to the builder, we recognize the great amazement and wonder that the surfaces of these churches could evoke in a viewer. Great value is given to the achievement of the artist, who succeeded in creating a place like heaven itself, and to the amazing forms and colors nature provided with its marbles. The experience of the sight cannot be fulfilled to the extent the spectator would wish, since all is too marvelous to quench this desire. The spectacle the authors praise is the surfaces, which through their luster and shine reflect the variegated colors and designs. In their descriptions, in an indirect way, light becomes the main character that makes all this possible. Nothing would be perceived without light. Thus, because of the qualities described above and also for their durability, marbles of various types, especially when rare, were highly valued and commonly reused in buildings throughout the Middle Ages.⁵

Most other natural materials are found in nature in much smaller quantities and are inherently rare. Gold is one of these rare minerals and is thus costly from the onset. But what makes gold so desirable are its physical qualities, not only its rarity. These seem to be appealing to the human senses, to the eye and to the touch: it is yellow, a bright color. It also has a shiny and lustrous surface that never tarnishes. It has mass weight, and it is malleable while retaining its shape to a degree that no other metal can compare to. Man can take this substance and transform it into all types of pleasing forms and shapes. In Byzantium gold was chosen for the highest denomination coin, the *solidus*, confirming the value attached to this material. For centuries the *solidus* was the most valued coin in circulation throughout the medieval world. Otherwise, gold was used for jewelry and sometimes, as the sources mention, for objects such as cups, plates, and utensils. However, these objects seem to have been limited, and it is not quite certain whether all referred to as golden were solid gold, even though described as such. Most objects that appear to be golden are silver with gold plate applied to the surface, often correctly described as silver gild. However we find a few large pieces of jewelry from the late sixth century where gold is used in its most pure form, as for example, in the Dumbarton Oaks collection. There is an encolpion in the form of a medallion with representations of the enthroned Virgin and Child between two adoring angels, with additional scenes of the Nativity and the Adoration of the Magi (Figure 17.5, *see color plates*). The piece is inscribed, “Christ, our God help us.” This work is representative of the kind of object made purely

of gold. On its reverse is a depiction of the Baptism of Christ, with the inscription in Greek, “This is my beloved son, in whom I am well pleased” (Matt. 3:17). This medallion was struck and not cast, and its weight is more than 100 g, both which make it unusual. Commonly, only coins and commemorative medallions with monetary value were struck, by imperial privilege. It is thus plausible that this medallion was made for an imperial occasion commemorating most likely a personal event, such as the baptism of Theodosius, son of emperor Maurice, who was baptized on the Feast of Epiphany, on January 6 in 584 (Ross 1965:number 36).⁶ The quoted inscription makes the Christian subjects depicted—Nativity and Baptism—relevant in one respect to Theodosius’s baptism and in another to the father–son relationship in a dynastic sense. Such objects are very rare because these kinds of occasions are few, but also because the gold could easily be melted down and reused to fashion a new object at a later date. Another rare example of a work in pure gold, in this case of probably the seventh century, is a wedding belt, also in the Dumbarton Oaks collection (Figure 17.6, *see color plates*; Kalavrezou 2003:229–230, no. 131; Ross 1965:number 38). It consists of 21 small medallions and two large ones. The large ones, in the center, form the buckle and have a Christian subject. Christ is joining the hands of the couple, the bride and groom, with the inscription in Greek: “From God harmony (*homonoia*), grace (*charis*), health (*hygeia*).” The remaining 21 smaller medallions form the part of the belt that goes around the waist. These medallions have representations of a variety of busts of pagan Dionysian and other types of deities. The combination is unusual but should not be taken as inappropriate for a Christian wedding. In *epithalamia* of the late sixth century, for example, we find lines like these: “Dionysos attends the summer of your wedding, bearing wine, love’s adornment, with plenty for all” and “Easily protecting garlanded Dionysos and the Nile with his many children, may God grant a noble marriage free from the destruction of others.” (Kalavrezou 2003:number 131 [A. Walker]; MacGoul 1988:111–112). Here, the Christian God and the pagan deities are cited together in relation to a wedding.

As mentioned above, we rarely find objects of pure gold from the later periods. An epigram from the twelfth century by “Manganeios Balsamon” makes reference to an object made of this most valuable metal. It is a cup offered as a gift to a woman by Andronikos Kontostephanos, and the epigram most likely was meant to be inscribed on it (Horna 1903:185, 210; Varzos 1984:2:no. 134). We do not have the object itself, but we know from the title of the epigram that it had a representation of the Judgment of Paris and the golden apple that Aphrodite received. The epigram reads:

On a golden vessel having depicted three goddesses, Aphrodite, Hera, Athena and Alexander [Paris] giving the apple

Like the apple that Aphrodite [received] from Paris [you too] accept
this sphere-shaped golden cup
and drink a glass of thoughtful pleasure;

for you do not give yourself airs over mythical stories,
but you are truly the preferred one
without any lustful vice.
[Horna 1903:185]

This short epigram, although not too descriptive of the cup itself—it mentions only the material and its shape—suggests, in the parallel it sets up with the most desirable and famous golden apple, the great value of this gold cup. The epigram also reveals the great admiration of the donor for his beloved.

One other object to mention here is the recently restored *Crux Vaticana*, a jewel-encrusted golden cross reliquary (Figure 17.7, *see color plates*). Although the golden cross, which contains in its center a tiny fragment of the True cross, was an imperial gift, it is only silver gilt. It was given to the people of Rome from the Byzantine emperor Justin II and his wife Sophia sometime between 565 and 578 (Spier2007:283–285, number 83). The Vatican restoration comes close to an original Byzantine aesthetic, which had been altered over the centuries by the removal of the precious pearls that must have been on the front side and their replacement with colored jewels (Vatican press release, via the Associated Press, November 19, 2009). The restoration correctly added pearls to the two arms, but more importantly a circle of pearls was placed to mark the most significant segment of the cross, its center, where the relic is housed.⁷ The framing with pearls of an area or image was done to emphasize its importance. This cross is one of the most valuable Christian treasures of the Vatican. Obviously, it is not valuable only because of its gold, jewels, and pearls. It is the True cross that beyond any material price has the highest value. The fact that the cross and its relic were also the gift of an emperor adds to its significance. In this case, the value is measured with different criteria.⁸ The golden cross and the Vatican's decision to restore it lead to the last natural material I want to discuss: the pearl.

The use of the pearl in Byzantium is unusual. Incorporating pearls into pieces of jewelry is common in many cultures, and large pearls are treasured for their size and used as single pendants or earrings. Besides jewelry, however, pearls in Byzantium had a special place. They were applied to what can be described simply as objects. The Byzantines bejeweled works of art or imperial insignia by stringing pearls onto them, in the manner of a necklace, which gave these objects another kind of dimension.

Pearls came to Byzantium mainly from the coastal waters of India, the Persian Gulf, and the Red Sea, and this practice more or less follows the ancient tradition. References to their origin have survived in epigrams and poems but not in any documents relating to trade.

Gold, as mentioned above, is considered valuable for its physical qualities: its bright yellow color, its shiny and lustrous surface, and its rarity. The pearl (τὸ μάργαρον, ὁ μάργαρος or ὁ μαργαρίτης) is even scarcer than gold. It is found in much smaller quantities and is more difficult to obtain. It satisfied much of the same

aesthetic values, however. Like gold, the pearl has the appealing virtue of a natural luster, reflecting light without any human intervention, and even better than gold, which is yellow, the pearl can be pure white, which makes it unique. In addition, a pearl has the shape considered the most perfect in the universe. It is not only round, it is spherical—round in all its dimensions. This sphere, a symbol of Euclidian perfection and completeness, is supplied by nature itself and adds to the uniqueness of the pearl. Like silk and the *porphyra* dye, the pearl was part of the Byzantine admiration for natural gifts.

The pearl however had also an unusual “genesis” which added the dimension of the wondrous, the miraculous, the ἀχειροποίητον (not-made-by-human-hands)—so valued in the Byzantine world in terms of sacredness and divine presence. The Byzantines believed, as did the ancient Greeks, that the pearl was created by lightning, which while falling from the sky, hits and traverses the sea, and enters the oyster shell. While rolling around within the shell, it creates this perfect spherical object, full of light itself. It is not only the luster and shine that remains from the lightning that shaped the pearl. The pearl now is filled with energy, which like a living force gives it great potency, until its energy is released when struck by light.

The ancient myth of the creation of the pearl—the result of the union of fire and water when lightning penetrates an oyster—was used by Saint Ephrem, a hymnographer and theologian of the fourth century, to explain the immaculate conception of Christ, whose two natures were united in one hypostasis in the womb of the Virgin Theotokos. This metaphor occurred often in Byzantine homilies and hymns and thus became common knowledge. Texts speak of Mary as the shell, the sea, or another type of container that bears within the “divine” or “heavenly” pearl, ὁ μαργαρίτης, that is Christ (Evangelatou 2003:275).⁹

What is crucial to retain from this is the importance given to the pearl as a form and material. Christ, in the eyes of the Byzantines, is clearly the most perfect being. He is identified with and called the pearl himself, ὁ μαργαρίτης. A few lines written by important individuals show how common this metaphor was and how it was expressed. Patriarch Photius, in his homily on the Annunciation, written in poetic prose, in the sequence of many hails for the Virgin Theotokos, says at one point: “Hail, much-graced one, because you have stored away ‘the pearl of great value’ (Matt. 13:45–46), you are conveying the wealth of salvation to the ends of the universe” (*Homilies* V, 7; Mango 1958:121). The “pearl of great value” is a term used by Christ himself in a parable referring to “the kingdom of heaven.” Thus “the pearl of great value” becomes in a sense Christ himself (Matt. 13.45–46). “Manganeios Prodromos” in the twelfth century, wrote a number of poems with references to pearls. One, regarding the Nativity, combines well the ancient idea of the birth of the pearl with the Christian idea of Christ’s conception through the Holy Spirit. After introducing the difficulty of describing the virgin birth and wondering how one could talk about things that cannot be said out loud, he asks:

Container (the Virgin Mary), how come you carry the pearl,
or is it fire that made into a pearl what you received
through lightning, transforming spirit into flesh?
[Miller 1883:31]

The unusual “genesis” of the pearl, its rarity and the exceptional quality of its luster and sheen, made it a precious material for the most luxurious embellishments.

The application of the pearl to enhance objects had begun already in the early Christian period, when pearls were applied to the diadems of emperors and other imperial insignia. A representative early example is the marble head of the youthful emperor Arcadius of the late fourth century, now in the Archaeological Museum in Istanbul (Bandinelli 1971:figure 340). He is shown with extremely enlarged pearls, clearly to emphasize his imperial stature. Pearls also had a place on ecclesiastical symbols and liturgical objects such as crosses, book covers, and chalices, as well as on representations of celestial places such as the city of Jerusalem (for example, in the mosaic representation of Jerusalem in the Church of Santa Maria Maggiore in Rome).

Another example with an abundance of pearls is the depiction in ivory of the empress Ariadne/Sophia of the fifth century in the Bargello in Florence (Figure 17.8, *see color plates*; McClanan 2002:171, figure 7.7). Here it is important to note where the pearls are applied. Pearls are placed on her crown and its hanging *perpendoulia*; her chlamys, her mantle, with double rows defining its exterior borders, and her large collar-like necklace. In addition, the two symbols of power she holds, the scepter and the *globus cruciger*, are framed by pearls delineating the precise shape of these symbols. All the pearls are applied onto movable objects and surfaces, so that with her every step and gesture, the pearls would move too, creating a dramatic visual effect. What the pearls do here, on the imperial garments and insignia, is to define like a lit diagram, the outline of the objects to be able to be perceived even from afar.

Light, especially flickering light with its continuous movement, would have kept reflecting off the delineating rows of pearls. It takes some effort for the modern viewer to imagine the effect of this experience, but it seems to have been quite successful, since the Byzantines kept enriching with pearls their own representation and the objects they surrounded themselves with. The value of pearls, and the personal pleasure of possessing them, can also be drawn from a non-Byzantine source. It is a report from the *Book of Gifts and Rarities*, where we have an account of gifts given by the Persian king Chosroes (A.D. 591–628) on the occasion of his marriage to the daughter of the Byzantine emperor Maurice. The report begins with the king’s distribution to the imperial retinue of 2,500 “purses of money,” followed by an offering to Maurice himself of “gifts worth ten thousand pieces of money.” These included “a thousand bars of gold, each of them weighing a thousand mithqals, five hundred purses of money in coins [and] a thousand flawless pearls, each of them worth four thousand dirhams” (Qaddumi 1996). Perhaps all these figures are

exaggerated, as is common in these kinds of documents. Still, it is interesting to see that the pearls have become the high point in the record and are given their separate cost value. When taken at face value, a flawless large pearl was worth the equivalent of ten slaves.¹⁰

The Byzantines applied pearls to objects to emphasize not only their shape but also to highlight important images, especially on works of enamel. The contrasting white of the pearls, strung like a chain one next to the other around the images, gives them luminescence. The medallion of Leo VI from a votive crown in the treasury of San Marco is a good example of the treatment given to images through pearls (Figure 17.9, *see color plates*; Buckton 1984:number 8). A book cover from the late ninth/early tenth century, now in Venice in the Marciana library, will suffice to show the effect of pearls on such works of art (Figure 17.10, *see color plates*; Buckton 1984:number 9; Evans and Wixom 1997:number 41). The book cover is decorated on both sides with enamel plaques. In the front center is Christ on the cross, surrounded by medallions with busts of apostles and evangelists. The back has a similar arrangement, with the Virgin orant within a cross and with ten medallions with busts surrounding it. Over the centuries, the book cover suffered the loss of several enamel plaques and the pearls that framed them. The restorers, in order to re-create the effect of the Byzantine original, completed the Crucifixion side by replacing its lost medallions and pearls with ones from the back cover. The striking difference between the front and back is quite evident. Clearly, the addition of the pearls makes the front surface richer. The pearls have the added quality of luminosity and luster, which emanate all around them when they are struck by light. Through this reflective quality of their surface, the pearls allow for a more precise definition of the forms they frame. When the Gospel book with covers such as these was lifted and shown to the congregation, everyone would have been able to recognize what it was and would have seen its multicolored enamel plaques and the pearls that decorated it. This object, as with most of those with pearls and multicolor enamels, was meant to be physically experienced in space.

Chalices were treated in a similar way. A tenth-century cup in the treasury of San Marco, a gift of emperor Romanos I, demonstrates this use of the pearl quite successfully (Figure 17.11, *see color plates*; Buckton 1984:number 11). Colorful enamels of the Virgin and the apostles define the upper border. They are again framed by rows of strung pearls, which by their placement at the top, middle, and base of the chalice define its form. When the cup was raised by the priest at the Great Entrance, the animated light of the surrounding candles would have shined on its reflecting surface, offering the observer a truly radiant presence of the body of Christ. This gesture holds not only a symbolic value; it demonstrates the splendor of the chalice itself. The pearls that define the upper rim and lower border also display the magnificent large size of the chalice and possibly made the reading of the donor's name in the inscription more legible.

The gospel book, the paten, and the chalice represent the embodiment of Christ. Since the spirit resides in the matter, since Christ is the true pearl, there was no doubt that pearls were the most appropriate and most valuable material to display on these objects. Even on silk-embroidered chalice covers, we find the same attention given to their decoration. An epigram written by Prodromos that was to be used on an *agion potyrokalymma*, a cover for a holy chalice, mentions the pearls on this purple and gold embroidered textile. Irene, the wife of Andronikos and the mother of Maria Komnene (mentioned above in the earlier epigram), donated it.

And this one, embroidered by me, I offer myself to you,
the one newly created and embellished with pearls,
and you in exchange you make me whiter than snow (redeeming my sins)
and make like a pearl the grace of your image.

The fire of the spirit imprints you and makes you into a pearl
By striking the virginal shell,
I offer this cover to you coming under your protection
I, devoted Sebastokratorissa Irene.

To the king of all, to the one having become pearl
I offer this gold embroidery as a gift
I, the pious Irene Sebastokratorissa,
so that you in return lighten me up with the spiritual pearl (Christ).
[Miller 1883:38]

What becomes most evident from these texts is the emphasis given to the brightness and translucency of the pearl. In theological terms, the pearl is associated with purity and perfection, especially for its flawless and unblemished whiteness—qualities most often attributed to the Virgin Mary. All this however, connects with the brightness and purity of light itself, the most precious and valuable “substance” on earth, something considered divine and not in the hands of man. We have to realize that when speaking of light, until electricity, the only kinds of light known were that of the sun and fire. Both are constantly changing, one on a daily cycle, the other by the moment. Fire, oil lamps, and candles all give a light which is continuously in motion, as if alive, on objects that can reflect it.

Nature and its abundance of gifts depend on light and its effects on all other bodies. Light is the main natural substance that makes everything else exist and have a visual presence. Since light can hardly be physically held or touched and can only be perceived, its presence and value is measured through the materials that best reveal it. The Byzantines recognized the importance of light and its effect on objects, which led to the qualities most appreciated in materials in Byzantium: reflectivity, luster, shine, iridescence, and so on. The art of creating objects of value was to bring together or to combine carefully selected materials with light.

The tenth-century encyclopedia/dictionary the *Suidas* defines light (φῶς) in the following way to explain its perfection, transparency, and splendor and the energy it transmits to all things:

For light is energy and perfection with the property of being transparent. Light is not distinguished by anything else but by its appearance. Thus light is the energy of the transparent, in so far as it is transparent itself, this is its nature and its perfection. Given the fact that transparency exists in latent form, as soon as light came into being and took shape and perfection, light made itself actively transparent. . . .

This means that every physical body that receives the clearness of light, when it falls on something smooth and glistening, it acts in such a way that it reflects the same clearness, as for example on silver and on mirrors and water and many other things. For this reason then the moon receiving the light of the sun illuminates things here (on earth). This we call the light's reflection (φωτὸς ἀντανάκλασιν), which activates the same energy from those that receive it as from those that have (can produce) it [Bekker 1854:s.v. φως].

How well the Byzantines understood the value of light's reflective and dynamic properties, and how effectively they were used to their best potential, not only on portable objects but also on large-scale surfaces such as marble revetments, is best exemplified by the awe-inspiring experience one had when entering the great church of Hagia Sophia. Once again, Prokopios described in few words the effectiveness of the materials applied in its interior. Hagia Sophia, he says, "abounds exceedingly in gleaming sunlight. You might say that the [interior] space is not illuminated by the sun from the outside, but that the radiance is generated within, so great an abundance of light bathes this shrine all around" (Mango 1972:74).

NOTES

.....

1. The figures in this type of source have to be taken with reservation, since from the outset they were most likely exaggerated to impress, a practice that continued over the centuries.

2. Additional examples are: *The Road to Byzantium: Luxury Arts of Antiquity*, eds. F. Althaus and M. Sutcliffe, London: Fontana, 2006; *Trésors de Byzance : manuscrits grecs de la Bibliothèque nationale de France*, Paris: Bibliothèque nationale, 2001.

3. I am limiting my discussion to works of art produced with materials found in nature and not manmade, although I will not discuss ivory here. All works clearly were made by human hands, but my differentiation is, for example, between glass mosaic tesserae or enamel work and a marble piece or a pearl.

4. Another contemporary, Paul the Silentiary, the court poet of Justinian, is more specific in his naming of the marbles, which his audience must have recognized from the location of their provenance. He is more flowery in his choice of words in his description of the marbles used in Hagia Sophia: "The iron with its searching tooth has quarried for use green slabs from *Carystus* and gathered in a harvest of many-colored marbles from the *Phrygian hills* some rosy to see mingled with misty white, others gleaming softly with flowers of purple and of silver. There is a wealth of porphyry too, uplifted, that once filled a riverboat on the broad *Nile*, and now shines bespangled with bright stars. You may see the flashing emerald of the *Laconian rock* and the dazzling marble with mazy veins, which the deep gullies of the *Iassian heights* have sent, showing slanting streaks of livid white and red. From the cliffs of *Lydia* comes the stone whose pallid flowers mingle, intertwined with scarlet, and near by is gleaming jasper shining with yellow gold, which the *Libyan* sun has nurtured in the steep clefts of *Moorish hills* and warmed with golden light. There are marbles from the icebound *Celtic mountains*, on whose black-shining flesh pools

of milk seem to have been of milk seem to have been spilt at random, running this way and that; and precious onyx pale with transparent metal . . . all is assembled here in mingled grace” (see Wright 1936:229–230).

5. The secondary spaces of Hagia Sophia have suffered when their marble revetments were used as spoils in various mosques built in Constantinople after the Turkish occupation.

6. Most likely, this is one of the copies made for distribution to high officials of the court on that day. The decision to strike such an object instead of casting it might have depended on the desire to have each copy be pristine, with sharper detail and a limited edition.

7. The added pearls around the central medallion are not exactly attached according to the Byzantine system, which would have required stringing them like a necklace on a wire which was applied on the metal cross. But the effect is very similar and is close enough to give the same attention to the important location of the True cross relic.

8. Another special place for the use of gold in Byzantium was in mosaic tesserae on the vast wall surfaces of churches and palaces. There, gold leaf in a highly developed technique was “sandwiched” between two layers of glass and was applied on the walls, creating an otherworldly feeling inside those spaces. In a similar way, gold was applied as background to icons and manuscript illustrations to evoke a heavenly space. This is however a separate topic that should be addressed in a different paper.

9. Examples of such references can be found in Epiphanius of Cyprus, *Homilia V, In laudes S. Mariae Deiparae (dubia aut spuria)*, PG 43, 489A/D, 496B/C; Proclus of Constantinople, *Oratio VI, De laudibus S. Mariae*, PG 65, 753A, *Oratio V, De laudibus S. Mariae*, PG 65, 720C; Basil of Seleukeia, *In SS. Deiparae annuntiationem*, PG 85, 436A; Photius of Constantinople, *On the annunciation* (I, §7), ed. Laourdas, Ὁμιλία, 61:3–5, *Homilies*, V, p. 121; Leo VI, *In B. Mariae annuntiationem*, PG 107, 24D–25A, *In Christi nativitatem*, I, PG 107, 36D; and Symeon Metaphrastes, *In lamentationem SS. Deiparae*, PG 114, 213D.

10. Lippard (1984:91–96) cites Michel Balard, *Genes et l’Outre-Mer* (Bratiana, Actes des Notaires geneois), where slave transactions were recorded by Lamberto di Sambucco at Caffa in 1289–1290. From this he gives the price of a male slave at about 380 *ab* and a female at about 420 *ab* (1 *ab* equals 1 *kipchak dhiram*). Thus the value of one flawless pearl was that of 10 slaves. For this reference, I would like to thank Anthony Watson.

CHAPTER 18

.....

FIGURINE FASHIONS
IN FORMATIVE
MESOAMERICA

.....

RICHARD G. LESURE
UCLA

ABSTRACT

.....

Small figurines of fired clay are the most widely recognized material trait of the Formative period in ancient Mesoamerica, the era spanning the first two millennia of sedentary life (1800 B.C.–A.D. 200). The figurines are depictions of people, but their most striking characteristic is exuberant stylistic variation. In comparison to other objects considered in this volume, Mesoamerican figurines had little “value”—yet they appear to have been the subject of lively “evaluation” by Formative villagers. I draw on the sociology and semiotics of fashion to propose a new understanding of the social causes of stylistic variation, which I read as a record of choices between alternative ways of making and thus as a record of aesthetic evaluation.

INTRODUCTION

.....

Small figurines of fired clay are probably the most widely recognized material trait of the Formative period in ancient Mesoamerica, the era spanning the first two millennia of sedentary life. Most common are solid figurines less than 20 cm in height. They are hand modeled and, in subject matter, mainly anthropomorphic. At a few famous sites such as Tlatilco and Chupícuaro, figurines appear as burial offerings, but their most common context of archaeological recovery is as broken pieces in domestic debris. A striking feature of these figures is their exuberant variety, much

of it apparently stylistic—in the sense of alternative ways of making—rather than in any obvious way related to differences in subject matter (Figures 18.1–3).

I consider this stylistic variation to be a record of aesthetic evaluation. My topic of inquiry is the social significance of that record.

There are two obvious problems with any application of the terms “aesthetic” and “value” to Formative figurines. First, both are usually applied to objects of distinction—intricately crafted or made of precious materials—that would have had the basic function of legitimizing social hierarchies. Figurines were not objects of that sort. George Vaillant, pioneer in the stylistic analysis of Formative figurines, was a great champion of their “value”—for the archaeologist in search of chronological markers. As for the original status of the objects, he noted that “their frequency in common household *débris* shows them to [have been] little

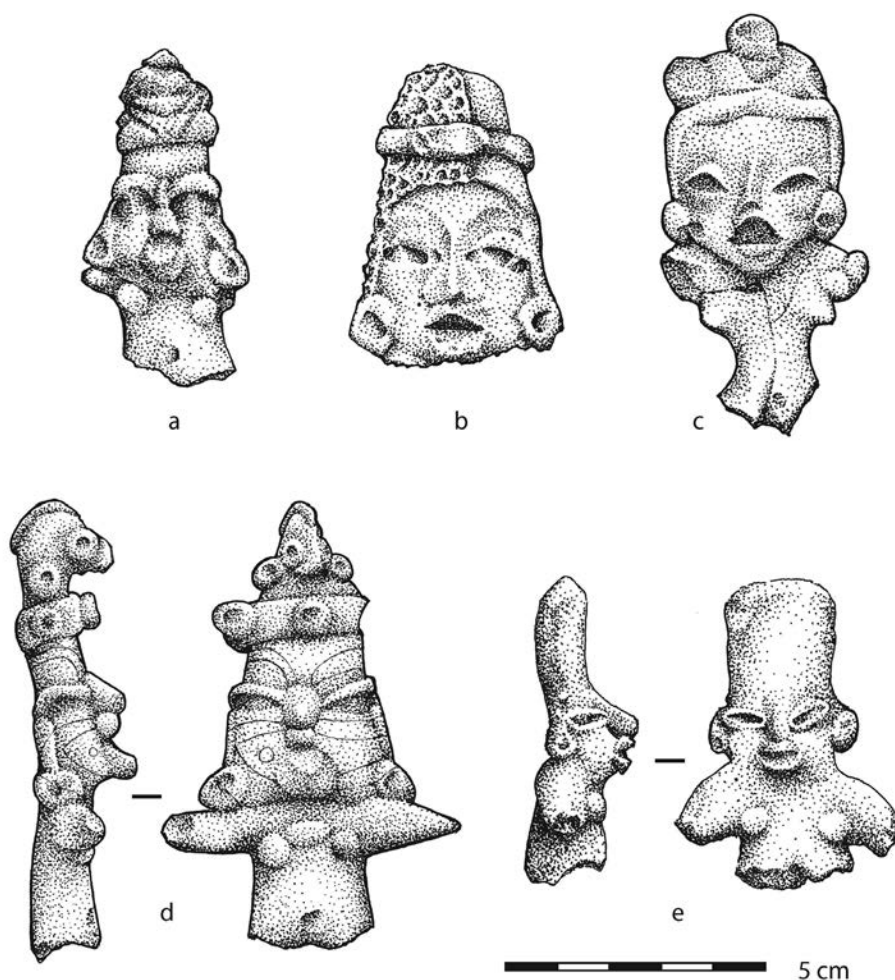


Figure 18.1. Distinctive styles of figurines from central Tlaxcala, Mexico, 900–400 B.C.: (a, d) Cuatlapanga type; (b) Coaxomulco type; (c) Ehco type (Mesas variety); (e) Amomoloc type (drawings by Jeremy Bloom).

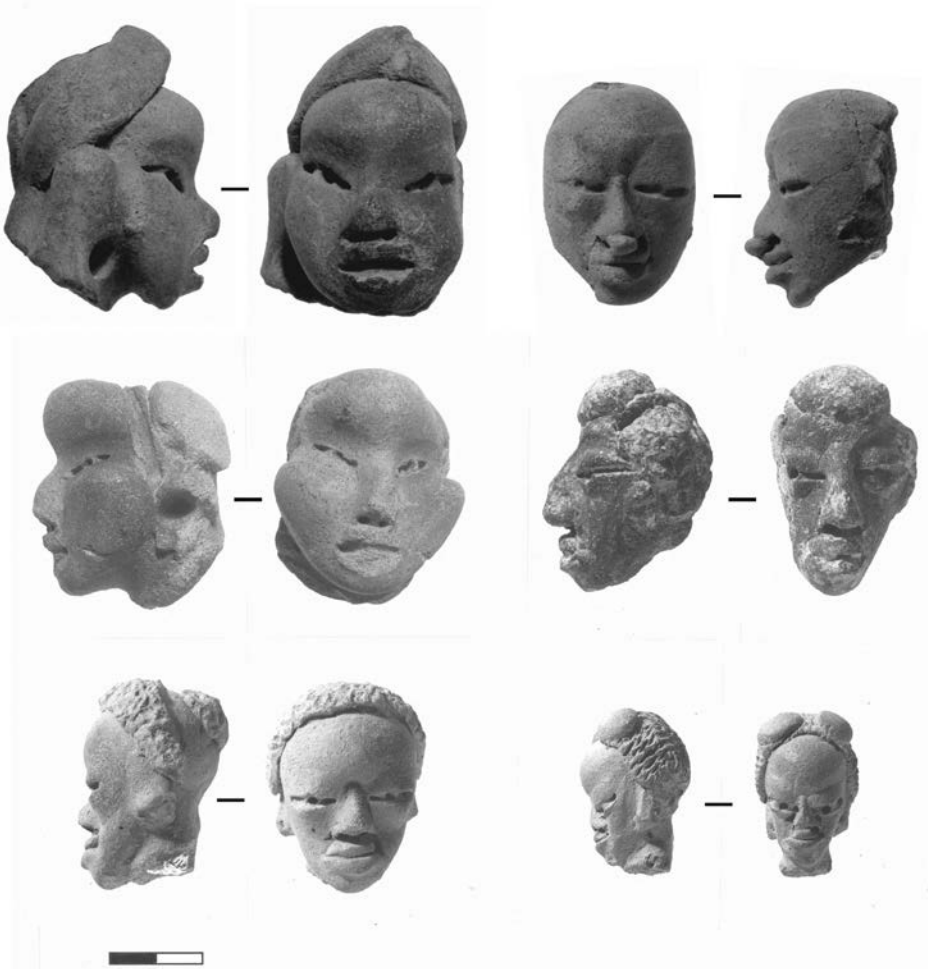


Figure 18.2. Distinctive head styles of figurines from Paso de la Amada, Chiapas, Mexico, 1500–1300 B.C. All are classified as the Nicotaca type, but they vary considerably in the form of the face.



Figure 18.3. Type D fired-clay figurines from burials at Tlatilco, Mexico (drawn by Alana Purcell, after photos in García Moll and Salas Cuesta 1998).

valued” (Vaillant 1931:36). Certainly, time and attention went into the fashioning of figurines, but these were common household objects. They were not treated or disposed of with any particular care. Their use lives were probably measured in months or a few years (not days), but there is no indication that they acquired rich social biographies.

The second problem is one of the possibility of knowledge. If figurines did not have significant object value in any of the most obvious senses of the term, we are basically left—to the extent that we insist on pursuing questions of value at all—with aesthetic value. It is noteworthy that modern observers react to these objects aesthetically. Vaillant, though making clear that the value of the figurines was fundamentally heuristic, noted that his type D had great “charm . . . according to European aesthetic ideals” (Vaillant 1931:34; see also Coe 1965:26). As he traced chronological interrelationships between types, he occasionally ventured certain aesthetic assessments. Type E represented “a degeneration” of the plastic techniques of type B, whereas type F represented “the worst executed group” of its era and was, simply put, “ugly” (Vaillant 1931:46, 52, 59). These naive (and rare) lapses by Vaillant help underline the subjectivity of the responses invited by the objects. If aesthetic value is fundamentally subjective—an interior phenomenon of thought and feeling—then is it not inaccessible for much of the ancient world, particularly when we leave the palace for the dirt-floored hut?

The first of these two problems may not be such an impediment after all. Porter (this volume) lays out the logic for a concept of aesthetic value that ranges across multiple domains of experience, including ordinary ones. In my conclusions, I will consider briefly how the present study might be relevant to such a project.

The second problem is more immediate. I see little possibility for insight into the subjective experiences of people’s engagements with figurines in Formative Mexico. It may be possible, though, to posit that there were such (unknowable) experiences and to consider their social implications. Figurines, after all, were objects, and aesthetic responses to them would have occurred in concrete situations. Further, those responses would have prompted actions, such as choices between one or another way of making figurines—choices, in other words, between styles. Stylistic variation as a record of choice is thus relevant to an investigation of aesthetic value, even if the content of original subjective experiences is lost to us.

That perspective provides no easy solutions for the social interpretation of style in Formative figurines. I review the three most obvious approaches to be gleaned from previous studies of these objects. Each proves wanting, and I go on to propose an alternative inspired by the semiotics and sociology of fashion. In terms of the larger concerns of this volume, my specific argument on figurines should be regarded as unstable. I have come to it quite recently after several years of puzzling over how to interpret stylistic variation. Still, I will attempt, at the end, to draw out certain general conclusions pertinent to an investigation of value in the ancient world.

FORMATIVE FIGURINES

The Formative period in Mesoamerica spans approximately two millennia, from 1800 B.C. through A.D. 200 (all dates in calendar years). My examples are drawn from the late Early Formative (1400–1000 B.C.) and Middle Formative (1000–400 B.C.).

Small, solid figurines of fired clay are common across much of Mesoamerica for much of the Formative, though of course with considerable variation in details, including cases in which the objects in question are absent altogether. More rare than solid figurines are larger, hollow figures, usually 15 to 40 cm tall (Blomster 1998, 2002) but ranging up to 70 cm (e.g., Lesure 1999b). These were likely a functionally distinct class of object from solid figures, even if find contexts provide no definitive demonstration of that claim. Still more rare, and clearly objects of esoteric elite activity, are small figurines of jadeite or other greenstone, known mainly from unprovenienced museum collections but in a few cases from archaeological contexts. Although I will refer occasionally to greenstone and hollow ceramic figures, my focus here is on the small solid ceramic figurines (henceforth simply “figurines,” unless otherwise specified) that are so common in excavated collections.

The original uses of these objects are not known with any certainty, a point that prompts me to resolve here at the outset to avoid basing interpretations of stylistic variation on any specific claims concerning use. It is not that there are no promising ideas. Indeed, I would be surprised if actual uses did not fall *somewhere* within the territory well delineated in discussions going back to Vaillant. Contexts and disposal practices indicate that they were not votive offerings or cult paraphernalia. One common idea is that they were objects of household ritual—not a far-fetched suggestion but vague and not really a functional classification. Marcus (1998) suggests that Formative figurines from Oaxaca were depictions of ancestors propitiated by women in household contexts. Other suggestions are that they were paraphernalia of life-cycle rituals (Cyphers 1993) or else toys. I have recently proposed that figurines were, most broadly, aesthetic objects—a house became a home with the addition of a few figurines—that nevertheless always held the latent potential to be activated ritually in the pursuit of the concrete concerns of household members (Lesure 2011:152–155). An alternative would be to set aside debate over specific uses and opt for a more abstract characterization (Faust and Halperin 2009:8–9). Figurines could have been material points of reference in the negotiation and reproduction of social relationships (Lesure 1997:228), and they may have played a role in the constitution of people as thinking, feeling, acting subjects (Joyce 2000:38).

CASES CONSIDERED

.....

I will draw on two empirical cases that provide rich material for exploring the implications of stylistic variation. The first case is defined by its geographical limits: the large region of highland central Mexico in which the types discussed by Vaillant occur. The late Early Formative figurines of this region are spectacular (Coe 1965; Niederberger 1976, 1987, 2000; Tolstoy 1989) and include the Tlatilco burials (García Moll et al. 1991). I also draw on my own work on the figurines of the first millennium B.C. from two small subregions, the Western Basin of Mexico and, 90 km to the east, central Tlaxcala. My evidence for the Western Basin derives from an examination of 350 head and body fragments from Vaillant's excavations at Zacatenco, now housed at the American Museum of Natural History in New York. That for central Tlaxcala is from a study of 769 figurine fragments recovered in my own recent excavations. The central Mexico case is important for my purposes here because of its lengthy succession of readily distinguishable styles.

My second case is figurines in "Olmec style." In this instance, chronological rather than geographical boundaries are primary. Small solid ceramic figurines in what I consider Olmec style occur only in the late Early Formative and primarily in the earlier part of that period (approximately 1400 through 1200 cal B.C.). In contrast to the first case considered, they are not confined to any single region.

A few words on what I mean by "Olmec" are necessary. Mesoamericanists have used the term to refer both to a complex of formal and iconographic attributes of the period 1400 to 500 B.C., distributed widely but unevenly across Mesoamerica, and to the people who at that time lived in the southern Gulf Coast, the area in which the key elements of the style were most likely invented (or at least drawn together into a coherent package). In the second usage, the people of the Gulf Coast become "Olmecs." The circularity and loose logic begotten by a dual usage of this term have long been recognized (Grove 1989), and it is clear that one usage should be chosen. My choice is for the stylistic-iconographic complex, since this coherent cluster of attributes deserves a name.

The Olmec stylistic-iconographic complex¹ found expression in various objects and materials, including large, freestanding basalt sculptures; reliefs in stone; greenstone figurines, masks, and other paraphernalia; decorated pottery; ceramic figurines; and other ceramic objects such as cylinder seals. Olmec attributes of both form and subject matter are differentially distributed across these categories, but attributes found in one of those—in our case, solid ceramic figurines—are identifiable as Olmec because they also find expression in at least some of the others.² In the case of solid clay figurines, linkages to other anthropomorphic sculptural forms, including monumental stone, small-scale stone, and hollow ceramic, are important (Blomster 2002, 2009; Cheetham 2009; Coe and Diehl 1980; Cyphers 2004; Follensbee 2009). Such considerations yield the following attributes as the expression of Olmec style in figurines: a distinctive naturalism; an oblong head,

often bald, typically bending slightly to the back toward the top; eyes formed with narrow slits, usually without pupils; and a mouth trapezoidal in overall form, sharply downturned at each end, with a flaring upper lip (see Figure 18.4). One observation to which I will return below is that solid ceramic figurines with these “Olmec-style” features—and thus with strong links to the larger Olmec complex—appear only very early (especially 1400 through 1200 B.C., perhaps dribbling on to 1000 B.C.), even though the larger complex persists in recognizable form in some regions through around 500 B.C. Another pattern that makes this a key case for consideration here is that while the Olmec style was probably first applied to the modeling of figurines in the southern Gulf Coast, virtually identical figurines rapidly appeared at sites hundreds of kilometers away, where they often coexisted with styles that had more localized distributions (Figure 18.5).

UNDERSTANDING VARIATION IN FORMATIVE FIGURINES: THREE MODELS

Glancing back across the history of scholarship on Formative figurines, it is possible to perceive three basic approaches to the interpretation of differences among them. These approaches provide a starting point for any attempt to understand stylistic variation. A *chronological* model understands figurine styles to be passive chronological or ethnic markers. In the *naturalistic* model, style becomes being: “Olmec” figurines depicted “Olmecs.” These days, differences between figurines are usually accounted for in *political* terms. Though that approach tends to focus on subject matter rather than style, there is, at least at first glance, considerable potential relevance to contemporaneous juxtapositions of distinct styles. I briefly consider each of these as a framework within which we could try to make sense of stylistic variation.

The Chronological Model

Building on the earlier work of Clarence Hay, Vaillant classified figurines from three sites in the Basin of Mexico (Zacatenco, El Arbolillo, Ticomán) and a fourth in Morelos (Gualupita) using a two-level, alphanumeric system comprising some two dozen types (Vaillant 1930, 1931). The Hay–Vaillant classification, with important modifications by Niederberger (1976) and particularly Reyna Robles (1971), is still in use today across a large swath of highland central Mexico, including the Basin of Mexico, Morelos, much of Puebla, and Tlaxcala. The types are fundamentally stylistic, and Vaillant engaged in the sort of analysis appropriate to stylistic variation. For instance, he attempted to place types into series of changing forms and to locate them in a larger landscape. Thus he suggested that type D originated in the southern Basin, arriving at the site of Zacatenco as a trade item. Types thus become

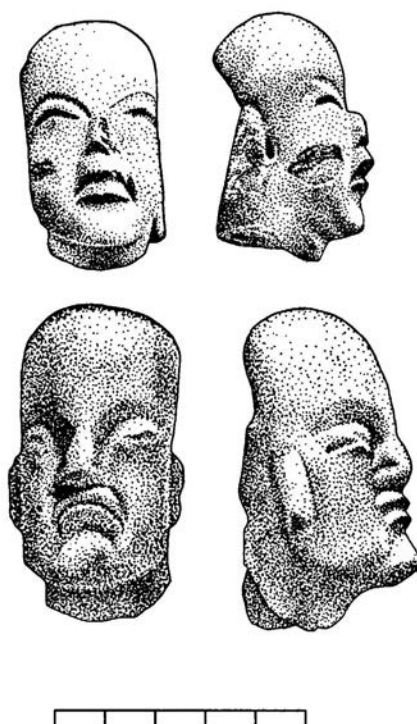


Figure 18.4. Olmec-style ceramic figurine heads. Top: Mazatán region, Soconusco. Bottom: San José Mogote, Valley of Oaxaca, Mexico (drawings by Richard Lesure, after Marcus 1998:figure 10.8:40, and collections of the New World Archaeological Foundation).

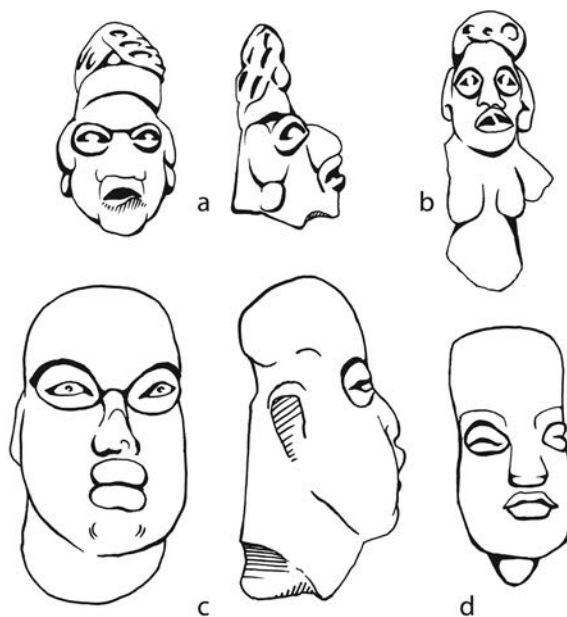


Figure 18.5. Distinct fired-clay figurine styles from San José Mogote, Valley of Oaxaca, Mexico, in use contemporaneously: (a–b) local style of San José phase; (c–d) Olmec style (drawn by Alana Purcell, after photos in Marcus 1998).

chronological and ethnic markers. Stylistic change was a record of changing local tastes. Intermediary forms allowed types to be linked together into multiple series of gradually altering forms. The appearance of intermediate pieces also documented population stability. Stylistic disjunctions, by contrast, indicated the arrival of a new ethnic group bearing its own traditional figurine style.

It is of course easy for us to see here the limits of traditional culture-historical archaeology as an interpretive framework. As scholars have become disinclined to read variation as a history of invention, diffusion, and migration, the Hay–Vaillant system has been applied in an increasingly sterile analytical activity: one sorts a collection into groups of similar pieces and then inserts each group into one of the Hay–Vaillant cubbyholes. The procedure places the collection pretty reliably in time, and there interpretation ends.

It is clear that there is a strong chronological component to stylistic variation. There is also some relevance to Vaillant’s passive “ethnic” component: generally, as one moves farther from any given point, stylistic differences accrue until eventually few similarities remain. Yet that is far from the whole story. In the case of central Mexico, some “types”—robust, replicable suites of stylistic attributes—are shared across 100 and even 200 km, while others have much more restricted distributions. Further, even though a single “type” usually predominated, the contemporaneous use of two or more distinct “types” in the same community appears to have been a regular occurrence. There is scope here for a social archaeology well beyond the chronological model.

The Naturalistic Model

A naturalistic model for the interpretation of variation among Formative figurines actually predates the chronological approach. Spinden (1922:51–55) noted that these images were a source of “ethnological” insight, recording the use of various articles of clothing, ornaments such as nose rings, and body paint. The idea that figurines provide a glimpse into what Formative villagers looked like (or what kinds of things they did) is a persistent interpretive theme (see, e.g., Coe 1965:45, Marcus 1998:35–38). At issue there is usually the *subject matter* of the figurine (for example, a woman playing a flute), not the manner in which that subject is depicted—in other words, not style.

Occasionally, though, scholars have raised the possibility that what at first seem to be stylistic differences might actually have referenced human physical types. In central Mexico, Covarrubias (1957:27–28) suggested that “one group of types (C3, C5, and its derivatives B and F) represents people with thick bodies, short extremities, and frog faces,” while types in another group (C1, C7, C9, and D) “show people with delicate features—large, slanting eyes, small, turned-up noses, and fine mouths.” The idea, in other words, is that the form of these images provides information on the physical appearance of their referents. Few scholars have

followed that suggestion for types of the Hay–Vaillant system—probably because these appear to be decidedly what Ernst Gombrich (1985 [1963]) called conceptual rather than illusionist or realistic images. In Gombrich’s formulation, artists create conceptual images based on what they already know about their subjects. Illusionist images, in contrast, correspond more closely to what is to be seen in the referents; the artist strives to create an illusion of the real (Gombrich 1985 [1963]; for recent commentary, see Pasztory 2005:180–183; Summers 2003:19–20).

It is therefore not surprising that Formative figurines that most clearly invite a naturalistic explanation of stylistic features are those that famously stray from the “conceptual” toward realism: Olmec figurines. The issue is whether the suite of features (Figure 18.4) that constitutes Olmec style in figurines might record the physical appearance of people from the southern Gulf Coast—the appearance, in a formulation I reject outside of this and the next paragraph, of “Olmecs.” In particular, the form of the head appears to be a realistic depiction of a particular type of head deformation (tabular erect) actually practiced in Formative Mesoamerica (Cheetham 2009:160–161; Coe and Diehl 1980:392; Lowe 1994:116). Following this line of reasoning to its most obvious logical conclusion—which I should emphasize is *not* a direction that contemporary scholars follow—we could wonder whether stylistic variation involving the appearance of Olmec-style figurines alongside figurines in different styles (Figure 18.5) signals the commingling of “Olmecs” and “non-Olmecs,” in other words, visitors from the Gulf Coast and other people among whom they traveled or resided.

Now, a head shape achieved by deformation at a very young age follows an individual throughout his or her life. So if head deformation practices and resultant adult head forms varied by region, visitors or immigrants might indeed “look different” from locals. How likely, though, are such differences to have been registered in figurines? That whole chain of logic is uncomfortably essentializing—it would seem to lodge social identity in physical appearance instead of recognizing its contextual and strategic malleability. Evidence remains anecdotal, but it appears that, although Olmec-style figurine heads probably do reference tabular-erect head deformation, the actual distribution of that practice across Mesoamerica was wide enough, and complex enough, to undermine any simple equation between figurine head forms and the heads of actual people.

A spectacularly deformed skull from the minor Pacific coastal site of Pampa el Pajón looks strikingly like Olmec figurines (Lowe 1994:figure 7.4), but it dates from several hundred years after the period in which (ceramic) figurines seem to be naturalistic depictions of such heads—and of course the site is not on the Gulf Coast. Among the Tlatilco graves—which do (partially) overlap the era of “Olmec” figurines in the sense of Figure 18.4—tabular-erect (and thus “Olmec”) head deformation was virtually universal.³ Based on photos in García Moll et al. (1990), none of the figurines associated with the Temporada IV burials was stylistically “Olmec.”

We can set aside any simple application of the naturalistic model for understanding stylistic differences among figurines.

Still, there is another sense in which naturalism may be relevant to understanding the particular case of Olmec style: the contrast between Olmec realism and the “conceptual” qualities of most Formative figurines. Care is needed here. Gombrich was drawing on a nineteenth-century legacy when he recognized but a few “islands of illusionist styles”—classical and neoclassical Western art and the Chinese landscape tradition—in “the vast ocean of ‘conceptual’ art” that included everything else (Gombrich 1985:9 [1963]; Summers 2003:20). Pasztory (2005) adds Moche (Peru), Ife/Benin (West Africa)—and Olmec. She dismisses the idea that realism takes generations to master. In the Olmec case it occurred early, in the midst of ongoing production of conceptual forms. She finds realism particularly in certain large sculptures that likely depict rulers, and she suggests that an illusionist style, in the midst of conventionalized styles, would have appeared a dramatic invention, “a form of mysterious and miraculous knowledge and therefore also a form of power. Such power belonged to the ruler and his circle and was not available to others” (Pasztory 2005:186).

Pasztory does not mention ceramic figurines, but there would appear to be the basis here of a more sophisticated naturalistic approach to stylistic variation. Instead of trying to link style and physical appearance, we could look for contrast between realistic and conceptual images and pose the question of whether realism was a statement of social power. Certainly, that line of argument fits in with many interpretations of Olmec-style artifacts, particularly those appearing outside the Gulf Coast. Pasztory (2005:186) observes:

Conceptual art focuses on the denotative features of the face—the eyes, nose, and mouth—but however detailed they are, they remain abstract if the intervening areas are not developed. The illusion of reality is created by modulating and developing the “insignificant” intermediate areas of the cheeks and eye sockets and situating the features within them.

That characterization seems to capture the qualities of Olmec style in figurines (Figure 18.4) and the reason they are so striking among more common figurine styles. There is, however, a worrisome observation to be made about this line of argument. Olmec features akin to those of Figure 18.4 persist throughout the lifetime of the Olmec complex—from 1400 through 500 B.C.—in relief carving (San Lorenzo, La Venta, Chalcatzingo), stone masks, even greenstone figurines (La Venta, Chalcatzingo). All these objects are associated with esoteric elite activities, and they would support the association of Olmec style with social power. The problem for us here, though, is that this same Olmec style has a much briefer period of use in ceramic figurines.

The Political Model

.....

These days, most attempts to make sense of differences among Formative figurines in social terms—I am thinking here of differences observable at any one site in any one time period—develop a version of what I will call the political model. One basic idea is that what is depicted on figurines, and what is left out, reflects discourses of power, discourses in which social relations were created, negotiated, and contested. The focus of attention is usually attributes of subject matter rather than style. For example, Rosemary Joyce (2000:28–38) considers the nakedness of Formative figurines. She convincingly argues that this should not be taken as an indication that people wore little in the way of clothing (as has been repeatedly suggested under the naturalistic model). Nudity should instead be regarded as a deliberate theme, along with youth, ornament, and elaborate headdresses. What these figurines record is the social display of beautiful young bodies, sexually neutral or female. The making and display of these objects—with their “selective inscription . . . of specific gestures as typical of persons with particular sexual organs”—may even have helped naturalize gendered subjectivities (Joyce 2000:38). Differences between figurines thus had implications for the small-scale politics of everyday social relations.

While arguments along these lines generally focus on the subject matter of the figurines, stylistic differences are occasionally implicated as well, particularly for the late Early Formative, when figurines in Olmec style appear at widely separated sites, often alongside stylistically distinctive figurines. Although their arguments differ considerably, Blomster (2009) for the Mixteca Alta, Marcus (1998) for the Valley of Oaxaca, and Clark and Pye (2000; also Clark 1990) for coastal Chiapas all read stylistic variation at this time as political in content, reflecting new discourses of power in situations of emerging social inequality. Pasztory’s discussion of conceptual and realistic images enriches these considerations, revealing that juxtaposed styles may be substantively different but also stylistic in different ways. Olmec realism, contrasted with a conceptual local style, might have lent greater authority to figurines’ references to social power. Such reasoning makes sense. There is, however, one significant problem for this line of argument. If Olmec-style sculptures and greenstone figurines continued to reference supernatural sanction and to legitimate social hierarchies for—at least in some places—hundreds of years after 1000 B.C., why was the style everywhere so ephemeral on the small solid ceramic figurines? Could there have been some process driving change in figurines that trumped the continuing political associations of Olmec style?

I have previously elaborated at length on the larger theoretical interest of juxtaposed types for the political model (Lesure 2005). Coexisting types are regularly rich enough in distinctive attributes that they arguably constituted alternative conceptions of humanness. If a predominant type inscribed a set of social stereotypes, then could a minority type have presented an alternative version? New types should

have provided opportunities to contest, however incrementally, the status quo of gender, age, or rank inscribed in figurines.

Finding that logic very persuasive, I have devoted considerable effort to eliciting relevant evidence from two collections of figurines from central Mexico (the Western Basin of Mexico and central Tlaxcala, first millennium B.C.). Comparison of results in the two cases proves helpful in sorting localized from regional trends. To my (initial) dismay, no convincing evidence emerged to support the idea that contemporaneous types provided vehicles for contesting the selective inscription of social attributes. There are gradual changes over time in how social subjects are depicted, but the coding of age, posture, gesture, and sexual attributes is similar between types at any one time. Further, there is typically little in the way of structured relations between iconographic attributes. In the Cuatlapanga type from central Tlaxcala (Figure 18.6), there appears to be a binary coding of “female” and “male” (the first far more common than the second). Surprisingly, “females” and

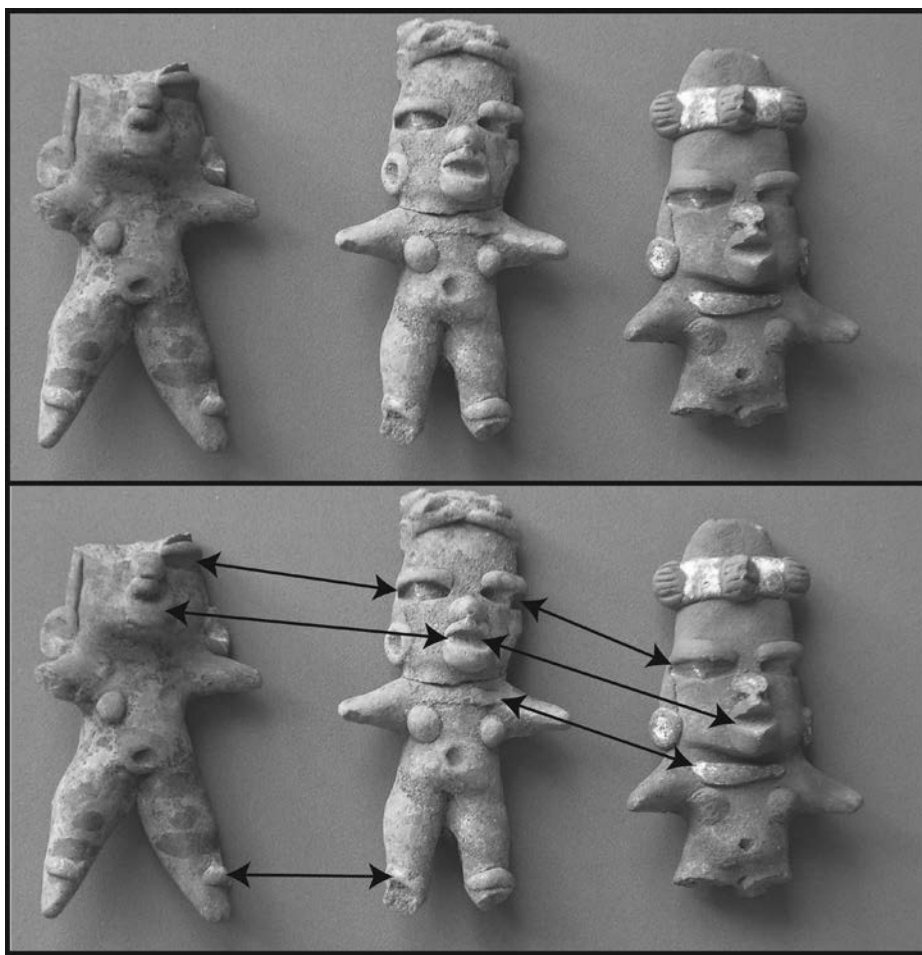


Figure 18.6. Figurines of the Cuatlapanga type, central Tlaxcala, Mexico. Top: three figurines. Bottom: the same image with some of the strong redundancies in features indicated.

“males” are depicted with the same sorts of body ornaments and apparently (though sample sizes are small due to fragmentation and erosion) similar headdresses and patterns of painting on the body. Again and again, both within types and between types, attempts to find patterning among attributes of subject matter end in a frustrating muddle.

The picture changes completely if we shift our attention to stylistic attributes. Attributes such as paste color, overall formal conception, and the specific form of eyes, noses, mouths, ear-spools, chest ornaments, and legs exhibit strong coherence within types and sharp differences between types. Sometimes contemporaneous types appear to be based on radically different generative rules. For instance, the monothetic Cuatlapanga type in central Tlaxcala is characterized by extreme redundancy and a rigidly stereotyped conceptualization of the human form (Figure 18.6). The Coaxomulco type, contemporaneous with Cuatlapanga from about 725 through 650 B.C., is polythetic in that any two figurines match each other in some traits but not others; traits were borrowed liberally from other types (Figure 18.7). While Cuatlapanga was rigid, redundant, and inward looking, Coaxomulco was fluid and omnivorous, an eclectic stew of borrowed attributes.

The juxtaposition of these two sorts of figurines does look like a contest, but what was contested was not a hegemonic social status quo. The contests were over style—how a figurine should be made, not what it depicted. It is as if figurine makers were not particularly concerned with subject matter. In central Mexico during the first millennium B.C., the references of figurines seem to have been *other figurines* more consistently and emphatically than any specific social subject. That finding is



Figure 18.7. Figurines of the Coaxomulco type, central Tlaxcala, Mexico.

a great disappointment from the standpoint of the political model and is of concern for any effort at social interpretation. If figurines referenced other figurines, do we have here a closed loop in which interpretation is impossible?

STYLISTIC VARIATION AS FASHION

In the chronological model, figurine styles were treated as gradually changing conventions, with no particular interpretive value beyond their archaeological worth as chronological and ethnic markers. While the political model has tended to associate stylistic variation with the interpretive sterility of narrow-minded culture-history, I have argued that the logic of the political model should apply also to stylistic difference. Yet contemporaneous, internally coherent, strikingly different types in central Mexico do not seem to have been vehicles for negotiating or contesting hegemonic versions of social reality. Further, the Olmec style was as ephemeral among ceramic figurines as any other style, even as it continued to signify supernatural sanction and social power in greenstone figurines and monumental sculpture. It is as if there was some process propelling constant change in figurine styles, a process that trumped any overt display of politics. What could that process have been?

For the remainder of this paper I explore the possibility that there might be more to be made interpretively of the chronological model's assessment of figurine style as gradually but constantly altering custom. To do so, I turn to studies of fashion, considering signification, diachronic patterning, and mechanisms of change.

"Fashion" as Signified

Among figurines of the first millennium B.C. from central Mexico, attributes cooperated to prompt the viewer not toward subject matter but instead toward the form of one figure in relation to that of others. In other words, the way a figurine was made seems to have been more important to the original makers and users than its manifest subject matter. One problem here is that if figurines referenced other figurines, we would seem to have something of a closed loop. How do we interpretively put *people* back in here? Roland Barthes's semiotic analysis of fashion resonates with my analysis of central Mexican figurines and provides a first step toward interpretation.

One of the questions Barthes grapples with is: If clothing is considered a signifier, then what would be the signified? His comment in an early paper that "a raincoat protects against rain, but also and indissociably, it points to its status as raincoat" (Barthes 2005:42 [1960]) seems relevant to us here, since I have more or less been arguing that while Formative figurines depicted people, they even more emphatically pointed to their own status as figurines. To develop his observation, Barthes turns to fashion magazines—that is, written fashion. One theme he finds there is the construction of a mythical signified, a utopian world in which some combination

of clothing is needed for spring, for a cocktail party, for a late supper (Barthes 2005:42–43 [1960]; 1990:20–21 [1967]). Yet there are many cases where fashion writing identifies no such specific signified. What, Barthes (1990:21 [1967]) wonders, is the signified in the passage: “a waist-length bolero for a turquoise shetland suit cut high at the neck, elbow-length sleeves, and two fob pockets on the skirt?” His answer is that the signified here is implicit—it is *fashion* itself.

I think it is Barthes’s focus on written fashion instead of clothes actually worn that leads him to fail to emphasize that such a combination of signifiers (waist-length bolero, etc.) points to fashion by way of its similarities or contrasts with other combinations, real or imagined. The raincoat, in pointing to its status as raincoat, references other raincoats. The basic structure of signification of fashionable clothing therefore seems to have rather more similarities to what I have argued for figurines than might appear at first glance in Barthes’s analysis. His identification of “fashion” as an implicit signified is thus of interest in the effort to do something interpretively with figurines that mainly referenced other figurines. Could we posit an implicit signified that would lead us back to social interpretation?

Diachronic Structure

Fashion dictates what is to be worn now, but next year the fashionable will be wearing something else, and when we look back at what people wore 20 years ago, we wonder how they could possibly have found that attractive. A key element of fashion, then, is continual change in taste. How can a realm of material culture with such rapid turnover be relevant to ancient Mexican figurines?

It turns out there are long-term rhythms even to contemporary, rapidly changing fashions and that a reasonable place to begin discussion is with the anthropologist Alfred Kroeber. He first published on the topic in 1919, but his definitive work was a 1940 collaboration with Jane Richardson that built on the earlier study. Richardson and Kroeber (1940) chose women’s evening dress because stability of function, lack of utilitarian concern in design, and a long history of illustrations made this an ideal case for inquiry into the inherent dynamics of style. Anthropologists who sniff the stale odor of the superorganic here will be startled to learn that a recent review of a quantitative study of fashion change in the *Home Economics Research Journal* cites or mentions Kroeber more than 50 times (Lowe 1993).

Richardson and Kroeber (1940) measured several variables (width of skirt, length of skirt, and so on) and found long-term oscillations from minimum to maximum and back to minimum lasting approximately a century—skirts were at their fullest around 1749 then again in 1860; their length was at a minimum in 1811 and again in 1926. Fashion, they concluded, had its own rhythms of change that were longer than the life of any individual. They considered the extent to which large-scale historical causes (revolutions, wars) affected fashion trends and drew a conclusion that seems obvious but has too often been ignored. Historical forces do affect fashion,

but not directly. The Napoleonic Wars did not cause dresses to have high waists. Fashion responds to historical forces in terms of its own rules and patterns (see Kroeber 1957:19; Richardson and Kroeber 1940:147–148).

Barthes (2005 [1966]) was a fan of the Richardson and Kroeber study, which he viewed through the lens of the three temporal rhythms of the *Annales* historians. At the largest of scales are basic clothing forms that persist across centuries—the kimono in Japan, the dress in Europe. At the intermediate scale of conjunctures are the cyclical patterns discovered by Richardson and Kroeber. At the smallest of scales there is variation in patterns of dress between one year and another. Lowe’s (1993) review likewise distinguishes between fashion changes over months/years, now usually studied through the “product life cycle” approach, and changes over decades/centuries; Lowe focuses on that longer (conjunctural) scale. She finds there are regularities and that those do take the form of cycles. Still, the quest initiated by Kroeber (1919) for deterministic models of these changes should be set aside in favor of stochastic models (Lowe 1993:303).

How does all this relate to figurines? Richardson and Kroeber’s observations on how social forces impact fashion are important and I will return to those. What, though, of temporal structure? Figurine types in first-millennium B.C. central Mexico seem to have followed a temporal rhythm at or just below what can be resolved by radiocarbon dating—approximately a century, sometimes somewhat less, sometimes more. Their temporal structure is therefore similar to the conjunctural scale observed in fashion change. What appears to be absent among the figurines is much in the way of a smaller scale of variation. Most people living in central Tlaxcala between 900 and 400 B.C. would have used the same main “type” of figurine their whole life, though they would probably have encountered a gradually changing mix of minor types. Some people, though, would indeed have experienced dramatic changes, and it seems likely that teenagers would usually have quite different figurines than their grandparents would have used when young. Change, in other words, was regularly within the realm of human memory and experience, but only barely so. This point enjoins caution about how relevant fashions in contemporary clothing might be to understanding Formative figurines. Certainly, most writers on fashion locate it in clothing and see it as a uniquely Western phenomenon of the last two centuries.

Herbert Blumer’s Sociology of Fashion

My final source of inspiration from the study of fashion is a wonderful article by the sociologist Herbert Blumer (1995 [1969]). While he accepts the general notion that fashion is a contemporary Western phenomenon that indeed is likely to increase in importance, his vast expansion of the scope of social arenas that exhibit fashion (most pure and applied arts, entertainment, medicine, mortuary practice, academic disciplines) and his insistence that fashion may be operating without the conscious

awareness of participants (Blumer 1995:379, 387–388 [1969]) undermine the sense that it is necessarily a uniquely Western phenomenon. Of particular interest is that Blumer sketches a general model of the conditions in which fashion should occur, the mechanism of its operation, and its larger social import.

Blumer argues against the pervasive idea among social scientists—recalling for us here the positions of both chronological and political approaches to figurine style—that fashion is of little social consequence. After all, fashion wields significant social control: “It sets sanctions of what is to be done, it is conspicuously indifferent to criticism, it demands adherence, and it bypasses as oddities and misfits those who fail to abide by it” (Blumer 1995:379 [1969]). Blumer also undermines a common sociological explanation of fashion as class differentiation that goes back to Thorstein Veblen’s *The Theory of the Leisure Class* (1899) and to Georg Simmel’s (1957 [1904]) trickle-down explanation in which middle classes imitate fashions of the elite, prompting the elite to abandon those modes in favor of new ones. In Blumer’s alternative formulation, *collective selection* (animated by the need to be in fashion), not class differentiation, is the key to fashion. Elites play an important role, but “the efforts of an elite class to set itself apart in appearance takes place inside of the movement of fashion instead of being its cause” (Blumer 1995:384 [1969]). In the framework of collective selection, fashion can be seen to play an important role in societies undergoing rapid change. The continual movement of fashion helps detach people from the restraints of the past. Fashion instead inculcates dispositions oriented to the immediate future. Yet its limits on variability hold off anarchy to provide a source of order and stability in a present that is always in motion (Blumer 1995:391 [1969]).

Blumer (1995:388–389 [1969]) identifies six conditions necessary for the emergence of fashion. In the arena in which fashion emerges, there must be (1) an orientation toward revision of old forms and adoption of new ones. There must be (2) competition generated by a recurrent presentation of new models, (3) relative freedom of choice between models, and (4) no utilitarian difference between models such that their relative merits could be subjected to a decisive test. There should be (5) prestigious persons whose choices among models carry weight. Finally, the arena should be (6) open to effects from a changing social world—from, for instance, historical events, the introduction of new participants, or the changing content of social relations. In such circumstances, people’s choices will converge on certain models, but the chosen models will continuously shift over time. Choices by high-status individuals will be influential but only to the extent that they are perceived to have made the right choices given ongoing developments. Prestige figures are particularly concerned to be “in fashion,” since they have more riding on that perception than the rest of us.

Could conditions of this sort have been operating in the arena of figurine making in Formative Mesoamerica? Certainly, there was (4) no utilitarian difference to the various models for the making of figurines. There also appears to have been (2) a

recurrent presentation of new models, though of course at a pace decidedly more languid than that of contemporary fashions. Judging from the contents of individual pits filled with domestic garbage from my sites in central Tlaxcala, at any one time, in any particular community, one model (“type”) usually predominated, but other types were often present in smaller numbers. Some of those are mere flickers in the record, while others would eventually replace the dominant model. Given such patterns, it would make sense for there to have been (1) an orientation toward revision and (3) relative freedom of choice, but we have no specific evidence bearing on those points. It would also make sense if (5) the choices of prestige figures were influential, even as they themselves strived to ensure that they were perceived to be up to date. Figurines do not seem generally to have been more common at high-status than at low-status households (e.g., Gillespie 1987:265), but among the Tlatilco graves, figurines formed a more important part of the total offerings of wealthy female graves than of poorer graves (Lesure 2011:128–129). Finally, given continued uncertainty about what figurines were actually used for, we cannot bring any evidence to bear on (6) openness to effects from a changing world, except for what we observe on the figurines themselves—and the observation that the social world of Formative Mesoamerica was changing rapidly by preindustrial standards.

One way to approach this lack of certainty about whether Blumer’s account of the fashion mechanism might apply to Formative figurines is to ask: If we assume that it holds, would it help to explain otherwise inexplicable patterns among the figurines? A consideration of the Olmec style suggests that this “fashion model” holds promise.

The ephemeral impact of Olmec style in small solid ceramic figurines, even as it continued in use in the more esoteric forms of large sculpture and precious jades, is a puzzle from the standpoint of a trickle-down theory of status markers. Once the Olmec style trickled down to the masses in the form of domestic items such as figurines, we would expect the elite to have been on to something new. Instead, Olmec style trickled down to figurines and dried up, while elite usage continued.

Certainly, the communities that adopted Olmec-style figurines were societies in movement. Population was growing, and social relations were becoming more complex (by proliferating in kind) and increasingly unequal. Following Blumer, we might see figurine style as an ever-moving source of stability in a social world that was itself moving. Figurines in this sense would indeed have been an image of the social, but not because they referenced social power or the content of social relations (as in the political model), or even because they depicted people. Like Barthes’s raincoat, figurines pointed to their own status as figurines made in a certain way. Their image of the social was embedded in relations of similarity between figurines, proof that people made figurines the same way—but in a way that looked forever ahead and was continually subject to revision in response to events in the larger social world. Olmec was big, and it had a dramatic impact on figurines, but while the impact may have been political in cause, its expression in figurines was not political

in content. The impact was not perhaps different in kind from the impact of the discovery of Tutankhamen's tomb on American fashions in the 1920s.

Critique of Blumer, and an Unrealized Project

Blumer's 1969 paper has been influential and widely cited, but it is 40 years old. What has been going on more recently in the sociology of fashion? Most recent work is much narrower in focus, emphasizing the construction of identity at small temporal scales. That sort of work, interesting as it may be, is not relevant to us here. Fred Davis (1991:17) concludes that "Herbert Blumer's views on fashion, including his many undocumented ideas of collective selection and collective taste, afford us a better bird's eye view of the broad contours of the fashion process than that of any other sociologist." Still, Blumer did not work out the details of the workings of this process, and he ignored the social psychology of fashion as well as its complex institutional mechanisms. In Davis's assessment, then, Blumer's overarching view of the workings of fashion can still orient sociological investigations of contemporary clothing fashions, but there is much work still to be done on how the mechanisms and processes involved actually work.

The criticism seems fair, though of course such institutional details for modern clothing will likely have little relevance to Formative figurines. I find that Davis's agenda for a sociology of fashion resonates with Richardson and Kroeber's (1940) point that fashion responds to larger social forces according to its own rules and patterns. These two assessments, combined, hint at a potential (future) research program for pursuing the idea of fashion in figurines. Davis's interest in institutional mechanisms serves as a reminder that the use of figurines remains a crucial issue; unfortunately, given a long history of inconclusive debate, I suspect that this will continue to be an intractable problem. Richardson and Kroeber's emphasis on internal rules and patterns may provide a more productive focus in the short term. No one has systematically scrutinized multiple cases of juxtaposed, contemporaneous types to see what they might (or might not) have in common. What was at play in these stylistic contests? Are there patterns to be found that might allow us to move from figurine styles to a more detailed understanding of the social forces that affected them?

CONCLUSIONS

Formative figurine styles (except "Olmec") are usually treated as passive ethnic or chronological markers or are ignored altogether in favor of attributes of subject matter (including sex, age, role, posture, gesture, and ornament), with their clear social referents. Given the exuberance of stylistic variation (Figures 18.1–3), evidence for the contemporaneous use of multiple styles, and my argument that juxtaposed styles were contests over how to make figurines—contests in which subject

matter faded into the background—the social interpretation of stylistic variation becomes a task of considerable interest. But how do we begin?

After experimenting with the most obvious existing approaches, I have turned for inspiration to studies of fashion. I have only begun to develop the relevant argument here, but it seems clear that Formative villagers maintained a lively interest in how figurines were made. At some times, in some places—central Mexico may be an extreme in this regard—figurines referenced other figurines much more emphatically than they did their social subject matter. Following Barthes, we might suppose that these cross-references pointed to an implicit signified, and Blumer's analysis helps flesh out some of its content. A central component was the desire to be current in the choice of figurine style. Multiple options were usually available, but collective choices converged such that people mainly used very similar figurines, even as they maintained orientations open to the presentation and eventual selection of new models. Blumer's assessment of such patterns—as providing a source of stability, disentangled from the strictures of the past, in a society in movement—is attractive and seems plausibly applicable to the Formative case. Under this analysis, we would expect that large-scale political developments could dramatically (if ephemerally) impact people's choices without figurines themselves being effectively political—and that scenario does seem to accord with the archaeological record of changing styles.

One impediment to calling on the concept of aesthetic value for the study of Formative figurines is that the former is so often associated with the refined vision of an elite or the competitive processes of status differentiation. The values of things become indices of the social values of their users. Such themes seem absent from contests over figurine styles. It is interesting, in this light, that a simple trickle-down model of status differentiation is one of the few hypotheses that, in Lowe's (1993) assessment, is refuted by recent quantitative analysis of clothing fashions. Blumer's alternative logic is welcome for the analysis of contemporary fashion (Davis 1991), and it seems to hold promise for the study of Mesoamerican figurines. Could this kind of orientation toward collective choice—in which elites are placed inside the system and their anxieties over “getting it right” are emphasized—be more widely applicable to a broad conception of aesthetic value?

Certainly, any expansive approach to aesthetic value poses considerable challenges for studies of the ancient world, especially when we move into the realm of prehistory. My analysis has been animated by the observation that the aesthetic reception of artworks is situational and leads to action. A viewer is confronted by two works (or ways of making) and chooses between them based on qualities of the objects. A whole series of questions follow. What is the outcome of that confrontation? What are the viewer's criteria of choice? What are the viewer's goals? In what social circumstances were such criteria (or goals) formulated? Why is “choice” the course of action followed by the viewer? All these questions are broadly relevant to the fine arts, yet they are woven here into my inquiry into the low art of figurines.

In terms of the general goals of this volume, such questions can be seen as focusing on one narrow dimension of object value—subjective evaluation of the physical qualities of made objects. I suspect it will prove useful to distinguish between this and other dimensions of object value—objects as indices of social relations, object biographies, supernatural presence in objects—because each dimension prompts distinct questions. Even though the ultimate goal would be to synthesize multiple dimensions, it may prove useful to separate them during the course of analysis. Finally, humble objects like Formative figurines, which seem to have been the subject of lively “evaluation” even though they had little “value,” may prove helpful in the effort to isolate the component dimensions that are so complexly intertwined in many of the objects considered in this volume.

NOTES

.....

1. It is usually easier to say simply “Olmec style,” but in this paper I am reserving the term “style” for a more narrow usage, referring to the way figurines are made. The Olmec complex includes as well a characteristic subject matter.

2. There are many alternative approaches to the question of what is “Olmec.” Recent collections of papers include Benson and de la Fuente 1996; Clark 1994; Clark and Pye 2000; and Uriarte and González Lauck 2008.

3. Among burials recovered in Temporada IV there were 141 cases of tabular-erect deformation, 7 cases of tabular-oblique deformation, 9 cases without deformation, and 51 cases in which no determination could be made (Salas Cuesta et al. 1989:272).

CHAPTER 19

.....

FROM RATIONAL
TO RELATIONAL:
RECONFIGURING VALUE
IN THE INCA EMPIRE

.....

TAMARA L. BRAY
WAYNE STATE UNIVERSITY

ABSTRACT

The modern Western notion of value carries much economic baggage and arguably privileges the matter of value over the spirit of value. In line with what has recently been characterized as the “ontological turn” in anthropology, this paper takes the nature of value as the initial and essential problematic. Rather than according ontological priority to either abstract notions of value or intrinsic properties of objects, I suggest that we approach value as both relational and situated. Adopting a relational theory of value directs us toward consideration of the personal, social, and aesthetic contexts within which such relations are constituted and expressed. It also recognizes that value to be realized must be embodied, that value is always comparatively constructed, and that value rather than comprising an either/or quality typically registers on a gradient. To illustrate these theoretical concepts, I provide a discussion on the materialization of value in the context of imperial Inca society, highlighting the hierarchical and relational nature of valued objects in the late pre-Columbian Andes, as well as the reflexivity between social and material categories of value or worth.

INTRODUCTION

The term “value” combines a number of seemingly distinct senses that complicate our understanding and use of it. “Value” as a noun encompasses both social and economic dimensions of worth, as in the value of friendship and the value of gold.

In this sense, the value of something is typically conceived as an inherent property of that thing. The term “value” also includes the notion of meaning in the structural linguistic sense of meaningful difference, as in the value of F-sharp in music or the value of the word “blue” in the English language. In the plural, “values” entail socially agreed upon principles and standards of morality, while as a verb, “to value” involves the act of assigning absolute or relative worth. The privileging of any one sense of “value” over another clearly affects the approach one takes to working conceptually and theoretically with this term.

In anthropology and archaeology, it has been the economic sense of “value” that has been primary since the late 1970s. The dominance of this connotation has arguably foreclosed other avenues of theoretical engagement with the concept. From Jochim (1976) to D’Altroy and Earle (1985) to Appadurai (1986a, 1986b), economic theories of value deployed over the past 30 years have consistently taken market forces, rational behavior, and *Homo economicus* as their common starting points. In archaeology, the costliness of resources—measured in various permutations of scarcity and distance—has been the point of departure for a variety of analytical approaches, including site catchment analysis, energetics, and game theory, that have sought to explain human behavior (e.g., Abrams 1994; Higgs 1975; Kohler and Gummerman 2000). The main critique of this orientation—which can be associated with the substantivist position—concerns the appropriateness of projecting neoclassical economics, personal self-interest, and the profit motive onto all people from all times and places—especially those of the precapitalist past (e.g., Hodder 1982b; Polanyi et al. 1957; Sahlin 1972). Here I want to reengage with the concept of value from a possibly less ethnocentric point of view in which the notion of *worth* is privileged over that of *price*, recognizing the locally constituted rather than universally given basis of value when taken in this sense.

The aim of this paper, then, is to recuperate and reconfigure the concept of value in a way that decenters the formal economic perspective and reincorporates the additional senses of the term noted above. By doing so, I seek to expand the notion of value rather than leaving it in its reductive dollars-and-cents semantic state (see also Voutsaki 1997). To this end, I will focus on three key conceptual sites: the ontology of value, the relational nature of value, and the concreteness of value. I hope that consideration of these theoretical points will prove useful in our efforts to discern how the premodern, non-Western peoples who inhabited the archaeological past may have conceived of, instantiated, and deployed ideas about value. To illustrate the theoretical concepts presented, I provide a discussion on the materialization of value in the context of imperial Inca society during the late pre-Columbian era in the second half of this paper, emphasizing its hierarchical and relational nature as well as the reflexivity between social and material categories of worth.

ONTOLOGY OF VALUE

To approach the theme of object value, it is important to first consider what we understand to be the nature of value, or what value *is*. Putting the ontology of value before the epistemological issue of how we go about identifying it seems a logical way to proceed. It is important to recognize at the outset of the discussion that there can be different ontologies of value, particularly across the great temporal and cultural divides that separate us from our archaeological subjects, but also even in contemporary society. The plurality of possible ontologies of value relates to different ways of understanding the world and the stuff of which it is comprised. In the history of philosophical discourse on ontology, there have been numerous compelling yet radically disparate opinions put forward on the nature of being, existence, and reality, ranging from Aristotle to Siddhartha to Einstein. I mention this to underscore that a plurality of understandings regarding the kinds of things that exist or can exist in the world, and the manner of relations they may have to one another, is not only possible but also probably natural and inevitable given the different historical and cultural situated-ness of different observers and thinkers. In our efforts to probe the value systems of past societies, then, perhaps the best we can do is to be as broad-minded as possible in our application of the concept.

One of the fundamental questions with respect to the ontology of value is whether things are valuable because we value them or if we value things because they are inherently valuable. This is a question that has particular currency today within the modern ecology and environmental movements but is relevant as well for the present discussion (see Devall 2001; Drengson and Inoue 1995; Villka 1997). Those who subscribe in general to the notion of intrinsic value see it as something objectively given—as having an existence independent of any particular subject or “valuer.” From this perspective, the giant sequoias of California’s redwood forests have value simply by virtue of their own magnificent existence, not because a few have been cordoned off by the state and declared worthy of protection. A giant redwood would be held in equal esteem regardless of who beheld it or where it grew, be it in California or Cameroon. Conversely, the nature of value is understood as subjective if it owes its existence or validity to the fact that someone or some subject thinks it is good, worthwhile, desirable, or useful. This latter view corresponds in some ways with the notion of instrumental value. Within this framework, the California redwoods might be construed as valuable for the shade they provide, the oxygen they generate, or the board feet they could yield, all notions dependent on the judgment of a given subject. Value in this sense is understood as a feature of the appraiser and not of the thing being valued—that is, not as inherent in the thing itself.

Here I want to advocate for a third way of thinking about the nature of value—one in which value is construed as a process rather than a property. Borrowing from the ethics literature, I offer the label “relational theory of value” for this third way

(Richards 2005). Within this ontological framework, value is created through the interaction between subjects and objects and is thus neither a static nor a universal property or thing. This approach aligns to some degree with the work of Simmel (1990 [1907]), who also argued that value has no fixed, objective, or transcendental determinants. For Simmel, value is relational insofar as it emerges within the context of exchange between individuals—for example, what a buyer is willing to give up to get something else (Cantó Mila 2005). Missing from Simmel's discussion, however, is a consideration of the objects that embody the value thus created—why a particular object might be desired over another of similar functionality—and due concern with the material aspects of value in general. For these reasons, Simmel's notion of value, though also described as relational, does not substantially coincide with ideas discussed here under the same rubric.

To give but one example of the relational approach to value as articulated in the philosophical literature, we can consider the status of color—an issue that has long puzzled those who view value as a property and who work within a dualist, subject-object framework. Typically, color has been construed as a secondary property of objects, different from primary properties such as form and size that are held to exist independently of the observer. While it is generally agreed that physical objects have color, the color of an object is nonetheless dependent upon the observer. Thus, while everyone agrees that a banana is yellow, it is not yellow in absolute darkness or to a blind man. Richards (2005) has suggested that a simple solution to the “duality of color” problem—that is, of color as being in both the object and the subject—lies in the recognition that color is relational and relative. In other words, it lies in recognizing the fact that an object has a particular color (or value) only relative to a certain perceiver under certain conditions. In logical terms, this relational schema is rendered as follows: “W is color X for Y in context(s) Z” (Richards 2005). This way of conceiving value would seem to resonate well with the comparative and contextual approach of anthropology.

COMPARATIVE AND EMBODIED NATURE OF VALUE

Adopting a relational stance toward the meaning and construction of value has certain theoretical and interpretive implications for the archaeological study of object value. The first concerns the significance of context. To take the notion of value as something coconstituted in the relationship between subject and object necessitates a dynamic view of what is worthy or important that may be assumed to vary both historically and cross-culturally. Such a position precludes the ideas of transcendental substances or universally valued things and requires instead that propositions about valuable objects be demonstrated contextually.

It also entails a movement back and forth between the idea of value as abstract content and the instantiation of value in concrete form. This follows from Marx's

discussions of value and the notion of the dialectic, as well as from Graeber's (2001) slight reworking of these ideas. In the abstract form, money, tokens, and talismans hold the potential for transforming themselves into objects of desire, or, as Graeber (2001:100) puts it, these things hold the potential for action. Through the act of exchange, such abstract symbols are converted into concrete forms of value. When they are held back or withdrawn from circulation, they hold the potential for such action. For purposes of the present discussion, the key issues here concern the relationship between abstract and embodied forms of value and the comparative and context-dependent dimensions of exchange, rather than specific equivalencies or exchange acts per se. While abstract value holds the potential for realizing concrete value through action or movement, the substances involved do not necessarily embody any inherent quality of value (see Graeber 2001:99–101). Rather, worth or value is negotiated and constituted within a larger social totality that is both culturally and historically informed.

Apart from the significance of context, this discussion also highlights the fact that value is comparative in nature. As Graeber (2001:86) has observed, social theorists of all stripes generally agree that meaning making among humans is a comparative project. In other words, “parts take on meaning only in relation to one another, and this process always involves reference to some larger whole” (Graeber 2001:86). The same is true with respect to how value is constituted and made meaningful—it always, necessarily, involves a process of comparison. A corollary of the comparative and relational nature of value is that it cannot, except perhaps in some extreme or idealized fashion, be conceived in absolute, either/or terms. Rather, value has a certain indeterminacy that is typically expressed in the relative sense of more or less, as in “this object is more valuable to me than that one” in this or that circumstance. These different features of the concept allow us to think in terms of gradations and hierarchies of value. Given that value is often embodied in concrete material form, we could posit that certain object categories might manifest such gradations of value as well (e.g., Lesure 1999a).

In fact, numerous examples of the material expression of graded values can be found in the ethnographic literature, as well as in Western society. These gradients typically occur in specific categories of objects along such dimensions as raw material, size, and color. Perhaps most famous anthropologically are the graded values of shells that participate in the *kula* ring of the Pacific Islands. These range from large, symbolically dense, and inalienable chiefly shells to smaller, symbolically insignificant, and readily exchangeable “plain” shells (Munn 1986; Weiner 1992). Across the ocean, Native American tribes living along the Pacific Coast applied a relative system of classification to a different type of shell—dentalium—wherein shorter ones were considered of lesser worth and “given to women,” while longer ones were highly valued and served as bride wealth and for ceremonial displays (Gould 1966:71–74, 86). In addition to being rated relative to one another, dentalium beads also operated within a larger system of items of personal adornment

that included clamshell beads, pine nut beads, and glass beads, against which they were also evaluated (Gould 1966:74).

In West Africa, the Yoruba distinguish 15 categories of beads along the dimensions of color, size, material, and shape (Ogundiran 2002). The most highly valued beads, associated with royalty, were divided into two groups on the basis of color: the blue-green family made of glass, and the red family of carnelian, jasper, coral, and red chalcedony. The distribution of these beads was the prerogative of the *oba* of Benin, and they were viewed as indices of political status and wealth (Ogundiran 2002). Even in the absence of the ethnographic information cited in these examples, it is quite possible that relative values and status differentials could be inferred within the artifact categories mentioned on the basis of context.

Other object categories that appear to have expressed value along a gradient include stone tools. Among the Chimbu speakers of Papua New Guinea, for instance, small stone axes, 10 to 20 cm in length, were common utilitarian items, while longer axes (20–30 cm) made of the same raw materials were sought-after valuables for the purchase of brides (Burton 1989; Rappaport 1968:105–108). In northern California, large obsidian blades were also highly esteemed as bride wealth, but here color was the important dimension of variation rather than size, with red obsidian being more highly valued than black (Gould 1966:73). Similarly, the Maori in New Zealand produced stone adzes in a variety of lithic raw materials, with greenstone tools being the most highly prized (Lesure 1999a:33–35). As these examples illustrate, the elaboration of formally similar objects that vary along specific dimensions creates a system within which similarity and difference are simultaneously asserted, inviting both comparison and judgments of relative worth. As Lesure (1999a) has previously suggested, such material gradations of value may well have been an important source of metaphors for the ranking of persons within the social realm.

In moving forward with the effort to understand the creation and nature of valued objects, I follow Graeber's (2001:142) argument that the creation of value is really about the creation of people as social beings. Within this framework, "value emerges in action; it is the process by which a person's invisible potency—his or her capacity to act—is transformed into concrete perceptible forms" (Graeber 2001:45). While this idea is close to Marx's theory of value, it is much broader insofar as it encompasses creative human action beyond just that of wage labor. For Graeber, as well as for Mauss (1990 [1925]), forms of value emerge to regulate a process that is ultimately about the creation of certain sorts of people (Graeber 2001:142). From a relational perspective, the creation of such forms of value also necessarily involves the interaction between subject and object within and across the material and social realms comprising the larger social totality. Thus the emergence of distinct categories of persons would reciprocally entail the materialization of such differentiation.

As Mauss (1990 [1925]), Weiner (1992), and others have cogently illustrated, objects of value acquire their significance and meaning in reciprocal relation to the

personal histories and social contexts of which they are part. Chiefly shells could not exist in the absence of chiefs, nor could a desire for them, while a king would not be hailed as such lacking the appropriate insignia. Such special objects create the social category and person as much as they represent them by both reflecting the actions and standing of the individual to himself and compelling certain responses toward him from other social beings.

In what follows, I take the set of ideas outlined above as a framework for the discussion of emergent material and social categories of value in imperial Inca society during the fifteenth century A.D.

THE INCA EMPIRE

The Inca were the architects of the largest empire ever created in the Americas. From their homeland in the south-central highlands of Peru, the lords of Cuzco launched wars of conquest that ultimately led to the subjugation of the entire Andean realm, from northern Ecuador to central Chile. What made this feat all the more remarkable is that it is generally believed to have occurred within the period of three rulers' lifetimes—a span of approximately 100 years (D'Altroy 2002; Rowe 1946). As the last in a series of expansionistic polities that rose and fell in the final millennium of the pre-Columbian era, the Inca may well have benefited from a cumulative store of knowledge about statecraft derived from their imperial predecessors, the Wari and Tiwanaku, which was inscribed upon the landscape and likely, as well, in the memory culture of the Andean populace.

Inca studies have a long tradition of incorporating both ethnohistoric and archaeological information. While the documentary record left us by the Spanish chroniclers has its own set of interpretive issues, it is generally true that our knowledge of the Inca Empire is enriched through the critical engagement of these two basic sources of data. In what follows, I invoke historic accounts of the structure of Inca society in interpreting distinct categories of imperial objects. The artifact categories of interest comprise “families” of objects that vary internally along the dimensions of size, color, and/or material type. I then focus on the archaeological evidence and the objects themselves for insights into the construction of value within this nonindustrial, pre-Columbian context.

The historic sources generally attribute the beginnings of imperial Inca expansion to Pachacuti Inca Yupanqui, the ninth ruler in the Inca dynasty, marking the beginning of his reign at or around A.D. 1438 (Cabello Balboa 1951 [1586]; Rowe 1946:203). Up until Pachacuti's arrival on the political scene, the Inca appear to have been but one of several polities in the Cuzco Valley that had been jockeying for dominance for centuries (Bauer 2004; Covey 2006a). With his “miraculous” defeat of the Chanka—the fierce local rivals of the Inca—Pachacuti is said to have embarked upon a sustained campaign to bring other ethnic groups in the immediate

vicinity of Cuzco under Inca control. In addition to consolidating the Inca heartland, Pachacuti is also credited with inventing the trappings and features of an imperial state government. This purportedly began with the extreme makeover of what was to be the royal city of Cuzco, but it extended to numerous other domains as well (Betanzos 1996:44–73 [1551–1557]; Sarmiento 2007:115–121 [1572]). While this is the conventional account of Inca beginnings, it should be noted that the historicity of this narrative has been challenged by many scholars and remains something of a thorny issue (cf. Duviols 1979a; Urton 1990; Zuidema 1964, 1990).

Inca scholars suggest that the dynastic history of the Cuzqueños was created by and thus essentially begins with Pachacuti. Julien (2000) has argued that the construction of a history worthy of the imperial ambitions of the Inca was a fundamentally self-interested and exclusionary undertaking that involved the reworking of certain principles of kinship and descent. Her research suggests that the marriage arranged by Pachacuti between his son and successor Topa Inca and Topa's full sister Mama Ocllo constituted the beginning of a new way of reckoning royal status (see also D'Altroy 2002:103–106).

This new prescription of brother–sister marriage for the royal lineage would have had the effect of conferring upon Pachacuti's descendants a double dosage of “specialness” or “holiness” (a quality and status recognized by the title *capac* in the language of the Inca), as it would now be transmitted through both the matri- and patri-lines (see Julien 2000:23–48). This system was in contrast to the previous model, in which royal status was determined through the father's line alone. It is clear from the documentary sources that prior to Topa Inca, Inca rulers married noblewomen from non-Inca groups in the Cuzco area, probably in the interest of alliance formation (Cabello Balboa 1951 [1586]; Sarmiento 2007 [1572]; Silverblatt 1988). The new way of calculating status had the immediate effect of creating a division between the progeny of rulers who predated Pachacuti and those who came after him, all of whom were nonetheless Inca. Status and ranking were further complicated by the fact that the Inca emperor had many wives and consorts in addition to the queen, with whom he also produced children.

Pachacuti's dictum on royal marriage could be the root source of the distinction between “Incas by birth” and “Incas by privilege” found in later interpretations of Inca social structure, though various other hypotheses have also been put forward to account for this division (see Bauer 2004; McEwan et al. 2002; Zuidema 1990). However, it is clear from the number of terms and titles that refer to nobility in the Quechua vocabulary that there were many more than two types of noble status recognized within Inca society (Julien 2000:266–268). For instance, there was *sapa Inca*, which means “unique king” (Betanzos 1996:123 [1551–1557]); *Inca apu*, which meant “lord of the Inca” (Sarmiento 2007:191 [1572]); *t'ogrikuq apo*, or imperial governor (Cabello Balboa 1951:chapter 20 [1586], cited in Julien 2000:145–146; Rowe 1946:263); *suyoyoc apo*, another level of imperial governor (Cabello Balboa 1951:chapter 20 [1586], cited in Julien 2000:145–146); and *guacchaconcha*, who

were the offspring of Inca lords and ethnic women and considered to be “nobles of the common sort” (Betanzos 1996:71–72 [1551–1557]). In addition, there were hereditary local lords (*kurakas*) and newly elevated state functionaries (*yanakuna*) to be reckoned with in the burgeoning imperial matrix.

In both the juridical and the political sense, these various categories seem to represent gradations of social ranking rather than sharp divisions between groups. I suggest that the proliferation of new social categories that began to emerge in the context of the imperial project launched by Pachacuti may be discernible in the creation and gradation of new symbols of value linked to the Inca, and that such items in turn may have served to objectify degrees of differentiation within the new social order. In what follows, I survey several categories of objects known to have been associated with the imperial state and consider each in terms of function, context, and materiality. The review indicates that many categories of imperial artifacts were enhanced or expanded along different dimensions to create new families of forms that were recognizably related yet internally distinct. Such intensification in the material realm appears concomitant with developments in the social sphere pointing to the coconstruction of social and material categories of worth in the late pre-Columbian Andes.

INCAIC OBJECTS OF VALUE

One of the preeminent material symbols of the imperial Inca state was the drinking cup known as the *kero* (Figure 19.1a). Such cups comprised essential elements of state-sponsored feasting and ritual events and, as detailed by Cummins (2002), constituted important symbolic agents in Inca political and social discourse. The particular form of this vessel self-consciously references a notable component of the ceramic assemblage of the Tiwanaku, imperial predecessors of the Inca who dominated the southern Andes during the Middle Horizon (ca. A.D. 400 to 1000) (see Julien 1993:190–199; Valcárcel 1935). Within the Tiwanaku state repertoire, these tall cups were one of the most highly embellished vessel forms and clearly played an important role in feasting events (Janusek 2003:56–82) (Figure 19.1b). In reproducing this vessel type as part of their own imperial ensemble, the Inca materially located themselves within a historical system of meaning and values, thus creating a vertical gradient of comparison.

Interestingly, while the majority of *keros* dating to the Middle Horizon seem to have been produced in clay, those associated with the Inca are known to have been manufactured in a variety of media, including wood, silver, and gold, as well as clay. In line with the theoretical orientation outlined above, I would argue that the elaboration of materials used in the manufacture of Inca state drinking vessels can be viewed as relating to both the creation and reification of new categories of social persons and statuses emerging during the Late Horizon (ca. A.D. 1400–1532). The



Figure 19.1. Straight-sided drinking cups known as *kero* in the Quechua language: (a) carved wooden *kero* of Inca affiliation (height: 12.7 cm; Metropolitan Museum of Art, catalog number 1994.35.11); (b) ceramic *kero* associated with the Tiwanaku culture (Proyecto Rescate de Chen Chen, 1995; specimen number 307052; curated at the Museo Contisuyo, Moquegua, Peru; photo courtesy of Bruce Owen).

use of such objects in public contexts would have provided a material expression of the gradation of value correlating with the burgeoning number of hierarchically organized categories of persons participating.

The idea of graded difference is suggested for a number of other vessel types in addition to *keros*. Indeed, the chroniclers comment on the fact that different status groups used serving vessels made of different materials during the time of the Inca. Cobo (1964:243 [1653]), for instance, reports that the plates generally used by Andean peoples were made of dried calabashes, clay, and wood, while “the table service of the noblemen and chiefs were made of silver and gold.” Figure 19.2 illustrates a variety of Inca plates, originally found in archaeological contexts, indicating the range of materials in which they were produced. Similarly, the tall-necked Inca jar commonly referred to as the *aribalo*, while known today almost exclusively as a ceramic vessel, was also apparently fabricated in precious metals (for instance, there is one silver *aribalo*, in the collections of the Museum of the Central Bank of Ecuador in Quito [catalog number MBC-1-23-70]). Post-conquest inventories and bills of lading from the sixteenth century indicate that gold and silver *aribalos* were among some of the earliest shipments sent from Peru back to Spain (Archivo General del Patrimonio Nacional 1995; Mathewson 1986).

Another artifact type produced in a variety of media were miniature figurines often associated with the Inca ceremony known as *capaccocha*. One of the most momentous of imperial state occasions, the *capaccocha* was performed in relation to major events in the life history of Inca rulers and often involved the sacrifice of children. At the coastal site of Túcumé, five miniature figurines interpreted as



Figure 19.2. Inca plates produced in various media, including (a) clay (from Mount Llullaillaco, Argentina; east burial 6b; one of a pair; Museum of High Altitude Archaeology, Salta, Argentina); (b) wood (from Cuzco; catalog number 2830; Field Museum, Chicago); and (c) stone (unknown provenience; catalog number 1914-10-9-10; British Museum, London).

capaccocha offerings were recovered from three dedicatory features situated around the main temple (Heyerdahl et al. 1995). The ritually interred artifacts included one silver female figurine in the center pit; one male and one female figurine of *Spondylus* in the east pit; and two female figurines, one of *Spondylus* and one of silver, in the west pit. While the figurines are similar in form and size, the different substances of manufacture created a gradient of comparison and a potential hierarchy of value. In *capaccocha* interments found on Mount Llullaillaco in northwestern Argentina, both of the female victims' funerary assemblages included at least one miniature female figurine made of *Spondylus*, one of silver, and one of gold (Reinhard and Ceruti 2000:60–61). The same pattern is noted for miniature camelid figurines. Two of the offering caches found in association with the burials on this peak contained camelid miniatures, with at least one each of *Spondylus*, silver, and gold (Reinhard and Ceruti 2000:56). While these pieces are found together as sets, rather than uniquely affiliated with specific individuals, the manufacture of identical items across a range of materials may still be construed as referencing a graded series of values and statuses.

There are hints that other categories of Inca material culture may have also been involved in a system of graded values. Though not as well preserved in the archaeological record, there are strong indications of gradations in the fineness of Inca clothing and feather work (Montell 1929:182–184; Murra 1980:65–68 [1956]). There was, for instance, a basic distinction between coarse (*abuasca*) and fine (*cumbi*) cloth within Inca society, with many further gradations in the latter category, reportedly based upon fiber type and dye color (Murra 1962). *Cumbi* cloth woven

of vicuña wool or bat hair, for example, was purportedly limited to use by the Inca emperor, while other types of *cumbi* were in wider circulation among ethnic lords and state functionaries (Murra 1980:66 [1956]).

The standard Inca male head wrap, known as the *llautu*, was said to have been hierarchically ordered by color, with red and blue reserved for the king, yellow associated with the heir apparent, and black for the rest of the population (Montell 1929:223). A metallic headpiece, or *accorasi*, sometimes worn on the front of the *llautu* by the Inca emperor as well as by other members of his lineage, was also reportedly made in a range of materials, from gold to silver to *champi* (reeds?) (Pardo 1953:44–45).

Another important category of material distinction for male members of Inca society was ear plugs. Part of the initiation process for young Inca men involved having their ears pierced to receive ear-spools. Garcilaso de la Vega (1990:86 [1609]) reports that the Inca emperor not only had the largest earlobe holes but was also the only one with gold plugs. He also notes that there “were other people who were initiated in the Cuzco region who were Inca in a broader sense and who wore wool or something else, not gold, in their ears” (Garcilaso de la Vega 1990:40 [1609]). With respect to the accoutrements of noblewomen, there seems to have been a gradation of values expressed in the *tupu* pins used for fastening shawls, which were made of gold, silver, copper, and bronze (Montell 1929:235). In the realm of military paraphernalia, historic sources report that Inca lords wore breastplates made of gold, while the lesser nobility’s were made of silver and ordinary soldiers’ were of copper (Pachacuti Yamqui 1927:174 [1613]). Similarly, the *yauri* (a scepter-like weapon) belonging to the *sapa Inca* was made of gold, while *yauris* of other warriors were reportedly made of copper or silver (Houston and Cummins 2004:380).

The social significance of the grading of object categories by raw material is further illustrated in myth. Vichama, the son of the woman created by Pachacamac, begs his father, the sun, to create new people. On the basis of Vichama’s petition, “the sun gave him three eggs: one of gold from which the kings and lords would come forth, another of silver to produce royal and noble women, and a third of copper to produce common men and their wives and children” (Calancha 1981:931 [1639], in MacCormack 1991:61).

In addition to gradation of value via media and color in categories of imperial state objects, differentiation was also expressed along the dimension of size. For instance, Garcilaso de la Vega (1990:86 [1609]) notes that ear-spools were graded in terms of size as well as material type. Seats, thrones, and stools constituted another object category distinguished along the dimension of size. According to Guaman Poma (1936:455 [1615]), the Inca emperor’s ceremonial stool, or *tiana*, was more than a forearm high and was made of gold, while the stools of paramount lords, which were made of painted wood, stood half a forearm high and those of lesser lords, made of unpainted wood, stood less than two palms high (see also Martínez 1995:75; Ramírez 2005:176). A similar kind of ranking along the dimension of size

is likely expressed in a unique oversize stone ax recovered in an Inca burial on La Plata Island off the coast of Ecuador by Dorsey in 1901 (Figure 19.3).

The variety of examples cited suggests that important imperial symbols may have indeed been produced and organized along gradients of value. The proliferation of new types within specific categories of Inca objects distinguished on the basis of differences in substance, color, and size created new families of objects. The categories of objects selected for elaboration by the Inca were clearly the most highly valued and appear to have been esteemed for specific local and historical reasons. The simultaneous assertion of similarity and difference within these object families invited comparative evaluation and the hierarchical ranking of elements within each class.

Intensification in the production of difference within the material realm during the Late Horizon coincides with parallel developments in the social and political spheres. With the new regulations imposed by Pachacuti on calculating affiliation



Figure 19.3. Oversize stone ax recovered in an Inca burial on La Plata Island, Ecuador, by George Dorsey in 1901 (height 50 cm; Field Museum, Chicago; photo courtesy of Colin McEwan).

and birthright, or perhaps just as a result of the needs of an expanding imperial state, a series of new differentially ranked and hierarchically ordered social categories emerged. The coincidence in intensification noted in both the material and social realms of Inca society suggests that new categories of social status and an expanded range of object values were reciprocally involved in their mutual construction. The creation of graded difference within specific categories of material culture may have been engendered by a need to make manifest new categories of persons, while the elaboration of social hierarchy was dependent upon a concomitant range of appropriate material symbols.

CONCLUSIONS

Value is an elusive concept. While it seems on the face of it a fairly straightforward, universally applicable kind of notion, grasping it analytically has proved time and again rather slippery. Much depends on how one understands the nature of value. The intent of this paper has been to recuperate a broader sense of the notion of value beyond the economic embrace of cost and price. In emphasizing the ideas of worth, worthiness, excellence, and merit also contained within the definition of value, we expand the potential applicability of the term beyond the range of *Homo economicus* to include *Homo aestheticus* as well (Dissayanake 1992). This broader approach to the concept of value is more in line with the anthropological project of exploring how different cultures define and experience the world, insofar as it allows for the possibility of different ways of understanding worth beyond cost-benefit calculations. The relational approach to value advocated here similarly serves to admit the possibility of greater local, cultural, and historical variability.

To illustrate the relational nature of value, as well as the proposed reflexivity between abstract social and concrete material categories of worth, I have discussed objects of value in the context of imperial Inca society, highlighting ways in which families of objects were created by expanding the range of raw materials, size categories, and colors. Amplifying the number of types in this way was interpreted as an expression of the grading of value within the material realm. I suggest that the proliferation of families of valued objects correlates with the historically documented increase in the number of social statuses and categories associated with imperial state expansion. The material gradation of values would have helped to create and reify new categories of status along the social gradient, while the burgeoning social hierarchy within Inca society would have stimulated the production of new forms of objectification. It is in this way that I see the material and social realms of value relationally and reflexively co-constituting one another. In sum, I advocate for greater attention to the comparative, relational, and gradational aspects of value, which I see as key to working with the concept in the anthropological and archaeological realms.

CHAPTER 20

.....

COMPETING AND
COMMENSURATE
VALUES IN COLONIAL
CONDITIONS:
HOW THEY ARE EXPRESSED
AND REGISTERED IN THE
SIXTEENTH-CENTURY ANDES

.....

TOM CUMMINS
HARVARD UNIVERSITY

ABSTRACT
.....

The late fifteenth and the sixteenth century are perhaps a unique historical period, in which the values (numerical, ethical, and economical) of two worlds hitherto unknown to each other (Europe and the Americas) were forcefully brought into relation with each other. Certain values were commensurate, others were completely at odds, but in either case, sets of values of each culture were brought into relief by their encounters with each other. This essay explores how differing values, within their multitude of meanings, could come to reside simultaneously in concept and materiality—that is, in word and thing—in the colonial worlds of Mexico and the Andes, such that there could be a mutual yet possibly competing and sometimes antagonistic set of interests and understandings that could produce differing desires depending on the cultural arena in which it was appraised.

VALE UN PERU

.....

If we include the Inca, the Maya, and so many others in America as peoples and cultures of the ancient world, then the ancient world and the modern world existed simultaneously and unknown to each other in 1491. The values of each ancient world—economic, ethical, moral, quantitative, aesthetic—existed freely, unencumbered, and unchallenged, as if absolute in certainty of history and geography. Then, in less than a wink of Cronos’s eye, the ancient world of the Americas became a New World, as early modern Europe began to expand beyond the classical world of Hercules to place those values in open competition.

Two manuscript illustrations, from sixteenth-century Peru and sixteenth-century Mexico, manifest this temporal and geographic passage within the mythological terms of both ancient worlds and the differing values they came to have in the early modern world. The first image (Figure 20.1, *see color plates*) appears in Bernardino de Sahagún’s *Historia General*, an encyclopedic work about Aztec history, customs, and culture that was ordered to be seized in 1577 by Philip II before it could be completed. Written in both Spanish and Nahuatl, the texts are arranged in parallel columns of mutually unintelligible words—languages with no common linguistic origin. The images are normally interspersed within the column of Spanish text. The full intent of their illustrative function is still to be determined, but at one level they clearly and succinctly mediate between these two languages, which often record different accounts about the same subject.¹ However, before the bilingual texts begin, on folio 1, the gods of the Aztec are depicted. The first image represents the Aztec titular deity Huitzilopochtli. He is identified by his Nahuatl name, written to the left, and the ritual paraphernalia that he wears is described in the text. Nonetheless, to make him at all comprehensible to a European audience, Sahagún has glossed the figure with a text that labels the Aztec god as being another Hercules (“otro Hercules”), as if the two pagan religions were in some way analogous; as if the religion and peoples of classical antiquity were in some fundamental way equivalent to the peoples and religion of the Aztec.

The other image (Figure 20.2, *see color plates*), from Martín de Murúa’s manuscript, begun around 1589 and originally titled *La Famosa Ystoria y probanza hecha de el origen e cri[acion] e primera posesion de los grandes señores Reyes yngas*, also includes a reference to the classical hero Hercules, this time connected with the mythic Inca and the source of Spanish wealth, the mine of Potosí.² The mine, discovered in 1545, transformed the global notion of wealth and value. It was the envy of all other European states and enabled a new global market. In 1600, luxury and violence were the hallmarks of this city of some 200,000 residents, located at an altitude of more than 3,600 meters above sea level.

In the image, we see the mountain rendered rather schematically, as two Andeans appear on the slopes, climbing upward along the paths. The figure on the right slope follows and pushes a loaded llama. The scale of the figures is not proportional to the

mountain; a realistic image is not intended. Rather, this is also an allegorical composition that combines several different images to evoke the connection between Spain and Peru, between the Inca past and colonial present and the ancient legacy of Spain. The figures ascending the mountain are to be read as personifying the human force that extracts silver from the dark interior mine shafts, depicted as a set of crisscrossing black lines set against a dark green background. This last color is deceptive; before oxidation, it would have been bright and shimmering—as actual silver, probably silver from the mine itself, was used to represent the plentitude of Potosí's riches. The allegorical reading of the image, however, is dependent on the figure of an Inca who stands behind and dwarfs the great mountain, embracing the two columns that represent the Pillars of Hercules. While this figure has an allegorical function, it is quite specific in iconographic detail and figural rendering. Dressed in a green *uncu* (tunic) with a V-neck, a red cape, large spool earrings, and the *mascaipacha* (Inca crown), the figure has a strikingly portrait-like countenance. He grasps the Pillars of Hercules, which have crowns placed above the capitals, just as they do in Seville, where they are placed on the walls of the town hall. Above the pillars is written “Plus Ultra.” The Inca, however, enunciates something else: “Ego fulcio columnas eius” (“I hold its columns upright”). That is, the Andeans who produce the new wealth of Peru, by working the mines, are first shown as they march up that horrible hill to extract the silver. This realistic image is superseded in scale and detail by the allegorical image of the Inca, who stands for all Andeans and their imperial past, a past that now supports the Spanish empire. This allegorical image presents no small truth to the intended viewer, Philip II, and the Pillars of Hercules, a part of his royal iconography, are no longer the gateway to the New World. The New World now supports the Old, and without it the pillars would collapse.

The two images, either by analogy or allegory, bring the two ancient worlds together to express visually the two driving energies of the early modern colonial expansion: the intolerance of monotheism and the destructive avarice of merchant capitalism. This is the unique moment of a clash of values and the triumph of one set of values over the other. Sahagún's image is about the imposition of the religious values of Europe. The image of Potosí is about transformation of the Inca understanding of silver, as an expression of the sacred, to the universality of silver in terms of exchange value. As soon as the silver of Potosí entered into this arena of value, it caused inflation in China and Turkey and financed wars around the world. This value is literally incorporated into the surface of the image.

What is of interest, then, for the theme of this volume, is that the values (numerical, ethical, and economical) of the ancient and the early modern worlds were brought into relief by their encounters with each other. It is in part what Franz Fanon meant when he wrote about North Africa's struggles against Europe: “The phenomena of counter acculturation must be understood as the organic impossibility of a culture to modify any one of its customs without at the same time re-evaluating its deepest values, its most stable models” (Fanon 1967:41–42). That

is, values are always at risk in the struggle over power. And, more importantly for this volume, values in all their myriad incantations and what they are understood to mean become revealed at maximum historical points of confrontation as being conditional, arbitrary, and dangerous.

In this often violent encounter, the systems of value of both worlds could be revealed as being not absolute or impermeable. They could, in fact, be commensurate and incommensurate simultaneously and therefore transformative and transformed. Often, of course, the transformative value and the transformation of value was by writ of force, in which one set of values was deemed superior, and therefore superiority was both claimed and realized by the heirs of the ancient classic world. One need only read Anthony Pagden's *The Fall of Natural Man* to understand how Aristotle's hierarchical values for the definition of a civilized society were used to measure New World society—which “surprisingly” came up rather short.

But in this paper I am not so interested in these metavalues—values by which a civilization or culture is consciously defined through the well-articulated reflection of philosophy, custom, and/or law. Rather, I am interested in how differing values within its multitude of meanings can come to reside simultaneously in concept and materiality—that is, in word and thing—in the colonial worlds of Mexico and the Andes, such that there can be a mutual yet possibly competing and sometimes antagonistic set of interests and understandings that can produce differing desires depending on the cultural arena in which it is appraised. I shall concentrate on examples from the Andean world, but similar examples could be found throughout the Americas.

It is important to start with the word “value” itself, what it meant in sixteenth-century Spanish and English and then its Quechua (the language of the Inca) equivalents, as recorded in bilingual dictionaries, before discussing examples of specific things and images, the material arena where values are manifested within a colonial condition of simultaneity. There is no structural hierarchy or causal relationship implied in this order; rather, the simultaneities and transformations I want to address are most easily understood first within an examination of these dictionary entries. Nonetheless, the definition of words should never be thought of in abstract etymological terms. Languages are spoken by people who more or less understand the meanings of words, regardless of the controlling force of a dictionary. For example, Spanish and Quechua and the value systems they express were embodied by the *mestizo* and *indio ladino* (bilingual and bicultural) Andean. There are myriad documents (wills, trials of extirpation, lawsuits) in which the multilinguistic and multicultural value systems are put on public display. In colonial Peru, this condition reached the maximum expression both textually and visually in the person and image of Guaman Poma de Ayala (Figure 20.3). In his 1,000-page illustrated manuscript, *Nueva coronica i buen gobierno*, one sees his own self-presentation as author, dressed in Spanish and Andean clothes, surrounded by the figures of his ancestors, whose

ancient values he seeks to transmit through writing and drawing to his modern audience: the king of Spain. However, what and how these values were defined is at question.

It is therefore important to point out that the noun “value” and the verb “value” have two main meanings in both Spanish and English: principles and worth. Worth is further divided into two different ontological but related categories, the summation of numbers and the quantity of exchange value. I cite, for example, two abbreviated entries from the first Spanish dictionary, *Tesoro de la lengua castellana o española*, compiled by Sebastián de Covarrubias Orozco and published in Madrid in 1611, that are related to the word *valor* (value), a word not defined in the dictionary.

The first term, *estimar*, is defined as “vale apreciar, preciar, ponderar, revenciar” and refers first of all to value in terms of price and summation. The second term, *honra*, is defined as “vale reverencia cortesía que se haze a la virtud”—that is, value as the quality of virtue recognized in the character of a person. In this context of meaning, values of a culture reside in a person; they are personified by the character of a person. These values may be intangible, unexchangeable, but they are collectively held and embodied in individuals, whom we might call heroes. Hercules is the paradigmatic persona of a hero, embraced by the Hapsburgs as expressing their virtues as leaders; hence, the Pillars of Hercules come to represent the exceeding of Hercules himself by Charles V and his descendants.

The Spanish words and definitions found in Covarrubias’s Spanish vernacular dictionary appeared three years earlier in a bilingual Spanish–Quechua dictionary composed by González Holguín (1980 [1609]). They are discussed in Gary Urton’s essay (this volume) in terms of how the quipu was used. These words are not just restricted to numerical calculation, however. I begin with the word *yupani*, a verb:

- *yupani* = *contar y hazer cuentas*: to sum up
- *yupay* = *cuentas*: summation
- *yupana qquelca o qquipu* = *las cuentas por ñudos o por escrito*: summation by quipu or writing
- *yupa o yupay* = *el precio de la cosa, el valor, o estima*: the price, worth, or value of something
- *yupa* = *lo que es contado o tenido por algo, o equivalente y igual*: what is counted or exchanged, or is equivalent and equal (exchange value)



Figure 20.3. “Pregunta El Autor” (“The Author Inquires”), ink on paper (Guaman Poma de Ayala, *El primer nueva coronica y buen gobierno* 1615:366 [368]; Royal Danish Library).

- *yupay yupay* = *la honra o estima o aprecio honoroso*: to honor or hold in high regard or honorific esteem
- *yupayok yupaniyok* = *honarado*: honored
- *yupayçapa o checa manta yupayok* = *honoriadissimo*: highly honored

Immediately, one overriding question comes to mind: How is it that the Quechua noun *yupay* and verb *yupani* express the same disparate concepts of value (summation and esteem) as their Spanish equivalents? Moreover, the Aymara term *haccu* also conveys the concepts of counting, numerical value, honor, and esteem (Bertonio 2006 [1612]). Is this simply a coincidence? Is there an intrinsic relation between summation and moral quality and hence something natural about value that explains this commensurability in the concept of value as defined in the language of dictionaries? Or is there a historical condition, a colonial condition in this case, in which the varying concepts of value as held by two radically different cultures can be seen to reside in the same object and/or practice, even though, within a colonial context, the values of each culture, when brought into relation with each other, may express profound difference and antagonism and even spark aggressive conflict? But the fact that sometimes competing values continue to reside in the same object type and/or practice might, among other things, allow for the study of the origins of practices and things, which allows for the illusory academic practice of ethnographic analogy. That is, there can be commensurate and incommensurate qualities that simultaneously express values and beliefs.

Before examining a few material cases, it is important to remember that as far as we know, there was no market or money in the Andes. Gold and silver, as well as the highly developed metallurgical techniques used by Andeans, were directed toward metaphysical expression (Lechtman 1996). The materiality of gold and silver, in terms of their inherent qualities, such as brilliance and degrees of quantity, could of course be used to express a hierarchy of political esteem within a set of religious and social mores (Cummins 2002). The Spanish discovery and quick exploitation of the rich deposits of gold and silver quickly changed that, and a Spanish expression still used today, *vale un Peru* (worth a Peru), means to hit the jackpot. For the Spanish, this meant first acquiring gold and silver objects from the ransom of Atahualpa and then converting that value to its intrinsic exchange value by melting it down into bullion, by which Charles V, Holy Roman Emperor, could raise a mighty army against Barbarossa, Suleiman the Great's admiral, who possessed Tunis. But *vale un Peru* can also be phrased as *vale un Potosí*, which recognizes the discovery in 1545 of the richest silver mine ever encountered, which, as mentioned, caused worldwide inflation and spurred international trade. The wealth of this mountain is the subject of Murúa's allegorical image (see above, Figure 20.2), but in reality, the discovery and the colonial organization to exploit its riches meant drawing on the same form of labor recruitment that had been used by local Inca community leaders, *curacas*, who were compelled to produce human labor for the mines. These leaders, in turn, called

upon the traditional values of the communities (obligation, respect, communal reciprocity) to fulfill their obligations to the state.

For Spaniards, this process meant respecting certain traditions that sustained authority and thereby integrating systems of value in terms of human esteem. For Andeans, it meant this as well, but it also meant being brought quickly into the sphere of mercantile capitalism while maintaining Andean economic forms of reciprocity at the same time. Gold and silver now took on a new expressive value: exchange value, alienated labor, and the symbolic value of the shape of the coin and the images of royal authority stamped into the metal itself. Again, we can turn to the drawings of the Andean Guaman Poma for the new role that metal is given in the Andes (Figure 20.4). Although the drawings illustrate the presence of money and its exchange value, what is interesting in the manuscript is how many times money and its exchange are depicted; there is an almost obsessive quality to this repetition. The issue of counting the numerical as well as the monetary value of coins is something new and intrusive, but it becomes a part of the colonial Andean's life. His images of money exchange also imply a different concept of labor time. Labor time is no longer measured through reciprocity, in which its value is returned immediately and in kind, or is put off into the future. Labor time is given a new value, based on things such as coca, corn flour, cloth, and their price.

I will leave these issues temporarily and return to one of the expressions of value in Quechua: "yupana qquelca o quipu" (las cuentas por ñudos o por escrito; summation by quipu or writing). It is no coincidence that this relationship between traditional Andean and European forms of accounting is conflated in a single image by Guaman Poma de Ayala (Figure 20.5). The image depicts a colonial



Figure 20.4. "Indio Capritan Aquila a otro indio por el yndio enfermo azogado porque no se acaue de murir" ("A mine labor captain 'rents' another Indian for an ill Indian who is at the point of dying from mercury poisoning"), ink on paper (Guaman Poma de Ayala, *El primer nueva coronica y buen gobierno* 1615:531 [535], Royal Danish Library).



Figure 20.5. "Regidores Tenga Libro Qvipo, Cv[en]ta" ("Native administrator has the book and knotted strings [quipu] he keeps accounts"), ink on paper (Guaman Poma de Ayala, *El primer nueva coronica y buen gobierno* 615:800 [814], Royal Danish Library).

native official responsible for keeping the accounts of his community. The standing figure holds a staff of authority in one hand and a ledger and quipu in the other. The text alongside reads: “REGIDORES TENGA LIBRO QVIPO, CV[EN]TA” (“Regidor must have book and quipu [to keep] accounts”). What we read and see in Guaman Poma’s image is that these two forms, book and quipu, become commensurate loci of the register of numerical value. We can see that together they imply a deep and perhaps unconscious realignment of values in Quechua, such that two things are able to be commensurate. We must then think that the issue of value is being realigned so that the Quechua term that unites moral value, in terms of honor, and money value is expressed by the same terms in relationship to silver extraction and the market and that they have a dramatic effect on the nature of Andean things of high symbolic value.

The effect of the colonial market system on the expansion of the production and use of a traditional object is perhaps best exemplified by the transformation (or commodification) of the role of coca in colonial native society.³ Coca leaves were highly restricted under the Inca. Only the elite had access to them, and all coca fields were owned by the Inca (see Pizarro 1965:270 [1571]). Coca was considered sacred and had a divine origin. It was not only chewed by the elite but was offered to the gods, as seen in an image, again by Guaman Poma, of an Inca’s sacrifice to an Andean deity (Figure 20.6, *see color plates*). There is no pre-Hispanic representation of the offering of coca in a ritual offering. This act was performed in earnest and with respect and awe for the supernatural. The colonial image of this ritual act takes as its subject this Andean value and casts it within an entirely negative connotation. Coca is being offered to a false god, a demon, and coca itself is therefore possibly demonic (Toledo 1874:11 [1571]).

Under Spanish suzerainty, coca was still masticated primarily by Indians, but it no longer functioned only as a divine substance and it was no longer a royal privilege to chew it. The coca leaf became a commodity that was sold to Indians for its narcotic properties and its ability to prolong labor under arduous conditions and to suppress hunger and cold. The Spaniards not only tolerated the expanded use of coca, which was a cash crop under their control, but actively fostered it. Forty years after Pizarro’s arrival, Polo de Ondegardo wrote that coca use and production had increased more than 50 times over (cited by Markham 1977:158 [1910]). Cieza de León records that in the years of 1548, 1549, and 1551, coca was already a lucrative crop and that there had never been a plant in the entire world that was so highly valued. Coca from the various *repartimientos* (administrative districts) of Cuzco and La Paz brought in an income of between 20,000 and 80,000 pesos. Most of the coca was taken to Potosí, the rich mining center in southern Bolivia, where it was sold to the Indians (Cieza de León 1553:chapter 110, 292). Cieza goes on to note that many a Spaniard had retired to Spain on the proceeds of this crop.

The extreme wealth generated by coca in the late 1540s and early 1550s was due to a limited supply controlled by those Spaniards who had Inca coca fields in their

repartimientos encomiendas (areas in which specific Spaniards had access to the labor and tribute of the natives living there). With an understanding of the commercial value of coca, everyone who could set about planting coca fields. Cieza says that the price of coca dropped with increased productivity (Cieza de León 1553:chapter 110, 292). The volume grew, however, so that overall, capital realization increased.⁴

The commerce in coca did not mean that coca lost its sacred aura to native Peruvians; in fact, it became more accessible as a divinatory offering by natives of all social levels.⁵ In addition to its earlier “Andean” value, it acquired a distinctly Western economic value. Acosta (1940:144 [1590]) says that not only did Indians spend their money for the coca leaves, but they used the leaves themselves as money. Commercialization (secularization) of coca (an act of acculturation) meant wider distribution and use. It also meant that the circulation of coca exceeded the social exchange value it had within traditional contexts and now circulated as a kind of universal equivalent and that it could be exchanged for something of equal monetary value. Acculturation was therefore effected as much through the commercialization of traditional objects or substances as by their prohibition. Such commercialization was in fact more effective because it made Andeans dependent, at least partially, upon a market system to acquire what had previously been obtained through redistribution—however restricted that might have been. To enter into a market system, most Indians needed to sell their labor, an act that tied them more closely into an economic relationship with the Spaniards based solely on European terms. What is equally important is that coca, once purchased, reentered the Andean value system in the sense that it would be either ritually offered to the *apus* (mountain divinities that controlled metaphysical forces) or shared with communal members. At the same time, the sharing of such a substance represented a system of wealth and/or expenditure that was new and different yet was now fully intertwined with the preconquest system of value, both economic and ritual. Nothing binds competing and even antagonistic values better than the need to sustain integrity. This is the full meaning of Fanon’s discussion of values (see above) and their alteration.

Traditional items such as coca and their colonial use might seem from a historical distance as evidence of native resistance to colonial acculturation, yet they can also be categorized as the opposite, becoming a sign of reduced independence.⁶ In this sense, there was again a certain permissiveness, this time by political authorities, toward native products that were at the same time deemed pagan, idolatrous, or reactionary. Time and again, Spanish authorities equated coca with pagan practices, drink with idolatry, and native textiles with reactionary politics, yet at the same time these items were often openly produced and sold in the marketplace. That is, exchange value of the market trumped moral Christian value, which in turn allowed Andeans to continue to use sacred entities such as coca and *aqha* (corn beer).⁷ Coca was an entirely new substance for the Spanish, so its Quechua name was continued. *Aqha*, as it came into the colonial orbit as a commodity, became known as *chicha*, a Caribbean term used by the Spanish for all American fermented drinks.

Part of this permissiveness was the result of pure economic pressure that was sometimes at odds with, and often outweighed, both state and church prohibitions. The sale of coca, for example, could not be stopped because, according to Santillán, it was too closely linked to the mining industry (Santillán 1950:108–109 [1563]). Coca, however, was not the only native product that was sold in mining areas to mollify Indian laborers. *Chicha* (*aqha*) production and consumption were also tied to mining commerce. Because of this, Viceroy Toledo, fifth viceroy of Peru (1569–1581), encountered a similar problem in his campaign to eradicate native drunkenness. But here the difficulty was also intimately linked with the contradiction of Western technical progress and the mercantile capitalism brought to Peru. The production of *chicha* as a commodity was increased through Western technology, and since *chicha* increasingly functioned as a commodity, the *kero*, a type of cup used to drink *chicha*, also became an object of commerce.

The mines of Potosí were the single most important source of income in Peru, and Toledo organized the Mita de Potosí, which annually sent about 14,248 Indians, or one-seventh of the male population in the provinces, to work there (Rowe 1957:172). By 1620 nearly one-ninth of the entire Indian population of Peru lived in Potosí.⁸ The mines were discovered only in 1545, but already by Toledo's time, Potosí had a very large Indian population; some of the early *mita* laborers were sent specifically to make *chicha* for those who worked in the mine.⁹ The workers probably produced *chicha* in the traditional manner—that is, by either chewing or grinding the corn by hand and then fermenting it.¹⁰ As Potosí's Andean urban populace grew, demand for *chicha* outpaced the traditional means of production. There was no longer the kind of social and political infrastructure to produce mass quantities of *chicha* as there had been under Inca rule. The demand for *chicha*, therefore, had to be supplied in a different, Western, way.

Production was augmented by the introduction of European mills powered by water. With these, vast quantities of corn brought to Potosí, where the *chicha* was made, could be ground into flour. Toledo realized that he could not stop the natives from making *chicha* for themselves in the traditional manner, but because “corn flour causes more than anything else the drunkenness of the Indians,” he forbade that water mills be used for grinding.¹¹ Too much was at stake for such a law to have any force, however. By 1603 there were 58,800 Indians working in Potosí (Cook 1981:245). There was just too much of a profit to be made by selling *chicha* to them, and the mills owned by Spaniards and Indians kept operating.¹² In 1603, only 30 years after Toledo tried to close the mills, one Spaniard wrote:

Each year they make such an infinity of chicha in this city . . . that it is impossible to imagine it, yet one can calculate the amount of chicha made and the true amount of money spent in this way. Every year 50 thousand fanegas [1.6 bushels] of corn flour enters the city which is used only to make chicha and from each fanega is produced 30, 32 or 34 jugs such that a fanega averages 32 jugs, which calculates to be a million six hundred thousand

jugs and each jug is sold at 8 reales which makes one million and twenty thousand *pesos ensayados*.¹³

This is a tremendous expenditure when one realizes that the income for the royal treasury at Potosí in 1603 was 1,688,308 *pesos ensayados* (TePaske and Klein 1982:2:272.). The generation of an income meant that corn for *chicha* production was no longer just a traditional crop for ritual use. It became, like coca, a cash crop in areas where there was a major concentration of labor. Just as with coca, it put into circulation a substantial portion of native wages not collected in taxes. A single bottle of *chicha* cost two-thirds of a day's pay for a free worker and double a day's wage for a *mitayo*.¹⁴ The transformation of *chicha* into a commodity as well as a need to placate a large native populace, brought about a tolerance toward, or at least an ignoring of, Andean drinking.¹⁵

But drinking in this form was something new. That is, *chicha* as a commodity was drunk in *chicherías* of cities with large native populations, such as Cuzco and Potosí. In the *chicherías*, native residents as well as transients drank a socially distinct beverage; rather than a drink shared within a familial or communal setting, *chicha* became something that was bought. It was primarily produced by *chicheras*, Andean women who hired themselves out to make the *chicha* (see Glave 1989:354–355).

It is within the context of this commoditization that colonial production of some traditional objects, such as *keros* and *aquillas* (drinking cups), occurred (Figure 20.7). The Inca produced *keros* (wood) and *aquillas* (silver or gold) to drink corn beer (*aqha*) to express ritually all kinds of religious, political, and social relations. And even though the Inca state apparatus, which had produced a standardized vessel



Figure 20.7. Inca *aquilla* (silver drinking vessel) (a); Inca *kero* (wooden drinking vessel) (b); both ca. 1500 (private collections).

type in vast quantities, was gone, throughout the colonial period, the same vessels were produced in even greater numbers and with equal uniformity in terms of imagery and size. This fact argues for a systematized production of *keros* rather than piecemeal fabrication by individuals. The mechanism for this production remained partially within a traditional context, but it was also partially altered by the commoditization of the colonial market system. It is clear from several pairs of *aquillas* recovered from the shipwreck of *Nuestra Señora de la Atocha*, a treasure ship that sank off the coast of Florida in the late summer of 1622, that *aquillas* were being produced in Potosí and could be gotten through a market system (Cummins 2002). Several *aquillas* depict Potosí itself on panels around the rims. By their material, *aquillas* could be classified as luxury items, restricted by price and Andean custom to the native elite, but they were now available to curious Spaniards, who bought or were given them for the trip to Spain. *Keros* could be found in every Andean household, if we are to believe Cobo, and native craftsmen were still making *keros* for native consumption. But access to these traditional items did not necessarily come through internal community patterns of redistribution. *Keros*, like *aquillas*, were irrevocably bound to *chicha*, and they became commodified as *chicha* itself became a commercial object.

This commercialization can first be inferred by a document from the Ayacucho area. In a 1611 document, Don Bernabé Sussopaucar, a wealthy native of Sucos, testified that he was owed two *keros* that year by all the Indians of the community. He did not collect them but gave them to the church.¹⁶ There are three key points to this document. First, *keros* are treated here as a kind of income. The debt is couched in terms of a specific object and quantity, and the terms are therefore distinct from traditional debt, which was couched in terms of time. This difference is important because Sucos was situated in the highly commercialized Huancavalica-Huanta mining area; the accumulation of so many *keros* there implies that Don Bernabé was able to convert native labor into cash through the *keros* (Stern 1982:248–249, note 51). Second, although the *keros* were now being treated as a kind of currency, they were still valued for their traditional role. Don Bernabé does not mention one but rather two *keros*. The quantity that each Indian owed cannot be considered arbitrary. Rather, it demonstrates that whatever commercial value a *kero* now had, it was still predicated on its use in a pair, as was true of the production and use of *keros* in the pre-Columbian Andes (see Cummins 2002). That is, a single *kero* would not have halved the value received; it would have made the entire stock useless. Finally, the fact that *keros* are mentioned in relation to the church demonstrates that *keros* were secularized to the extent that they could be openly collected and used.

The importance of *keros* as secular objects constituting personal wealth becomes evident in other wills of elites and nonelites. *Keros* and *aquillas* appear in these mundane documents as legitimate objects, openly listed throughout the viceroyalty as things to be either inherited or sold. For example, in the 1608 *testamento* of María Guarza, an *yndia natural* living in Santiago del Cercado, the Indian section outside

of Lima, María declares that she owns “a pair of painted wooden cups.”¹⁷ The 1628 will of Ysabel Chumbicarba (1628: no folio number), natural of Santaorlla but living in Santiago del Cercado, is even more specific, stating that she possesses “tres llimpis del Cuzco,” or three (pairs?) of painted *keros* from Cuzco (Cuzco style). Ines Guamguan, a widow from the Pueblo de San Bartolomé de Guacho, declared in 1614 that she possessed, among other things, “a black *lliclla* [shoulder cloth] and another new black and white cotton *manta* [carrying cloth] and a pair of old silver *cocos* [aquillas] of the ancient style and also a wooden crucifix, it is my will that it all be sold.”¹⁸ The money was to go for a Mass to be said for her soul. Clearly, the conversion of a pair of *aquillas* into cash in the market had an uncompromised Christian telos.

Painted *keros* are also found in the wills of *curacas* as far north as present-day Ecuador and southern Colombia, even from areas where the Inca had not reached. The will of the *curaca* of Otavalo, Don Alonso Maldonado, states, “I have four pairs of painted keros [and] I ask that the three large pairs be sold at auction and the small pair be given to my daughter Doña Gregoria.” To his son, Don Pedro Maldonado, he left “a pair of aquillas.”¹⁹

In a 1592 will, Don Cristóbal Cuatin, principal of Tusa, declares that he has “two pairs of painted keros of the Cuzco type” and “two cocos of silver that in the language of Cuzco are called aquilla (“Dos pares de limbiquiros del uso de Cuzco; dos cocos de plata que en la lengua del Cuzco se llama aquilla” Cuatin 1592).”

In a will of 1598, Don Diego Collin, age 80 more or less, swore that he was from an ancient line of *curacas* from Panzaleo and that he had been confirmed as a *curaca* by the Inca.²⁰ He mentions several imperial Inca objects in his possession, such as feathered tunics, bells, and a silver headdress, that still had symbolic importance 60 years after the conquest. Among other things, he lists at least eight pairs of painted *keros* (“queros pintado”) and one pair of unpainted *keros* (“queros negros”), which he dispersed to his nephew, son, and wife (Collin 1598:fs. 32v-34r).

In these documents, *keros* are understood to be, among other things, the property of an individual, who freely and openly lists them in a colonial legal context. Some may have been bought by or given to the owner. Some may have come into the owner’s possession as the inheritance of Inca gifts given to an ancestor prior to the conquest. In the wills, *keros* constituted a legally recognized form of inheritance that was especially important for *curacas* and their descendants. Such objects, as first given by the Inca, could help substantiate a colonial claim to an unbroken descent from a *curaca* at the time of conquest. This primordial time was named in colonial legal documents as “el tiempo del Inca.” An object such as a *kero* or *aquilla* that was listed in a will as “del uso de Cuzco” could be interpreted as material proof for hereditary claims to contemporary political power.

The vessels, listed in wills from Ecuador to Bolivia, equate at one level to all other things listed in wills, such as land, houses, cattle, and saddles. They are all forms of property, things of monetary value. Whatever symbolic value they might

also have been understood to possess by the owners is veiled, glimpsed only in the Quechua terms that name them, as well as in oblique phrases such as “del uso de Cuzco” and the fact that they are listed in pairs.

What is it, then, that ontologically links these vessels if not material or production technology, criteria we normally impose on Inca art to categorize various objects from an analytical framework?²¹ First of all, *keros* and *aquillas*, regardless of their material, do have a commonality beyond their vessel shape. There is no such thing as an individually produced *kero* or *aquilla*. They are always made in pairs and are almost always used in pairs because, as Garcilaso explains:

They had . . . cups for drinking that were paired [*todos hermanos*], two by two: be

they large or small, they had to be of the same size, of the same form, from the same metal, gold or silver, or wood. And this they did so that there would be equality in what they drank.²²

Production in pairs is thus an intrinsic attribute of *keros* and *aquillas*. Although *aquillas* are made differently than *keros*, their production is linked in that they are always made as pairs. Equally importantly, the pair must be made from the same material and perhaps from the same source. That is, the pair of *keros* seems to have been made from the same block of wood, and it may be that silver and gold *aquillas* were thought to have been made from a single source of metal. As Garcilaso de la Vega makes clear, the production in pairs is based upon the social relations enacted through ritual drinking. That relationship is predicated upon the moiety division of *ayllu* (kin group) communities into *hanan* and *burin* (respectively, upper and lower), such that each pair of vessels is a materialization of this social division; the pair is even personified as *hermanos* (brothers). And although one could believe that Garcilaso de la Vega is using the seventeenth-century understanding of the word,²³ he is actually referring to the Quechua term *yanantin yanantillan*, which Holguín translates as “dos cosas hermanadas” (two things intimately related). *Yanantin* is a term and concept critical to social identity in the Andes, as discussed by Platt (1976); it finds its materialization in the production of *aquillas* and *keros*. In other words, this aesthetic principle, deeply rooted in how objects were produced and used, expressed social values in the Andes.

VALUES: COMMENSURATE AND INCOMMENSURATE

We think of certain materials as having intrinsic qualities that give them seemingly universal value. Gold may be the substance most identified as being endowed with such value, because of its qualities. It is incorruptible, divisible, portable, scarce yet sufficient, and aesthetically desired for its color, brilliance, and malleability. Gold clearly carried commensurate value for Spaniards and peoples of the Americas, as already discussed. Other materials did not ordinarily have such value, but they could quickly acquire such status. In Mexico, feathers and the working of surfaces

in feathers quickly came to have such status, as recognized in 1560 by Felipe de Guevara, who wrote about paintings (Guevara 1788 [1560]). Already by that time, images based upon woodcut prints were being given as prestigious gifts and as ambassadorial exchanges in Europe. Guevara also expounds on the wondrousness of the new red that came from the cochineal of Mexico. It was greatly prized for its quality and price.

The Aztecs already understood materials such as feathers and paintings to be commodities, which were bought and sold in the marketplace. Thus they had a commensurate place within a market economy in which their exchange value was realized. However, it was the changing nature of the market itself, in terms of far greater demand than had ever been realized in Mexico, that accounted for the fact that monetary value outstripped social values. It is here that values are not absolute and that excess of exchange value can undermine social values. This issue is clearly indicated in the 1553 debates of the *cabildo* (town council) of Tlaxcala concerning the cultivation and sale of cochineal, a red dye produced by an insect that grows on the cactus plant.

Tlaxcala, a Nahuatl-speaking community to the east of Tenochtitlán/Mexico City, had aided Cortés against the Aztecs. In recognition of their allegiance to Cortés and Charles V, the Tlaxcalans were given expanded privileges within the viceroyalty and were classified as semi-independent. Nonetheless, their prestige and power did not alleviate the same clash of values in Mexico that occurred in Peru, as discussed above. Thus we read in the *Actas de Cabildo* that:

The cabildo deliberated about how everywhere throughout Tlaxcala the cochineal cactus, from which cochineal comes, is being planted. Everyone does nothing but take care of cochineal cactus; no longer is care taken that maize and other foods are being planted. For food—maize, chiles and beans—and other things people need were once inexpensive in Tlaxcala. It is now because of this neglect that the cabildo members saw that all the foods are now expensive. The owners of the cochineal cactus merely buy maize, chiles etc., and they definitely feel that it is with their cochineal, by which [they gain] their money, are acquired cacao beans and cloth [they need]. They no longer want to cultivate their fields; they just stopped doing it out of laziness. Because of this, now many fields are overgrown with grass, and already famine has arrived. Things are no longer as they were long ago for cochineal is making people lazy [Restall et al. 2005:130–132].

The quality of the red color meant that cochineal quickly became a much sought-after commodity within the arena of an international economy. As with the silver of Potosí, the demand for cochineal altered social practices and community economies. The expanded market for cochineal meant abandoning subsistence farming for a cash crop, or at least that is the complaint of the indigenous political leaders of Tlaxcala. It may be in fact that fields were left uncultivated to harvest the cochineal bug; however, the real complaint is about the shift in values. The complaint about attention to a market crop and the accumulation of monetary wealth is really a complaint about the creation of the individual who stands outside the values, both

economic and ethical, of the community. This text has as its subtext the dissolution of the *altepetl* (the Nahuatl concept of social community).

Returning to the questions posed at the beginning of this essay concerning how disparate concepts of value understood by Europeans seem to find equivalent concepts in Quechua and Aymara, as expressed in bilingual dictionaries, I believe it is a more complex issue. The issue revolves around a colonial imposition of values in general, but most especially economic, human (esteem), and moral (ethical/religious) values. These values become entangled in objects, which in turn can be quantified numerically as well as economically and recorded in any number of quasi-commensurate systems, be they quipus, written documents, or pictorial manuscripts. The objects themselves, however, can be understood to enact and/or express values that were deeply held by competing interest groups. In the conquest and settlement of the Americas, it becomes clear how the disparate concepts of value of the conqueror come to stand for a common set of values for all.

NOTES

.....

1. Sahagún states as much at the beginning of the manuscript. When addressing the reader about the first book, which details Aztec deities, he writes: “Al Lector. Para la inteligencia de las figuras, o ymagines que estan aqui adelante: notara el prudente lector, que son las ymagines de los dioses, de que se trata en este primero libro: los quales adorauan estos naturales desta nueva españa, en tiempo de su ydolatria: cada una tiene su nombre escrito junto a la cabeça, y el capitulo, y numero de hojas, donde se trata del mismo dios, o ydolo: esta junto a los pies” (Sahagún 1577: folio 9v).

2. The manuscript as it now exists was authored and illustrated in part by Martín de Murúa, a Basque Mercedarian friar. The original 1590 title page was reused, pasted onto a blank folio, so that the original title, *Famosa Historia*, could not be read. The title as it now appears on folio 1r reads, *Historia del origen y genealogía real de los reyes ingas del Perú, de sus hechos, costumbres, trajes y manera de gobierno*. The manuscript is known as the *Galvin Murúa*, after its present owner, Sean Galvin. It was begun sometime before 1590, and Murúa continued to work on it until perhaps 1615. The Potosí image, created by Murúa, seems to have originally appeared at the beginning of the manuscript of 1590. It was later copied by Guaman Poma for his manuscript *Nueva Coronica I buen Gobierno*. (See Cummins 2012, 2013; and Cummins and Ossio in press, 2012).

3. The analysis of coca, *chicha*, and *keros* first appeared in my book (Cummins 2002). Mangan (2005:92) gives a masterful account of how the commodification of *chicha* in Potosí had direct influence on gender roles and the independence of women, as they controlled the distribution in *chicharías/pulperías*. One finds the same transformation in gender roles in Quito in numerous documents that detail the independence of native women who owned and ran pulperías.

4. José de Acosta (1940: 181 [1590]) says that traffic in coca leaves around 1570 in Potosí amounted to more than 500,000 pesos a year. Coca plantations continued being a major source of revenue for a number of seventeenth-century Cuzco residents such as Juan García Durán, Pedro González Tadeo, and Martín García. They owned fields in Paucartambo, where they employed a number of natives for harvesting and transportation. Coca was a labor-intensive industry, second only to mining, and was thus a major source of native income (Bastidas 1645: fs 632, 633, 649, 676, 677, 764, 766).

5. Coca and *chicha* are still the quintessential elements in most Andean rituals. See Allen 1988; Wagner 1976:193–224.

6. Francisco de Acuña records that part of the increased coca production was a direct result of a need to acquire hard currency: “Se dice [for the Pueblo de Capamarca 14 leagues from Cuzco] que después por los visorreyes destos reinos les ha sido mando pagar tasa . . . que el dinero que dan para su tasa, lo van a buscar a los Andes, donde se da la coca, aquilándose para trabajar en las chacras y en otras cosas que les Mandan” (Acuña 1965:319 [1586]. See also Stern’s [1982:35–40] discussion of the commercialization of coca.

7. Albornoz 1967:22 [1582] says that both textiles and *keros* were used by the natives to remember the past. Toledo, after the execution of Túpac Amaru in 1572, forbade Indians to wear native clothes as a part of his suppression of Inca resistance (cited in Zimmerman 1943–1944:37).

8. Cook (1981:245–247) estimates a population of 670,000 Indians in Peru in 1620. In 1611, nine years earlier, Potosí had an Indian population of 76,000, most of whom were permanent residents.

9. According to the 1567 testimony of Don Martín Cari, *banan curaca* of Chucuito, every year he sent to Potosí 500 Indians, some of whom were to make *chicha*. See Díez de San Miguel 1964:19 [1567].

10. I say “probably” here because Cari says that *mita* workers made *chicha*. This implies that men made *chicha*, because only males were subject to *mita* obligations. If indeed men were making *chicha*, this would be a departure from sierra tradition, in which women made *chicha*. Only on the coast is there evidence for men practicing this craft: “En los llanos son hombres y en la sierra son mujeres los que fabrican la chicha” (Arriaga 1968:106 [1621]. It is more than likely that in this case, Cari was including as *mitayoc* wives who accompanied their husbands to the mines and who would have made the *chicha*. Cari’s accounting of the females as *mita* laborers would have been according to Andean rather than Spanish reckoning and thus suggests that *chicha* was being made within a traditional context.

11. “Que lo que mas causaba las borracheras a los indios era la harina de maíz” (Toledo 1889:517–518 [1572]).

12. Mills were owned by wealthy *curacas* very early on in the colonial period, as evidenced by the 1588 will of *curaca* Don Diego Caqui of the pueblo San Pedro de Tacna (see Cuneo-Vidal 1977:334).

13. “Hácese cada año en esta villa tanta infinidad de chicha . . . que parece cosa imposible imaginar en ello, cuanto y mas averiguar la cantidad que se hace; y la averiguación verdadera de la cantidad que se gasta se hace en esta manera. Entran en cada año esta villa 50 mil fanegas de harina de maíz que sólo gasta en hacer chicha y se averigua que cada fanega se hacen 30, 32, 34 botijas de chicha, y puesto que una fanega con otra den 32 botijas, viene a ser toda la chicha que se saca de las dichas 50 mil fanegas de harina un millon y 6000 mil botijas y se vende cada botija a 8 reales que hace ensayados un millon y 24 mil pesos” (Anonymous 1965:380 [1603]).

14. An Indian working as a free laborer was paid 12 reals a day in 1596. Wages for free laborers fluctuated, but this is approximately the wage paid in 1603. The wages of a *mitayo* were fixed by law at four reals a day. However, a *mitayo* Indian worked only one week out of three at this rate and could work the other two as a free laborer (see Rowe 1957:172–173).

15. Marie Helmer notes that according to contemporary testimony during the viceroyalty in Potosí, the Indians “celebraban sus fiestas, taquies y borracheras.” There is no trace of any intervention by authorities to stop them. This broad tolerance is attributed by Helmer solely to the desire to avoid conflicts that would disrupt silver production. She reports that in the 1610 city of 160,000 people, 75,000 were Indians, coming from all parts of the altiplano. The relative freedom they enjoyed explains in part why they never revolted, even though there was a large proportion of Indians to Spaniards (see Helmer 1978:231). In fact, the proportion of Spaniards

to Indians was relatively high in comparison to the rest of Peru, so that this would have been the worst place to revolt. Moreover, the permissiveness of the Spaniards toward native celebrations and drinking could not have outweighed the misery of serving in the mines. What kept natives at Potosí or brought *forasteros* (Indians who had abandoned their *ayllus*) was economic pressure, either indebtedness or the accumulation of capital. Potosí, located at unusual height, was spawned by capital and was in many regards a “wide-open” town for Spaniards as well as Indians. There, rival gangs of Spaniards were constantly dueling in the streets, killing each other and innocent passersby. The permissiveness toward many aspects of native behavior did have an element of social control, but the production of *chicha* was also a major economic concern that would have gone on regardless of any law (see Saignes 1987, 1989).

16. “Declaro que me deue a todos los yndios dos queros.” (Cucichimbo 1611: folio 22r.)

17. “Un par de basos de madera pintada,” (Guarza 1608: no folio numbers)

18. “Una lliclla color negro y otra manta pintada de negro y blanco de algadón nueva y un par de cocos de plata de beber de antiguos ya viejos y mas una escultura de crucifixo de madera, todo es mi voluntad de vender.” (Guaman: 1614: no folio number).

19. “Tengo quatro pares de limpi quiros mando que los tres pares grandes se benden en el almoneda y un par pequeña mando a mi hija Doña Gregoria,” (Maldonado 1609: Folios 69 V, 70 R) (1726), transcribed from an early eighteenth-century copy in Caillavet 1982:38-55.

20. “Autos de los Indios de Panzaleo contra el Colegio de la Compañía de Jesús,” in which is found the el Testamento de Don Diego Collin en el Panzaleo a cinco días del mes de Julio de mil quinientos y nobenta y ocho años. Folios 29R–42R, Caja 7 III-22 1657 Archivo Histórico Nacional Quito. See also Caillavet 1983:5–23.

21. The Inca were not the first Andean culture to produce highly charged symbolic objects in different materials. For example, Chimu and Sicán funerary vessels of the same form and size are found in both ceramic and metal. It is not simply that one copies the other, according to a hierarchy of values, but that they also participate in this hierarchy of values through their form in a shared field of symbolic value.

22. “Tuvieron . . . los vasos para beber todos hermanos, de dos en dos: o sean grandes o chicos, han de ser de un tamaño, de una misma hechura, de un mismo metal, de oro o plata, o de madera. Y esto hazian por que huviere igualdad en lo que bebiesen” (Garcilaso de la Vega 1990:53 [1609]).

23. Sebastián de Covarrubias Orozco (1995:531 [1611]) first defines *hermanos* as “siblings” but immediately goes on to write, “Ermanos suelen lamarse los que están aliados o confederados,” which could be what is implied by Garcilaso de la Vega’s use of the term to describe the condition of being paired.

READ ONLY/NO DOWNLOAD

PART IV

.....	
NUMBER	VALUE
.....	

READ ONLY/NO DOWNLOAD

CHAPTER 21

.....

EQUIVALENCY VALUES AND THE COMMAND ECONOMY OF THE UR III PERIOD IN MESOPOTAMIA

.....

ROBERT K. ENGLUND
UCLA

ABSTRACT

.....

The question of state imposition and monitoring of silver value equivalencies has fairly dominated discussions of the administrative history of late third-millennium B.C. Mesopotamia. A shekel of silver (ca. 8.33 g) fetched 300 liters of barley, 30 liters of fish oil, 10 liters of clarified butter, or a healthy sheep. Although silver was of imposing importance in mechanisms of exchange and wealth distribution within and across borders of ancient Babylonian states, central household accountants employed, with almost dizzying accuracy, a broad palette of equivalencies as part of their means of control of production. These included value and real equivalencies between such raw materials and finished products as milk and cheese or barley and flour, but most notably labor norms that determined the success or failure of teams of dependent workers engaged in all aspects of early household production. This contribution offers an overview of all such equivalency values documented in Ur III cuneiform accounts dating to ca. 2050–2000 B.C. It follows the emergence of labor value abstraction up the line to potentially generalized silver “wages” that characterized administrative texts of the following Old Babylonian period, and it addresses the likelihood of the imposition by state bookkeepers of state-level equivalencies in determining so-called bala taxation obligations levied by Ur on various neo-Sumerian provinces.

INTRODUCTION

.....

Equivalencies come in many guises. We might put one apple here and one over there and claim the two are equivalent; they are physically equivalent, give or take, but more importantly they will satisfy our senses, our hunger, and our appetite in equal measure. We might rather say that both apples together have the same value as this sugar melon. We would then as soon eat, or just own, two apples as we would one melon. Or we might say: This apple is worth fifty cents and so is that one, and the melon one dollar. We have just abstracted from apples and melons to valuations placed on them by the orchard owner, the grocer, the local council, “supply and demand” and backed up by our social and economic order. We might command this equivalence ourselves if we are of a mind and powerful, or presumptuous enough to chance it. It is clear enough that the mechanisms of straightforward equivalencies, then of barter and finally money equivalencies, develop in a more or less linear fashion in history, though often disrupted by artificial mechanisms introduced by social agencies of various stripes or by conflict, natural catastrophes, and so on. One such artificial mechanism consists of imposed price controls that are generally derided in free market economies as an abuse of markets—above all an ineffective abuse. In times of crisis, however, the need to influence access to limited goods and services and to limit the ability of a few to profit from scarce resources—for instance, to control the price of strategic resources such as oil or steel during wartime—is generally accepted, even by the most libertarian of the Chicago School economists.

Economic, administrative, and ideological considerations have led to many such constraints on the unencumbered development or in many cases the crass manipulation of supply and demand, of commodities and labor. In the following, I would like to review and compare evidence in the cuneiform record that would appear to represent an engineered wage and price system based on relatively complex equivalency values that were, as a rule, only implicit factors in account calculations. These early testimonials to social-economic policies are often characterized as evidence of centralized *oikos* organization under the control of a very few privileged elites, recorded by their slightly more numerous middle-class scribes, to exploit large numbers of productive laborers. Yet the disparity in their relative privileges scarcely compares with modern counterparts. We are witnesses of late to an ever-growing gulf between high- and low-income Americans, and of differences among industrialized nations, threshold nations such as India and China, and the poor nations of much of Africa and Central America. The luck of birth makes a big difference in what you will earn. The wages paid seamstresses doing the same work in varying parts of the globe bear clear witness to this fact, with incomes of \$90 per day in Sweden down to \$1.50 in most of India (Englund 2012); women were not allowed to work for *any* wages in Afghanistan under the rule of the Taliban.

Since the time of Bismarck, social democratic policies among the economies of advanced industrial nations have acted to suppress the kind of excess that led to fabulous wealth alongside abject poverty in the nineteenth and early twentieth centuries. Across borders, the liberalization of markets, leveraged loans for capital programs, and economic aid to preindustrial nations were at least conceived as a means of achieving some alleviation of the suffering of many of the world's poor. It is said that globalization will eventually care for an international leveling of wages and prices, which many—the have-nots—will view with favor, and many others—the Detroit autoworker or the German carpenter—will not. Within the borders of advanced nation-states, the check on excessive economic disparity has taken the form of a progressive tax system that redistributes, for the general good, wealth created by working classes and held by economic elites. A social democratic view would be that a progressive tax code will recognize the efforts of entrepreneurs and those who simply work more but will increasingly claim for the majority of citizens those revenues that a libertarian ideology would grant in unbridled measure to a cunning few. Adam Smith defended the concept of a progressive tax code in his *Wealth of Nations*, published in 1776, supporting tariffs on imports that would tax the rich more than the poor, something akin to a luxury tax, which has lost currency in the American lexicon.

In the United States, the tax rate on the highest earners has eroded in both Republican and Democratic administrations to the point now of a near flat tax of 35 percent for any earnings over \$330,000, though itself rarely achieved in the face of massive avoidance schemes. We should remember that in the postwar years of the 1950s, 1960s, and 1970s, marginal rates on income over \$200,000 ranged from 70 up to 91 percent. But during the Reagan/Bush I years, with the undying support of legions of those least likely to profit from such “tax reform,” those rates were reduced to as low as 28 percent. The Clinton administration, consistent with its roots in the right-leaning Democratic Leadership Council, championed the deregulatory policies of Goldman Sachs's Robert Rubin, and Ayn Rand disciple Alan Greenspan. The government did raise marginal rates back to all of 39.6 percent on incomes over \$255,000, but in its first term, the Democratic Congress made no change in long- or short-term capital gains rates, so critical to ensuring the disparity between the wealthy and all the rest, and in its second term, it actually agreed to lower those rates to 20 percent, matching Reagan at a level not seen since 1933. With his 1996 Personal Responsibility and Work Opportunity Reconciliation Act and his signing into law of the Financial Services Modernization Act of 1999, Clinton co-opted the policies of the then Republican majority and repealed Democratic social and banking legislation designed during the Great Depression to afford the poor a minimally responsive safety net and to guard against the financial instrument speculation that was tantamount to an act of massive fraud committed against the middle class—in the 1920s and during the period from 1980 to the present day. Thus even leading members of the Democratic Party, once social

progressives, speak today of no need to consider the ultimate value of a hedge fund manager's labor but rather that the salary tied to this work should merely reflect corporate "results."

The dismantling of progressive taxation in the United States, combined with the decline of unions and their collective bargaining power, has done its share to ensure quite striking wealth among a very few, while at the same time middle and low incomes have stagnated or retreated. The federal minimum wage in the United States is now a nominal \$7.25 an hour (and thus on a continuing spiral downward since the inflation-adjusted FMW of \$9.50 in the first year of the Nixon presidency; see generally Waltman 2008:128–146), translating into a yearly compensation of about \$14,500, assuming full-time work and no illness, while the compensation paid to the now failed Countrywide Bank chief executive officer Frank Mozilo in 2007 was \$142 million. Though he was only the seventh highest-paid CEO of that year, this income still represents 9,800 times the yearly compensation of the (federally indexed) lowest earners and is 13,110 times as much as the 2009 poverty threshold reported by the U.S. Department of Health and Human Services. (See <http://aspe.hhs.gov/poverty/09poverty.shtml>; the threshold, defined since the Johnson administration as demonstrating "insufficient income to provide the food, shelter and clothing needed to preserve health," is \$22,050 for a family of four.) In even more dramatic dimensions, the 20 top Wall Street fund managers earned *an average of \$658 million* in 2006, according to Forbes.com.

It can be difficult to find relevant comparisons for these staggering numbers with some conception of absolute labor value in modern times—the more so when we think of earnings in past periods of our history. Socialist experiments in the nineteenth and twentieth centuries generally did a poor job of regulating prices and wages, thus making efforts to introduce any regulation of the U.S. economy through tax or other legislative policy an easy target for modern ideologues. Still, some efforts were clearly geared to facilitating social cohesion and a fair distribution of wealth. The liberal socialist experiment with wage regulations in the former Yugoslavia commanded that income rates of top managers, based on shop productivity, should not exceed eight times those of factory hall janitors. Simple wage comparisons between modern and less crass periods of our recent past can also be instructive. For instance, the Czech composer Antonin Dvorak was recruited in 1892 by the National Conservatory of Music with what was then considered a fabulous salary, \$15,000 per year, the equivalent of about \$350,000 today. If in current terms \$15,000 is set as the yearly minimum wage in the United States, then Dvorak was offered—and received—about 23 times this amount. How, though, would we rank the New World Symphony against the speculative currency profits of a fund manager with a B.S. in math from Caltech?

The social compact represented by wages and assorted privileges of various classes of the workforce was thus a subject of quantitative engineering in some recent phases of economic development. In other, fancifully described as libertarian economies,

it was left to the whims of an often manipulated labor supply and demand. Such wage management is well known from Old Babylonian legal texts, for instance in the codes (Roth 2003):

- Codex Ešnunna § 11: The wages of a day laborer are 1 shekel of silver, and 1 *barig* [about 60 liters] of barley as ration for service of one month.
- Codex Hammurapi § 239: When an *awilum* hires a boatman, he will pay him 6 gur [about 1,800 liters] barley per year.
- Codex Hammurapi § 257: When an *awilum* hires a field hand, he will pay him 8 gur [about 2,400 liters] barley per year.
- Codex Hammurapi § 258: When an *awilum* hires an ox driver, he will pay him 6 gur [about 1,800 liters]) barley per year.
- Codex Hammurapi § 261: When an *awilum* hires a herder to watch over large and small cattle, he will pay him 8 gur [about 2,400 liters] barley per year.
- Codex Hammurapi § 273: When an *awilum* hires a day laborer, he will pay him, from the beginning of the year through the fifth month, 6 grains of silver per day; from the sixth month until the end of the year, he pays 5 grains of silver per day [180 grains equals 1 shekel, about 8.33 g of silver].

THE UR III ECONOMY AND WAGE STRUCTURE

I will restrict my remarks here to the Ur III period, dating to ca. 2100 to 2000 B.C. With its now approximately 96,000 published and probably as many unpublished texts, the 50-year phase of bookkeeping in the latter half of the Ur III period presents historians with an otherwise unknown wealth of documentation. Yet the lacunae in the records are very difficult to overcome. For one, we are not privy to the state archives, which must have been prepared and stored in the capital city of Ur. For another, despite recent publications (Dahl 2006; Maeda 1994, 1995; Sharlach 2003; Steinkeller 1987) and much effort expended in understanding it, we have still no clear picture of the system of domestic taxation, known in Sumerian as *bala* (“crossing over”; “term”). Nor do we understand the system of tributary payments (Sumerian *gun mada*, “load of the lands,” using specifically the Akkadian loan *mada* for “land”) or simple campaign plunder extracted from the regions surrounding Mesopotamia, particularly ancient Iran to the east. These are very significant failings that if removed would provide a backdrop for a better understanding of much of what we see in administrative documents that represent efforts of a restricted set of accountants overseeing, as a rule, the activities of households with a range of perhaps 500 to 1,000 or 2,000 dependents, with their various

supervisors and foremen, tradesmen, singers, bishops, clowns, dogs, and herded rats. This was the level of provincial households directed by *sangas* (temple managers) and *šabras* (managers of governors' estates), which—since relatively self-sufficient, often based on family relationships, and partially autonomous—have been compared to the *oikos* households of Greek city-states. These included a ruling extended family and slaves, living together on one estate, often associated with extensive farmland tended by the slaves.

An important issue for a number of Ur III specialists has been to keep a running tally of Ur III value and labor equivalences that derive from only implied accountant calculations in cuneiform texts. As has been stated repeatedly, we may view such value equivalencies from several perspectives. In the first instance, we can assign relative values to objects and sets of objects based on both their intrinsic worth—food, animals, and so on—and on their nonintrinsic worth—rarity, presumed prestige, etc. In the second instance, we can describe equivalencies between producing agents (humans, farm animals, arable land, and so on) to products over some given length of time. Then, according to the labor theory of value (describing precapitalist societies and commonly abandoned in modern economics in favor of marginal utility as it applies to capitalism), the productive capacity of humans can be abstracted (via the value assigned to the products they make or assist in making, or other services they render) to include a valuation of their labor time—that is, to include wages.

We have good data that help reconstruct the system of wages, usually in the form of rations, paid to members of early Babylonian communities of the twenty-first century B.C. Dependent workers, called *guruš* (male laborer) and *geme₂* (female laborer), were much comparable to chattel slaves but were inalienable wards to the state and may thus be conveniently called corporate slaves. (The reader should be aware that the social and economic status of these men and women, and of individuals with the associated designations *erin₂*, *ug₃-IL₂*, and *dumu-gi₇*, has been the focus of a very long debate among Assyriologists and historians from related fields; for easily accessible reviews of the relevant literature, compare Englund 2009:note 10; Koslova 2008; Studevent-Hickman 2008.) These laborers made up the large majority of the workforce and received, next to yearly disbursements of clothing and, though undocumented, probably some form of living accommodation, a monthly ration of on average 30 liters of barley for women and 60 for men (Gelb 1965; Monaco 1985–1986; Waetzold 1987, 1988). Unskilled day laborers (Sumerian *lu₂ hun-ga₂*) were accorded wages of about three times as much, although as irregular and part-time workers they would not have received additional remuneration; nor would they have enjoyed the safety net—including rations and care while ill, and lessened work norms in advancing age—represented by the large households of which corporate slaves were members. Thus we may peg the normed wage of the lowest rung of workers in the Ur III period at about 200 liters of barley per month.

Many thousands of tablets attest to this system of wages for lowest earners, but

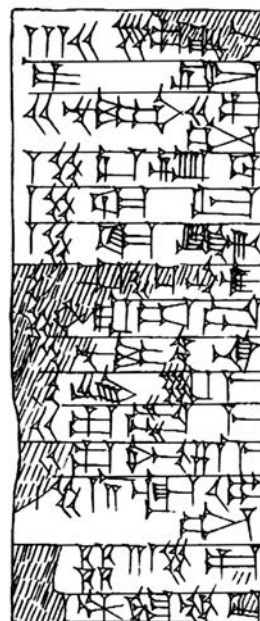
those describing higher levels of income are rare and are in any case to be understood as partial views of third-millennium privilege, where, as in so many other eras, oligarchic land grants and usury may have been major sources of largely unquantifiable individual enrichment. One such rare account is found in the text displayed in Figure 21.1 (Deimel 1916; Englund 1990:60–63). This record from Girsu (modern Telloh) in southern Mesopotamia documents presumed disbursements of grain to the upper and middle management of large households, ranging from 200 *gur* per year (or about 5,000 liters of grain per month) given to the highest-paid officer (Sumerian *šabra*) down to 250 liters of grain given out monthly to gardeners and to foremen of couriers and “throne bearers” (assuming that lines i 10–12 were based on four of the former and two each of the latter named categories). (In his treatment of account BM 23622+28004, Maekawa [1986, 1999:83, number 17] demonstrates that the eighth household listed in *HSS* 4, 4, that of the divinized Namḫani, had *two* “chief accountants.”) Accordingly, our household director received on the order of 20 times as much as the worst-paid management staff and 25 times the income of the lowest-paid hireling or corporate slave. In simplistic terms of multiples of various wage earners, that would place this ancient manager of the largest *oikos* household in Girsu at a modern U.S. income of very roughly \$375,000—very comfortable to be sure but perhaps not reflective of an obscene disparity either.

1.	3(geš ₂) 2(u) še gur lugal	200 royal gur of barley
2.	šabra	for the chief household administrative
3.	2(u) nu-banda ₃ gu ₄ 2(u) gur-ta	20 oxen managers at 20 gur each;
4.	1(geš ₂) 4(u) ša ₁₃ -dub-ba	100 [gur for the] chief bookkeeper[s];
5.	1(geš ₂) 4(u) sa ₁₂ -du ₅	100 [gur for the] chief surveyor[s];
6.	1(geš ₂) 4(u) ka-guru ₇	100 [gur for the] silo manager[s];
7.	¹ 4(u) dub-sar gu ₄ ¹ apin	40 [gur for the] scribe[s] of the plough oxen;
8.	¹ 4(u) šar ₂ ¹ -ra-ab-du	40 [gur for the] šarrabdu[s];
9.	¹ 1(geš ₂) 4(u) ¹ nu-banda ₃ erin ₂ -na	100 [gur for the] manager[s] of the labor troops;
10.	¹ 4(u) ¹ lu ₂ SAR-me	40 [gur for the] vegetable gardeners;
11.	2(u) ugula-geš ₂ kas ₄ -me	20 [gur for the] “60-foreman” of the couriers;
12.	¹ 2(u) ¹ ugula-geš ₂ gu-za-la ₂ -me	20 [gur for the] “60-foreman” of the “throne bearers”;
13.	¹ 1(geš ₂) 4(u) ¹ la ₂ 2(diš) engar 1(u) 5(aš)-ta	98 ploughmen at 15 [gur] each;
14.	4(geš ³ u) 3(geš ₂) 5(u) gur	[total:] 2,630 gur;
15.	¹ e ₂ ¹ ¹ nin-gir ₂ - ¹ su ¹	the household of [divine] Ningirsu.

Reverse iii

- 11'. še geš ra sanga šabra-ne *Threshed barley of the priests and chief household administrative officers*
- 12'. iti GAN₂-maš *month: "GANmaš," [first month, Girsu calendar],*
- 13'. mu us₂-[sa¹ [d]amar]-[suen 'lugal¹ *year following: "Amar-Suen became king" [AS 2].*

Figure 21.1. An Ur III-period rations account from Girsu (HSS 4, 4). The “wages” of the managerial officers were in fact calculated based on the number of oxen managers and therefore ultimately on the number and size of fields in cultivation in each household listed in the full text. In the subsection describing the household of the tutelary divinity of Girsu, the basis was 20 oxen managers. Thus $20 \times 10 = 200$ gur assigned to the chief household administrator, 20×5 assigned to the chief bookkeeper, and so on. Maekawa 1987:37–41 speaks of 5–6 bur₃ domain land per ploughman, five of whom answered to each oxen manager in Umma. Transferred to Girsu, this relationship implies Ningirsu domain holdings of $(20 \times 5 \times 5 =) 500$ bur₃, which in turn translates into planned harvests of $(500 \times 30 =) 15,000$ gur for this household, dependent on fallow.



TRACKING EQUIVALENCY VALUES

In addition to facilitating the understanding of Sumerian accounting tools that makes such speculation about wage levels credible, the evidence for a wide-ranging set of equivalency values employed throughout the Ur III administrative apparatus offers a strong framework for the study of ancient accounting and early mathematical thinking. In this it is important to consider the philological markers that reflected the usually implicit understanding of equivalencies by the empire’s scribes. To follow their calculations, even the casual learner of Ur III texts needs understand little more than some basic mathematics and how to use the search engines of the online Ur III databases. Both the Database of Neo-Sumerian Texts (BDTNS), directed by Manuel Molina of the Consejo Superior de Investigaciones Científicas (Madrid), and the Cuneiform Digital Library Initiative (CDLI; Los Angeles/Berlin) have in the past decade made a wealth of online data available for the study of neo-Sumerian accounts.

In the case of the CDLI, we currently count some 96,000 Ur III text entries, of which nearly 59,000 are annotated with 880,000 lines of transliteration text.

The accounting notation recording equivalencies in Ur III texts is very simple: $n_1 X, Y\text{-}bi\ n_2$, where n_1, n_2 are numerical notations, X and Y describe two quantifiable things, and *bi* is the Sumerian third singular inanimate possessive pronoun. This may thus be understood in the form of an equation: $n_1 X / n_2 Y = \text{conversion rate of } X \text{ to } Y$.

Strategies for searching attestations of such notations must be responsive to some limitations, at least until Steve Tinney's ePSD (<http://psd.museum.upenn.edu/epsd/>) has a greater morphology-analytical capacity and a more robust interactivity in using the files of CDLI. Currently, BDTNS is running on a FileMaker server platform, and it is best to understand the strengths and weaknesses of this software to utilize that website's data. CDLI is running its search programs through a Python-based Zope package transitioning to SQL-based searches developed by programmers at UCLA. While online searches will thus improve with time, the fastest searches of CDLI files will be achieved by simply downloading the project's core raw ASCII data at <http://cdli.ucla.edu/downloads.html> for use with local text editor software. If you search for "bi" (whole word) in the Ur III transliterations currently available through CDLI, you'll achieve nearly 30,000 hits. Narrowing this search to "-bi" (exact string) reduces the number by just 900, but using the regular expression "-bi [0-9]" to avoid instances of *ša₃-bi-ta* and to view only those instances with numerical relationships results in 14,000 hits, of which very nearly all are in fact tags for implicit equivalency values. The (approximate) numbers are fairly reflective of the significance in the Mesopotamian agrarian economy of calculations done in grain and grain products and animals and animal products (both dairy and animal hair), but they also prominently include evidence of calculations and use of equivalencies in field measurements and wood beam lengths, in silver used in merchant accounts, and in the manufacturing term *ki-la₂*, used in a metrological context to indicate the weight of wool used in garments or of copper or bronze in metal tools, the square footage of matted reed used to make baskets, and so on:

Equivalency Unit	Approximate Number of Attestations
še-bi (its "barley")	4,000
ki-la ₂ -bi (its "extent")	2,600
a ₂ -bi (its "labor")	2,000 (including such expanded forms as <i>a₂ erin₂-na-bi</i> , its "labor of the troops")
ku ₃ -bi (its "silver")	1,560 (seldom with the full form <i>ku₃-babbar</i>)
siki-bi (its "wool")	290
zu ₂ -lum-bi (its "dates")	280 (often in estimates of tree yields)
i ₃ -bi (its "oil")	260 (including <i>i₃-geš</i> , "sesame oil"; <i>i₃-nun</i> , "butter oil"; <i>i₃-ku₆</i> , "fish oil")

guruš/geme ₂ -bi (its “corporate slaves”)	190
gid ₂ -bi (its “length”)	170
bi ₂ -gu ₇ -bi (its “loss”)	140
še bala-bi (its “conversion barley”)	130
a-ša ₃ -bi (its “surface”)	110
gi-bi (its “reed”)	110
gu ₄ -bi (its “oxen”)	100
saḡar-bi (its “soil”)	80
ziz ₂ -bi (its “emmer”)	70
iti-bi (its “months”)	60
tug ₂ -bi (its “garments”)	50
us ₂ -bi (its “side”)	40
ku ₆ -bi (its “fish”)	40
kuš-bi (its “leather hides”)	30
za ₃ 1(u)-bi (its “tithe”)	10 (not followed by a numerical notation)

Based on this listing, Ur III equivalency values may be understood in several categories. In the first instance, *-bi* refers to fairly concrete though artificially calculated equivalents between objects and quantities of objects, in many cases simply the raw materials used to produce something. Thus amounts of flour, beer, or bread are understood as so much *še-bi*—that is, equal to the amount of barley considered necessary to produce them. The same applies to garments and wool, mats and reed, butter oil and milk, and so on. Second, the equivalencies refer to conversions into such common denominators in neo-Sumerian accounting as barley, in the case of other grains such as wheat or spelt, or silver, in the case of all quantifiable goods and services. In some restricted contexts, such as payments to day laborers, and doubtless in most informal market transactions among workers in their own communities, barley equated to both work time and, like silver in state accounts, any of a number of commodities sought by these individuals (so-called commodity money; cf. Widell 2005:397–398). Third, equivalencies are attached to such administrative adjustments as barley conversions rated to processing (allowed losses, household or other taxes, and so on); taxes placed on herd animals (*MVN* 6, 84), reeds (*UTI* 4, 2983), or fish (often assessed by the *enku*); or labor concessions such as “free time,” based on gender—either one-sixth (for women) or one-tenth (for men) of the period of work—accorded to dependent laborers. Fourth, equivalents formed the basis for the calculation and monitoring of productivity among workers. Rather than checking on the actual work of their personnel, household supervisors could simply count baskets of fish, measures of flour, or records of canal excavations and, using their implicit tables of work norms, calculate the labor days considered necessary to record these numbers. As will be discussed below, these labor days themselves

could be “monetized” to silver and thus added to general and encompassing value accounts. A few examples of these notations make the implicit calculations noted above clear:

1(šar ₂) sa gi	3,600 reed bundles,
še-bi 1(u) 2(aš) gur	their [-bi] barley: 12 gur.
[SNAT 444, obverse 1-2]	

According to the simple equation, 3,600 reed bundles ÷ 12 gur of barley = 300 reed bundles per gur of barley. (Or, since a gur of barley consisted of 300 sila₃, about 300 liters, the single reed bundle equated to 1 liter of barley.)

2(barig) 'zu ₂ -lum ¹ sumun	2 barig of aged dates,
ku ₃ -bi 2/3 (diš) gin ₂	their silver: 2/3 shekels.
[AUCT 1, 763, obverse 1-2]	

Same calculation: 2 barig of dates ÷ 2/3 shekels of silver = 3 barig of dates (about 180 liters) per shekel (about 8 1/3 g) of silver.

1(geš ₂) 4(u) amar 3(diš) sila ₃ še-ta	100 calves at 3 sila ₃ barley each
u ₄ 4(diš)-še ₃	over 4 days,
še-bi 4(aš) gur lugal	their barley: 4 royal gur.
[Berens 21, obverse 1-3]	

This only slightly more complex calculation in fact contains an explicit conversion factor expressed in the distributive of the first line: 100 calves × 3 sila₃ of barley (feed per calf-day) × 4 days = 1,200 sila₃, or 4 gur. The conversion 3 sila₃ per calf-day would not be necessary to solve the equation, since 1,200 sila₃ ÷ 400 calf-days = 3 sila₃/calf-day.

Based on the last of these examples, we may resolve the implied calculations of the Ningirsu household described in HSS 4, 4 (Figure 21.1):

	200 gur
20 × 20 =	400
	100
	100
	100
	40
	40
	100
	40
	20
	20
98 × 15 =	1,470
	<hr/>
	2,630 gur

In fact, obverse i 15 of that text is physically indented on the tablet, a formatting standard used by Ur III scribes to indicate a subtotal of complex calculations that will often be qualified with our *še-bi*.

THE TRADE AGENT ACCOUNTS AND SILVER EQUIVALENCIES

Let us now expand these examples to include the most straightforward of the larger accounting formats documenting equivalencies in the Ur III period: that of the *damgar* trade agents and what has been conventionally called silver prices (Englund 1990:181–197; Forde 1964; Neumann 1979; Powell 1977; Snell 1982; Widell 2005; Young 1979). The *damgar* text described below, *TCL* 5, 6056 (cf. Snell 1982:number 21), is an entirely representative example of the bookkeeping format employed in all major offices of Ur III households (Englund 1990:13–51; 1991; 2003). In this instance, dating to the fifth regnal year of Amar-Suen, the activities of a well-documented trade agent from the governor’s household in Umma are recorded as his debits and credits in the form of a series of account postings in precisely the same format we know from many hundreds of receipts, characterized above all by the notation n1 X, *ku₃-bi* n2. The debits section—the agent’s liabilities—commences with a deficit recorded, in silver, from the preceding accounting year, Amar-Suen 4 (which is, in fact, entered in *YNER* 8, 6 reverse 13: “la₂-ia₃ 4(diš) 1/2(diš) gin₂ 1(u) 2(diš) še ku₃”; “the deficit: 4 1/2 shekels, 12 grains of silver”). There follow a number of notations, including counts and measures of various sorts of fish and fish oil, wool, dates, leather products, and grain, in each case followed by their silver equivalence, representing domestic produce of the household and its estates that was, in Amar-Suen 5, transferred to control of the trade agent.

The original deficit and these silver equivalences form the full obligation of the trader to his household and therefore the debit of his account. The second section describes what the trader in turn delivered to officials of that same household: a large delivery of silver, then numbers and measures of copper, lard, raisins, and wooden containers, in each case (as before) duly converted to silver equivalences and added together to form the trader’s credits. These credits deducted from the debits result in a new deficit for this agent, now grown from slightly more than 4 1/2 shekels to 61 1/6. And this new deficit is found recorded in the tablet *JRAS* 1939, 32 (BM 106064, dating to Amar-Suen 6 xi), with its first two lines reading “1(diš) ma-na 1(diš) gin₂ igi 6(diš)-gal₂ 1(u)! 2(diš) še ku₃-babbar / si-i₃-tum,” continuing a chain of running accounts linked by deficits carried over from one accounting period to the next.

TCL 5, 6056 Obverse

1. 4(diš) 1/2(diš) gin₂ 1(u) 2(diš) še ku₃-babbar 4 1/2 shekels, 12 grains of silver;
2. si-i₃-tum the remaining ([carry-over] deficit);
3. 3(geš'u) 3(geš₂) ku₆ sag-kur₂ 1,980 "headed" fish,
4. ku₃-bi 2(diš) gin₂ igi 6(diš)-gal₂ 6(diš) še their silver: 2 1/6 shekels, 6 grains;
5. 1(geš'u) 2(geš₂) ku₆ ša₃-bar ku₃-bi 2(diš) gin₂ 720 gutted fish, their silver: 2 shekels
6. 6(diš) gu₂ siki ku₃-bi 2/3(diš) ma-na 6 talents of wool, its silver: 2/3 mana;
7. ša₃ kišib₃-ba under seal.
8. 5(geš'u) 5(geš₂) ku₆ gir₂-us₂ 3,300 slit fish,
- ku₃-bi 4(diš) gin₂ igi 4(diš)-gal₂ 5(diš) še their silver: 4 1/4 shekels, 5 grains;
9. 3(geš'u) 6(geš₂) 3(u) ku₆ sag-kur₂ 2,190 "headed" fish,
10. ku₃-bi 2(diš) 1/3 (diš) gin₂ 1(u) 8(diš) še their silver: 2 1/3 shekels, 18 grains;
11. 2 barig i₃ ku₆ ku₃-bi 4(diš) gin₂ 2 barig fish oil, its silver: 4 shekels;
12. 1(geš₂) 4(aš) zu₂-lum gur 64 gur of dates,
13. ku₃-bi 2/3(diš) ma-na 2(diš) 2/3(diš) gin₂ their silver: 2/3 mana, 2 2/3 shekels;
14. mu en-mah-gal-an-na ba-ḥun year: "Enmahgalana was installed" [AS 4].
15. 5(u) zu₂-lum gur 50 gur of dates,
16. ku₃-bi 1/2(diš) ma-na 3(diš) 1/3(diš) gin₂ their silver: 1/2 mana, 3 1/3 shekels;
17. mu en-unu₆-gal-^dinanna ba-ḥun year: "En-unugal-Inanna was installed" [AS 5].
18. 1(u) ^{kuš}ummu₃ 10 water skins,
19. ku₃-bi 1/2(diš) gin₂ ¹2(u) še¹ their silver: 1/2 shekel, 20 grains;
20. 1(u) ^{kuš}e-¹si₂¹ [e₂-ba-an²] 10 pairs? of leather sandals
21. ku₃-bi 2/3(diš) ¹gin₂¹ [. . .] their silver: 2/3 shekel . . .
22. 7(diš) [. . .] 7 . . .

TCL 5, 6056 Reverse

1. 1(geš₂) še gur ku₃-bi 1(diš) ma-¹na¹ 60 gur of barley, its silver: 1 mana;
2. še i₃ šah₂-ka barley of the lard.
3. |ŠU+LAGAB| 3(diš) 1/3(diš) ma-na 1(diš) Together: 3 1/3 mana, 1 1/3
- 1/3(diš) gin₂ 1(u) 6(diš) še ¹ku₃¹ -[babbar] shekels, 16 grains of silver
4. sag nig₂-gur₁₁-ra-kam ša₃-bi-ta are the debit; therefrom:
5. 1(diš) 1/3(diš) ma-na la₂ 1/3(diš) gin₂ 1(u) še 1 1/3 mana less 1/3 shekel, 10 grains of
- ku₃-babbar silver,
6. 3(u) 8(diš) 1/2(diš) ma-na uruda 38 1/2 mana of copper;

7. ku ₃ -bi 1/3(diš) ma-na 5(diš) 2/3(diš) gin ₂	<i>their silver: 1/3 mana, 5 2/3 shekels,</i>
8. kišib ₃ lu ₂ -kal-la	<i>under the seal of Lukalla;</i>
9. 1(aš) 2(barig) 4(ban ₂) 6(diš) 'sila ₃ ' i ₃ šah ₂ gur	<i>1 gur, 2 barig, 4 ban₂, 6 sila₃ of lard,</i>
10. ku ₃ -bi 1/3(diš) ma-na 3(diš) 1/3(diš) gin ₂ la ₂ 6(diš) še	<i>its silver: 1/3 mana, 3 1/3 shekels less 6 grains,</i>
11. kišib ₃ ur- ^d šul-pa-e ₃	<i>under the seal of Ur-Šulpae;</i>
12. 6(diš) sila ₃ geštin ha ₂ sa ₂ -du ₁₁ lugal	<i>6 sila₃ of raisins, royal supplement,</i>
13. 2(diš) sila ₃ geštin ha ₂ giri ₃ lugal-ša ₃ -la ₂	<i>2 sila₃ of raisins via Lugal-šala,</i>
14. ku ₃ -bi igi 6(diš)-gal ₂	<i>their silver: 1/6 [shekel];</i>
15. 2(u) ^{ges} kab ₂ -kul	<i>20 wooden k-containers,</i>
16. ku ₃ -bi 2(diš) gin ₂	<i>their silver: 2 shekels;</i>
17. kišib ₃ a-gu	<i>under the seal of Agu;</i>
18. 8(diš) 1/2(diš) gin ₂ ku ₃ uruda uri ₅ ^{ki} -ma	<i>8 1/2 shekels of silver for Ur copper,</i>
19. giri ₃ ur- ^d lamma u ₃ e ₂ -lu-bi-bi	<i>via Ur-Lamma and Elubibi.</i>
20. ŠU+LAGAB 2(diš) 1/3(diš) ma-na igi 6(diš)-gal ₂ 4(diš) še ku ₃ -babbar	<i>Together: 2 1/3 mana, 1/6 [shekel], 4 grains of silver</i>
21. zi-ga-am ₃	<i>booked out;</i>
22. la ₂ -ia ₃ 1(diš) ma-na 1(diš) gin ₂ igi 6(diš)-gal ₂ 1(u) 2(diš) še ku ₃ -babbar	<i>deficit: 1 mana, 1 1/6 [shekel], 12 grains of silver;</i>
23. nig ₂ -ka ₉ aka šeš-kal-la dam-gar ₃	<i>account of Šeškala, the trade agent;</i>
24. mu en-unu ₆ -gal- ^d inanna ba-ḫun	<i>year: "En-unugal-Inanna was installed" [AS 5].</i>

AN OVERVIEW OF SILVER EQUIVALENCIES

Each notation of the form n₁ X, ku₃-bi n₂ can of course be calculated to derive a set of silver equivalencies for the commodities listed in *TCL* 5, 6056, including 1,980 ÷ 2 shekels 36 grains (1 shekel = 180 grains) = 900 headed fish per shekel of silver; 720 ÷ 2 = 360 gutted fish per shekel; 6 talents ÷ 2/3 *mana* = 9 talents of wool per *mana* or 9 *mana* of wool per shekel; 2 *barig* ÷ 4 = 1/2 *barig* or 30 *sila₃* of fish oil per shekel; 64 *gur* ÷ 42 2/3 = 1 1/2 *gur* of dates per shekel, and so on. Texts such as *MVN* 11, 101, with multiple instances of explicit equivalency values in the form of 1(aš) 4(barig) 4(ban₂) 6 *sila₃* mun gur 3(aš) gur-ta / ku₃-bi 2/3 (gin₂) la₂ 3(diš) še (obverse 19–reverse 1), “1 gur 4 barig 4 ban₂ 6 *sila₃* salt [at a rate of] 3 gur for each [shekel of silver], its silver: 2/3 [shekel] less 3 grains” (1 286/300 *gur* ÷ 3 *gur* per shekel [of 180 grains] = 117.2 grains, discounting 2/10 of one grain in the notation), are very rare but do underscore the fact that the shekel was the basis of valuation in our Ur

III accounts. The list below* is designed to give an overview of the major products recorded in Ur III trade agent and related accounts (not sale documents that were as a rule drawn up between private individuals and thus were not subject to state regulation; see generally Wilcke 1976–1980, 2007):

Commodity	Sumerian	English	Count or Measure (per shekel silver)
grain	še	barley	4 barig 4 ban ₂ 5 sila ₃ (<i>SNAT</i> 490) 1 gur 1 gur 1 barig (<i>TCL</i> 5, 6046 [še i ₃ -šaḥ ₂]) 1 gur 2 barig 2 ban ₂ (<i>TCL</i> 5, 6046)
animals	peš ₂ -geš-gi šaḥ ₂ niga udu/maš ₂ (nita ₂)	bandicoot rat fattened pig sheep and goats	48 ≈ (<i>MVN</i> 2, 24) (2 shekels per animal; <i>MVN</i> 13, 519) 1/2 - 2
dairy products, oils	ga gazi (ab ₂) ga ḪAR (ab ₂) ga UD <i>gunû</i> (ab ₂) ga ḪAR (ud ₃) ga SIG ₇ -še-a (ab ₂) i ₃ -nun (ab ₂) i ₃ -nun-ḪA (ud ₃) i ₃ -geš i ₃ -ku ₆ i ₃ -šaḥ ₂ i ₃ -udu	gazi dry cheese (cow) dry cheese (cow) dry cheese (cow) dry cheese (goat) yellowed milk butter oil (cow) butter oil (goat) sesame oil fish oil lard tallow	2 barig 2 barig 3 ban ₂ (Ur, Drehem) 3 barig (Umma) 3 barig 3 barig 2 ban ₂ (<i>BPOA</i> 7, 2029) 2 barig 3 ban ₂ 3 barig 1 ban ₂ 1 ban ₂ (Umma) 8 sila ₃ (Ur) 9 sila ₃ (<i>CT</i> 5, 38 BM 017752) 1 ban ₂ 1 ban ₂ 2 sila ₃ 1 ban ₂ 3 1/3 sila ₃ (<i>TCL</i> 5, 6046) 1 ban ₂ 6 sila ₃ (<i>AAICAB</i> 1/2, plate 89, 1935-527) 3 ban ₂ 4 ban ₂ 1–2 ban ₂ 2 ban ₂
fish	ba ba saga ba us ₂ murgu ₂ ba gam-gam gir ₂ -us ₂ ku ₆ kun-zi-da nig ₂ -ki sag-kur ₂ sag-kur ₂ sig ša ₃ -bar ša ₃ -bar sig še ₆	b-fish (not turtle) fine turtle lesser turtle turtle shell g-fish slit fish reservoir fish “buried?” fish “headed” fish “headed” fish, low quality guttled fish guttled fish, low quality smoked fish	900 (<i>TCL</i> 5, 6046) 6 (<i>DAS</i> 46bis) 10 (<i>DAS</i> 46bis) 20 72 (<i>YOS</i> 18, 123 reverse iii 17) 360 ≈ (<i>AAICAB</i> 1/2, plate 89, 1935-527) 900 780 ≈ 1,200 ≈ (<i>TCL</i> 5, 6046) 90 1 gur (<i>TLB</i> 3, 146) 900 1,600 ≈ 360 450 ≈ (<i>TCL</i> 5, 6046) 900 1,560 ≈ (<i>TCL</i> 5, 6046) 1,600 ≈ 1 gur 1 barig (<i>SNAT</i> 365) 1 gur 3 barig (<i>AAICAB</i> 1/2, plate 89, 1935-527) 2 gur
other animal products	eš-ku-ru-um pa mušen? kuš šaḥ ₂	wax feathers? pig skins	2 mana 1,800 (9 attestations, each with 18,000 PA ḪU) 2,000 (<i>SNAT</i> 365; <i>MVN</i> 16, 910?) 30

Commodity	Sumerian	English	Count or Measure (per shekel silver)
fruit, syrups, vegetables	kuš ₂ udu	sheep skins	60 (<i>TCL</i> 5, 6046) 90
	kuš ₂ a-ga ₂ -la ₂	leather a-sack	36 40 (<i>TCL</i> 5, 6046)
	kuš ₂ e-sir ₂ e ₂ -ba-an	leather sandals, in pairs	15 20
	kuš ₂ ummu ₃	leather water skin	10 (<i>TCL</i> 5, 6046) 18
	siki	wool	9–12 mana 13 mana 20 shekels (<i>SNAT</i> 504)
	siki ud ₃	goat hair	9–12 mana
	gu ₂ -gal	chick-pea	1–2 barig
	gu ₂ -tur	lentils	2 1/2–3 barig
	zu ₂ -lum	dates	1–1 1/2 gur
	zu ₂ -lum sumun	aged dates	3 barig
	geštin ḥad ₂	raisins	1/2–1 barig 4 ban ₂ 5 sila ₃ (<i>ASJ</i> 14, 99 1)
	geš ₂ peš ₃ še-er-gu	string of figs	12–15 (unclear length of strings)
	lal ₃	(date) syrup (honey?)	1 1/4–3 sila ₃ (<i>MVN</i> 2, 24)
	šum ₂ (za)- ḥa-din	leek	1 ban ₂ 5 sila ₃ (<i>MVN</i> 11, 101) 3 ban ₂ 4 ban ₂ 8 sila ₃ (<i>SNAT</i> 490)
	šum ₂ (za)- ḥa-din	leek, unsightly	2 barig 3 ban ₂
	igi nu-saga		
	šum ₂ sikil	garlic	2 barig 3 ban ₂
	sag šum ₂ sikil	garlic bulb “head”	2 barig 3 ban ₂ 1 gur ≈ (<i>SNAT</i> 503)
condiments, aromatics, etc.	šum ₂ sikil	garlic, unsightly	1 gur
	igi nu-saga		
	numun šum ₂ sikil	garlic cloves	1 barig 1 ban ₂ 5 sila ₃
	gazi	sumac?	1 gur
	ku-mul	cumin	1 gur 1 barig
	mun	salt	1 1/2–2 ban ₂
	naga	potash	8–12 mana ≈
	naga si-e ₃	“horned” potash	1 gur 1 barig–4 gur 3 gur 4 gur (<i>SNAT</i> 490)
	še li	juniper seeds?	2–5 sila ₃
	še-lu ₂	coriander	1 barig 3 ban ₂ (<i>MVN</i> 16, 910) 1 barig 4 ban ₂ (<i>ASJ</i> 14, 99 1; <i>Nik</i> 2, 403) 2 barig 3 ban ₂ ≈ (<i>YNER</i> 8, 11) 3 barig 4 ban ₂ 5 sila ₃ ≈ (<i>YNER</i> 8, 14)
wood, reed	šim gi	reed aromatic	20–30 mana
	šim gig	bitter aromatic	8–20 sila ₃
	šu-ur ₂ -me	cypress aromatic	1 ban ₂ –1 ban ₂ 2 sila ₃
	gi	reed	20 mana 30 mana (<i>SNAT</i> 504) 300 sa
	gi du ₁₀ -ga	sweet reed	3 ban ₂
	geš ₂ ḥašhur	crab apple wood	36 planks at 3 cubits length 60 planks at 2 cubits length
bitumen, gypsum	pa li	juniper branches?	3–6 ban ₂
	esir ₂ E ₂ -A	liquid? bitumen	1–2 1/2 barig
	esir ₂ ḥad ₂	dry bitumen	10 gu ₂ (600 mana; cf. <i>BPOA</i> 7, 2496) 12 gu ₂
metals	im babbar	gypsum	10–30 gu ₂
	an-na	tin	12–20 shekels
	ku ₃ -ḥuš-a	red gold	(15:1)
	ku ₃ -sig ₁₇	gold	(7–20:1)
	uruda	copper	80 shekels ≈ (<i>CT</i> 5, 38 BM 17752)

Commodity	Sumerian	English	Count or Measure (per shekel silver)
			90 shekels
			110 shekels? (<i>AS</i> 7 14, 99 1)
	su ₃ -ḫe ₂	borax?	30 shekels ≈ (<i>CT</i> 5, 38 BM 17752)
			60–120 shekels
labor	u ₄	workdays	22 1/2–180 days

*The silver equivalencies list follows for the most part Snell 1982:121–181. References are added only to unusual values, and equivalencies exceeding the rate of 1 shekel per unit are set in parentheses. The metrological systems used in the list are:

Capacity: 1 *gur* = 5 *barig* = 30 *ban*₂ = 300 *sila*₃ (1 *sila*₃ is about 1 liter)
Weight: 1 *gu*₃ = 60 *mana* = 3,600 shekels; 1 shekel (about 8.33 g) = 180 grains
Length: 1 *ninda* = 2 *gi* (reed) = 12 *kuš*₃ (1 *kuš*₃/cubit is about 50 cm)
*Confer *M/VN* 21, 344, and for deliveries of PA ḪU by the fisheries tax assessor enku see *BPOA* 6, 1063 // *ZA* 95, 191 [BM 106050] reverse i 10 and *Banca d'Italia* 2/2, 1 reverse i 7.

If we are to draw some comparison of these values with our own experience, then we should base all silver values on the grain equivalencies that were the foundation of commerce for the overriding majority of ancient Sumerians. Thus, with a normative 300 *sila*₃ = 1 shekel of silver, and with a yearly neo-Sumerian minimum wage of (12 × 200 =) 2,400 *sila*₃ of barley ÷ 300 = 8 shekels of silver, it is easy to contemplate informal markets within Mesopotamian communities that made a variety of products available to normal workers. Sweet dates or damaged garlic could be exchanged with measures of barley at 1:1; for 1 liter of grain, you could even have received 2 liters of smoked fish; 1 pound of salt would set you back 30 liters of barley or approximately five workdays.

Despite the relative homogeneity of most of the equivalency values derived from *damgar* accounts, as well as from a large number of individual receipts that would have been entered to the credits sections of those accounts, it remains unclear how much “price” fluctuation was tolerated or even encouraged in the Ur III period. The primary staple, barley, ranges from a high exchange value of 4 *barig* (240 liters) per shekel of silver down to a rate of 1 *gur* 2 *barig* 2 *ban*₂ (440 liters), representing a difference of some 180 percent. It would not be difficult to postulate a number of credible reasons for this and other fluctuations in the cuneiform records, including exchange pressures generated by bumper harvests or a major influx of silver, conflict, drought, degradation of the fields through salinization, or other processes endemic to alluvial agriculture in antiquity. Gomi (1984) has described the dire economic situation during the reign of the last of the five Ur III monarchs, characterized by disruptions in grain harvest and transportation due to collapsing security. Households scrambled to substitute other foodstuffs for grain, with the exchange value of barley rising to improbable highs. We might also seek to uncover clues of manipulation of the records by one party or the other, since we know from many related texts that equivalencies may have been skewed by the imposition of taxes or fees by households or higher state agencies—and we should remember that the majority of the silver equivalencies cited here and in other studies derive from a limited set of accounts from Umma dating to the middle years of Amar-Suen. That is, these results may be skewed by the unevenness of the unearthed cuneiform record. Still, the golden rule throughout early Mesopotamian history was surely 1 *gur* of

barley = 1 shekel of silver, which though not formalized in third-millennium decrees is implied by the majority of barley exchange notations and by the evident interest of the crown in standardizing both metrological systems and barley wages (Roth 2003:16 and 38; and see the nearly complete copy of the Ur-Namma Codex in the Schøyen Collection [=CUSAS 17, 107], particularly columns 5 and 6). Further, we may compare the Ur III exchange equivalencies with the first law of the Ešnunna Code prescribing prices for the basics of the Babylonian household (ca. 1900 B.C.; Roth 2003:59):

Ešnunna Prescribed Prices:

1 gur of barley for	1 shekel of silver
3 sila ₃ of fine oil for	1 shekel of silver
1 ban ₂ 2 sila ₃ of oil for	1 shekel of silver
1 ban ₂ 5 sila ₃ of lard for	1 shekel of silver
4 ban ₂ of bitumen for	1 shekel of silver
6 mana of wool for	1 shekel of silver
2 gur of salt for	1 shekel of silver
1 gur of potash for	1 shekel of silver
3 mana of copper for	1 shekel of silver
2 mana of worked copper for	1 shekel of silver

Ur III Mean Values:

= 1 gur
= ?
= 1 ban ₂
1 ban ₂ 5 sila ₃ –2 ban ₂
6–10 ban ₂
10 mana
10 mana (ca. 1/30 gur)
1 gur 1 barig–4 gur
1 1/2 mana
?

It seems worth noting for the record the apparent lack of a number of important commodities in these accounts. Most finished products, including flour and items made of wood, reed, and metal, are not found here. Of course, in the case of the *damgar* accounts, we are witness to the conversion of excess unprocessed goods (in the debit sections) into those products desired by household elites (credits), but the known equivalencies include values, if artificial or not, that were necessary to complete accounts in the “commodity money” of the day: silver, barley, fish, oil, and so on. Even here, it seems that unprocessed products moved through valuation mechanisms and then disappeared in the administrative apparatus. Further, both domesticated animals and slaves are effectively missing in the records of the Ur III merchants. The lack of slaves of course reflects the fact that *damgar* were agents responsible for the exchange of goods produced and owned by central households, where the chief distinction between corporate and domestic slaves was that the former were inalienable while the latter were chattel property of private individuals and thus recorded in contracts, not administrative records. (Note in *BPOA* 6, 1366 and 1378, the potential anomalies of slaves taken into administrative control [*dab₃*] at a barter exchange rate of one human per one adult ox or cow.) Since we would expect slaves to have been available for barter purchase in the areas in and around Babylonia that were frequented by *damgar* or their representatives, it remains notable that such chattel would not have even served as “conversion goods” in the silver accounts of household agents, which might indicate some sort of taboo in this trade. The very few references to cattle, sheep, and pigs are even more difficult to explain, aside from the fact that animals on the hoof required a new layer

of staff—herders—in their transportation from one informal market to the next. There must be some other explanation for this exclusion from the trade records.

The final set of equivalencies listed above derives from a growing number of Ur III accounts dealt with in Englund 2012. Since, as has been amply demonstrated in other publications, the bookkeeping system of third-millennium Mesopotamia developed a set of labor production norms that formed the basis of all labor records in the Ur III period, and since the products of these labor efforts were themselves quantified and standardized in terms of silver equivalencies, it is not in the least surprising that early accountants transferred these values to workdays themselves. These wages in silver equivalencies held to a fairly stable range of one to six months of labor per shekel of silver. The standard of one month per shekel (or its common equivalent of 1 *gur* of barley, most often attested in the form of daily wages of 1 *ban*₂) was the general value of labor used in the succeeding Old Babylonian period of Hammurapi. I will return directly to this expansion of equivalency values to labor output, but I add here an indication from the Umma account *Princeton* 1, 396, that not only were workdays converted to silver values to fulfill the administrative needs of active worker troop management, but a workforce could in fact be *bought* in the marketplace (as Adams 2010 has postulated with his consideration of a mobile workforce employed at Garshana; cf. Wilcke 2007:91). Obverse 1–4 of that text reads:

2(geš'u) 3(geš ₂) 3(u) 5(diš) guruš u ₄ 1(diš)-še ₃	1,415 laborer workdays,
erin ₂ diri	[from] “additional troops;”
2(geš'u) 5(geš ₂) 3(u) 3(diš) guruš u ₄ 1(diš)-še ₃	1,533 laborer workdays,
ku ₃ -ta sa ₁₀ -a	purchased with silver.

BEYOND SILVER EQUIVALENCIES

Although silver was of imposing importance in mechanisms of exchange and wealth distribution within and across borders of ancient Babylonian states, central household accountants employed, with almost dizzying accuracy, a broad palette of equivalencies as part of their means of control of production. These included value and real equivalencies between such raw materials and finished products as milk and cheese (Englund 1995) or barley and flour (Brunke 2008; Hrozný 1913), but most notably labor norms that determined the success or failure of teams of workers engaged in all aspects of early household production.

The accounts, first, contain an array of equivalencies between commodities that reflect valuations based presumably on personal preferences, perhaps on availability or production costs of various related goods, for instance barley and wheat, as well as valuations based on labor input, such as the difference between unprocessed barley and barley groats on the one hand and unprocessed barley and finely milled barley flour on the other. The list below offers an overview of such valuations, where in the accounts some measure of unprocessed or processed grain has been assigned an unprocessed barley equivalent:

kaš dida du	$1/15 \times \text{še}$	regular dida beer is converted to unprocessed barley at a rate of 15 (measures of beer) : 1 (measure of barley) (<i>AS7</i> 3, 160 128)
kaš dida saga	$1/10 \times \text{še}$	fine dida beer is converted to unprocessed barley at a rate of 10:1 (<i>AS7</i> 3, 160 128)
duḥ du/saga	$1/5 \times \text{še}$	regular/fine chaff? is converted to unprocessed barley at a rate of 5:1 (<i>MVN</i> 5, 277)
ziz ₂	$1/1 \times \text{še}$	unprocessed emmer is converted to unprocessed barley at a rate of 1:1
dabin	$1/1 \times \text{še}$	barley groats are converted to unprocessed barley at a rate of 1:1
zi ₃ -gu	$1/1 \times \text{še}$	pea flour is converted to unprocessed barley at a rate of 1:1 (<i>TMH NF</i> 1–2, 121)
ninda du	$1/1 \times \text{še}$	regular ninda is converted to unprocessed barley at a rate of 1:1
kaš du	$1/1 \times \text{še}$	regular beer is converted to unprocessed barley at a rate of 1:1
kaš saga	$3/2 \times \text{še}$	fine beer is converted to unprocessed barley at a rate of 2:3
ninda ar ₃ -ra saga	$3/2 \times \text{še}$	fine ground ninda is converted to unprocessed barley at a rate of 2:3 (<i>TCL</i> 5, 5670 [Umma]; <i>BBVO</i> 11, 279 6N-T366 [Nippur])
ar-za-na ninda ar ₃ -ra saga	$3/2 \times \text{še}$	arzana fine ground ninda is converted to unprocessed barley at a rate of 2:3 (<i>TUT</i> 121)
ba-ba zi ₃	$3/2 \times \text{še}$	baba flour is converted to unprocessed barley at a rate of 2:3 (<i>TUT</i> 121)
eša	$2/1 \times \text{še}$	semolina is converted to unprocessed barley at a rate of 1:2 (<i>TCL</i> 5, 5670)
gig	$2/1 \times \text{še}$	wheat is converted to unprocessed barley at a rate of 1:2 (<i>TCL</i> 5, 5670)
imagaga ₃	$2/1 \times \text{še}$	i-grain is converted to unprocessed barley at a rate of 1:2 (<i>TCL</i> 5, 5670)
zi ₃ sig ₁₅	$2/1 \times \text{še}$	coarse grain is converted to unprocessed barley at a rate of 1:2 (<i>TCL</i> 5, 5670)
zi ₃ gaz _x (KUM)	$2/1 \times \text{še}$	“ground” grain is converted to unprocessed barley at a rate of 1:2 (<i>TCL</i> 5, 5670)
ninda ar ₃ -ra imagaga ₃	$2/1 \times \text{še}$	ground ninda i-grain is converted to unprocessed barley at a rate of 1:2 (<i>Ontario</i> 2, 458)

Another form of equivalency generation is seen in the dairy industry (Englund 1995; Gomi 1980; Kraus 1966). Cows or nanny goats (not ewes in the Ur III period) put in the care of herders were, attendant upon parturition and harvest of excess milk (the milk not reserved for the calf), assigned production quotas in the dairying books. For each cow-year, the herder was to deliver 5 *sil*₃ (liters) of butter oil (ghee; Sumerian *i₃-nun*) and 7 1/2 *sil*₃ of dry cheese (*kaš*_k; Sumerian *ga HAR* or *ga UDgunû* [phonetic, not dialectical variants; cf. Englund 1995:381–382, note 10]) to persons representing central offices of Ur III households. These quantities are presumed to derive from calculations of actual milk production by cows and from the processing of milk by herders into dairy products with a long shelf life in a hot climate. Thus, with a hypothetical excess milk quantity of 300 to 400 liters for cows in this climate, 100 liters of the milk product known as *ga še_x(SIG₇)-a* (yellowed milk) would be required to process 5 liters/*sil*₃ of butter oil and 7 1/2 liters of high-protein dry cheese. *ga še_x-a* was in all likelihood the high-fat top half of fresh milk kept in containers overnight, into which the cream had separated—that is, some form of processed raw milk that dependably contained 5 percent fat or more, whereas fresh milk (not colostrum) would generally contain 2 to 3.5 percent. The 20:1 relationship between yellowed milk and butter oil, then the 2:3 relationship between butter oil and *kaš*_k cheese, are firm conversion factors in neo-Sumerian accounts documenting the delivery expectations assigned by central household bookkeepers to each mature cow in herds given over to herding personnel. To be clear, where these “nice” numbers are recognizable in the texts, they invariably represent artificial delivery quotas and not records of real deliveries. The corresponding delivery norms for goats was 1/3 and 1/2 (in Girsu texts; in Umma 1/2 and 3/4) *sil*₃ per nanny-year, respectively, retaining the 2:3 relationship between butter oil and *kaš*_k cheese (Englund 1995:398–399, note 45; 420, note 78).

This artificial nature of the Ur III equivalences signaled by the notation n1 X, Y-bi n2 is equally visible in accounts documenting the plan production of agricultural fields. The famous Lagash inventory text *RTC* 407 offers an excellent example of a practice that is fully established in this era, as indeed in the preceding ED IIIb period and potentially as early as the Late Uruk III phase of the latter fourth millennium B.C. (Nissen et al. 1993:55–59 to figure 51). The Lagash account reads, in the fully preserved subsection reverse 8'–13', dating to the thirty-second year of Šulgi:

1 (šargal) ^{gal} 1(šar'u) 1(šar ₂) 1(bur ₃) GAN ₂	1 šargal 11 šar ₂ 1 bur ₃ [= 4,261 bur ₃]
	arable land,
še-bi 3(šar'u) 5(šar ₂) 3(geš'u) 3(u) gur	its barley: 127,830 gur;
ša ₃ -bi-ta	therefrom:
2(šar'u) 1(šar ₂) 4(geš'u) 7(geš ₂) 4(u) 2(aš)	78,462 gur 1 barig 4 ban ₂
1(barig) 4(ban ₂) gur	
mu-ku _x (DU)	[actually] delivered.
la ₂ -ia ₃ 1(šar'u) 3(šar ₂) 4(geš'u) 2!(geš ₂) 4!(u)	The deficit: 49,367 gur 3 barig 2 ban ₂
7(aš) 3(barig) 2(ban ₂) gur	

Based on a standardized yield of 30 *gur* per *bur*₃ (value equivalency: 1 *bur*₃-year = 30 *gur* barley less 1 *gur* seed, half as much feed, and the costs of field and crop maintenance, harvest, and storage; cf. Butz 1980–1983; Butz and Schröder 1985), the Lagash province fields (totaling some 270 km²) are recorded with a *planned* harvest (*še-bi*) of (4,261 × 30 =) 127,830 *gur*. The recorded yield, however, was just 78,462, leaving a gaping provincial deficit of nearly 50,000 *gur* of barley (Maekawa 1974:10–11). While this shortfall would have been of existential interest to the Lagash *ensi*, its potential use by the crown, for instance as a basis for the calculation of *bala* liabilities, could have had long-term destabilizing consequences for the economy of Lagash that went well beyond the concerns of a local governor, his personnel, and his extended households. Given the attention paid to plan income by Ur III bookkeepers, it is difficult to imagine that Sharlach (2003) can be correct in assuming that kings tallied the provincial harvest and claimed of it some firm *bala* percentage. Rather taxes would have been levied on the expected, not the real, production of the realm.

PIECEWORK EQUIVALENCIES

The silver “wages” of workdays are the levels of valuation given by early Babylonians to members of their households, and they may well reflect the ultimate valuation of these persons. We may also flip the accounts and query them about the product equivalencies of labor units (workdays were probably calculated as 12 hours). In this, as with wages and rations, the texts are quite clear, though they never simply give us a manual with explicit equivalencies. I will explore several examples of accounting records covering all imaginable tasks, of which only the very basic activities, such as simple presence at a service center, the lifting of a boat from one canal to another, or even being sick and thus released from actual labor, are not qualified with specific production norms, even though these norms can, due to reasons not made explicit in the texts, be highly variable.

For instance, hoeing and excavation work were rated according to various norms, often recorded in the same text, ranging from 2 to 6 or more *sar* per day (1 *sar* = about 36 m²). Anyone who has done farmwork or has just spent much time in a garden knows there are many reasons to assign more time to one project than another, based on quality of soil, depth of the digging work, and so on. I have seen no studies that go into potential reasons for variation in work norms assigned to other tasks, such as harvesting reed and other plants or harvesting and threshing grain; nor are the variations described in later cuneiform tradition. However, the Old Babylonian mathematical texts are clear in explaining different work norms in excavations; as any archaeologist will attest, work slows as your laborers get deeper in their trenches. The daily norm most common in Ur III accounts was 3 m³, which in the heat of southern Mesopotamia is not a task most of us would welcome.

The list below represents a selection of entries from the approximately 1,100 attestations of labor norms collected and tagged in the course of work on the CDLI transliterations and inserted, with links to the associated texts, into [cdli:wiki](http://cdli.ucla.edu/wiki/doku.php) (<<http://cdli.ucla.edu/wiki/doku.php>>) as an article entitled “Ur III Equivalency Values” (as of March 2012).

Category	Work Description	Translation	Labor Norm
basketry	^g ba-an ḥašḥur	ban ₂ basket, crabapples	1 1/2 baskets per day
matting	^g ba-an du ₈ -du ₈	ban ₂ basket . . .	1 basket per day
	^g gur 1(barig)-ta	1-barig gur basket	3 baskets per day
	^g gur-dub 3(ban ₂)-ta	3-ban ₂ gurdub basket	4 baskets per day
	^g gur-dub 4(ban ₂)-ta	4-ban ₂ gurdub basket	5 baskets per day
	^g gur-dub 1(barig)-ta	1-barig gurdub basket	5 1/2 baskets per day ^a
	^g ḥal 1(barig)-ta	1-barig ḥal basket	3 baskets per day
	^g kaskal 1(barig)-ta	1-barig journey basket	5 baskets per day
	^g kid (šer ₇ -ru-um)	(šerrum) kid mat	1.6 days per mat ≈
	^g kid-dagal ma ₂ 40 gur	wide kid mat, 40-gur boat	3 days per mat
	^g kid-dagal ma ₂ 60 gur	wide kid mat, 60-gur boat	4 1/2 days per mat
	^g ma-an-sim dabin	sieve, flour	1 2/3 day per sieve
	^g ma-an-sim nig ₂ ar ₃ -ra	sieve, groats	3 sieves per day
	^g pisan gid ₂ -da	long basket	1 basket per day
	^g pisan gid ₂ -da	long basket	2 days per basket
	^g pisan im-sar	tablet basket	2 baskets per day
brewery	kaš	beer (kvass?)	6 2/3–7 1/2 sila ₃ per day
	kaš du	regular beer	2 ban ₂ per day
	kaš saga	fine beer	1 ban ₂ per day
bricks	sig ₄	bricks	20 shekels (1/3 brick sar, = 240 bricks) per day
field work	al	hoeing	3–10 sar per day
	al du ₃	hoe “planting”	10–20 sar per day
	^{gsk} diḥ ₃ ku ₅ -a	cutting camel thorn	10–30 sar per day
	^{gsk} peš ₃ SIG ₇ -a	pulling fig trees	10 sar per day
	^{gsk} ma-nu ku ₅ -a	cutting willow	15–30 sar per day
	^{gsk} ma-nu ku ₅ -a	cutting willow	1 bale per day
	gi ku ₅ -a	cutting reed	10–20 sar per day
	gi SIG ₇ -a	pulling reed	13–40 sar per day
	gi zi ku ₅ -a	cutting fodder reed	3 bales per day
	saḥar	soil excavation	6 2/3–10 volume-shekels soil per day
	sig ₄	“plastering” brick	80 bricks per day
	še	harvesting barley	1 gur per day
	gig	harvesting wheat	2 barig per day
	še geš ra	threshing barley	4 barig per day
	gig geš ra?	threshing wheat	1 barig 1 ban ₂ 2 sila ₃ per day

Category	Work Description	Translation	Labor Norm
	u ₂ SIG ₇ -a	pulling plants	10–20 sar per day ≈
	u ₂ ze ₂ -a	pulling plants	20 sar per day (thus likely SIG ₇ = ze ₂)
fish	ku ₆ kun-zi	delivering reservoir fish	2 fish per day
	sag-kur ₂	delivering headed fish	10 fish per day
	še ₆	delivering smoked fish	2/3 ban ₂ per day
milling	ar-za-na ninda ar ₃ -ra	milling a-groats	2 ban ₂ per day
	dabin	milling flour	1 ban ₂ per day
	eša	milling semolina	2 ban ₂ per day
	zi ₃ ba-ba	milling b-flour	1 ban ₂ per day
	zi ₃ -gu saga	milling fine pea flour	5–8 sila ₃ per day
	zi ₃ sig ₁₅	milling rough flour	1 ban ₂ per day
leatherwork	kuš ^s a-ga ₂ -la ₂	making a-pouches	1 pouch per day
	kuš ^s e-sir ₂ e ₂ -ba-an	making pairs of sandals	3 pairs per day (<i>MVN</i> 5, 273)
	kuš ^s ummu ₃	making water skins	2 days per water skin
construction	im du ₆ -a	raising adobe walls	3 3/4–6 surface-shekels per day
pottery	dug 1(ban ₂)	making 1-ban ₂ vessels	3 vessel per day
	dug 3(ban ₂)	making 3-ban ₂ vessels	1 vessel per day
	dug ninda 1 sila ₃	making 1-sila ₃	4 vessels per day
		bread vessels	
	dug ninda 5 sila ₃	making 5-sila ₃	3 vessels per day
		bread vessels	
garments	tug ₂ sag uš-bar	weaving s-garments	3 garments per day ≈
	tug ₂ guz-za 4-kam us ₂	weaving fourth-class	15 days per garment?
		tufted garments	
	tug ₂ guz-za du	weaving regular	15 days per garment?
		tufted garments	
woodwork	ges ^s pisan	making crates	3 crates per day? (a ₂ -bi n kuš ₃ !-ta?)
	ges ^s apin	making ploughs	5–10 days per plough ≈
	ges ^s ig	making doors	5 days per door (with 2 ox hides)
	ges ^s ig saga gid ₂ -bi	making fine doors	1 1/2 days per door
	1 ninda dagal-bi n	1 n. length, n width	

Note: Metrological systems in the labor equivalencies list:
Capacity: 1 *gur* = 5 *barig* = 30 *ban₂* = 300 *sila₃* (1 *sila₃* is about 1 liter)
Weight: 1 *gu₂* = 60 *mana* = 3,600 shekels (1 shekel is about 8.33 g)
Length: 1 *ninda* = 2 *gi* (reed) = 12 *kuš₃* (cubits; 1 cubit is about 50 cm)
Surface: 1 *iku* = 100 *sar* (“garden plot”; about 36 m²); 1 *sar* = 60 shekels (1 surface-shekel, about .6 m²)
Volume: 1 *sar* (1 *ninda* × 1 *ninda* × 1 *kuš₃*, or 6 m × 6 m × .5 m = 18 m³) = 60 shekels (1 volume-shekel, about .3 m²)
Bricks: 1 *sar* = 720 bricks (ultimately based on an Old Akkadian brick *sar* = 1 volume-*sar*)
^aTCL 5, 6036, requires collation for these and other apparently irregular values.

In nearly all these equivalency values for work norms, the accounting formulation is straightforward. For instance, the first half of text JCS 16, 14, number 1, reads:

Obverse

5(u) sar saḥar zi-ga	50 volume-sar* of soil, dug out,
a ₂ lu ₂ ḥun-ga ₂	labor of the hirelings,
še 5(diš) sila ₃ -ta	[given] 5 sila ₃ barley each [per day],
e sa-dur ₂ -ra a-ša ₃ amar- ^{geš} kiši ₁₇	[done at] the sadura ditch of the Amar-kiši
	field;
1(u) sar saḥar	10 volume-sar of soil [dug out],
i ₇ -muru ₁₃ -us ₂ -sa	at the Muru'usa Canal
i ₇ -lugal-ka	and the Royal Canal.

Reverse

a ₂ -bi u ₄ 6(geš ₂)-kam	Its labor: 360 days,
ugula ur-e ₂ -nun-na	the foreman: Ur-Enuna,
kišib ₃ a-kal-la	under the seal of Akalla.
mu gu-za ^d en-lil ₂ -la ₂ ba-dim ₂	Year: "The throne of Enlil was fashioned"
	[Amar-Suen 3].

*1 volume-sar is approximately 18 m³.

The calculation here is 50 + 10 = 60 sar; 60 sar ÷ 360 workdays = 1/6 volume-sar or 10 volume-shekels (about 3 m³) of soil excavated per workday.

Detailed accounts of labor norms applied to field preparation and sowing add a dimension of complexity to the otherwise fairly trivial calculations involved in Ur III labor accounts. The common a₂ erin₂-na Umma texts of the type much studied in Babylonian agriculture (Civil 1994:77; de Genouillac 1924:44, note 1; Maekawa 1990:119) record the surface measures and planned ploughing stages of each year's field preparation with entirely formulaic notations (with *a*, *b*, *c*, and *d* representing whole numbers):

a(iku) plough type x	a iku [ploughed with] plough type x,
b(iku)-ta geš-ur ₃ -ra a-ra ₂ 1-4 c(iku)-ta	at [a rate of] b iku each [day], and one to four
	times the harrow at c iku [per day],
a ₂ erin ₂ -na-bi days d	its erin-worker labor: d days.

Since the personnel handling the nonseeding deep plough (^{geš}tuggur) and the harrow (geš-ur₃-ra; literally "wooden beam," dragged across the prepared fields one to four times) always numbered three erin₂, the calculation of workdays needed to prepare a field for seeding was: d (workdays) = 3 × ((a ÷ b) + 1–4(a ÷ c)).

An example may be offered from the initial section of the Umma account UTI 4, 2560*:

2(eše ₃) 3(iku) GAN ₂ tug ₂ - gur _x (ŠE.KIN) ^{tug₂-gur₈}	15 iku field, deep ploughed
1(iku) GAN ₂ -ta geš-ur ₃ -ra a-ra ₂ 3(diš)	at 1 iku field per [workday], harrowed 3 times
1(eše ₃) GAN ₂ -ta	at 6 iku field per [workday],
a ₂ erin ₂ -na-bi u ₄ 1(geš ₂) 7(diš) ½(diš)	the labor of the troops: 67 1/2 days (3 × ((15 ÷ 1) + 3 × (15 ÷ 6)) = 67 1/2).
1(bur ₃) 1(eše ₃) GAN ₂ geš-ur ₃ -ra a-ra ₂ 3(diš)	24 iku field, harrowed 3 times
1(eše ₃) GAN ₂ -ta	at 6 iku field per [workday],
a ₂ erin ₂ -na-bi u ₄ 3(u) 6(diš)	the labor of the troops: 36 days (3 × (3 × (24 ÷ 6)) = 36).

* 1(bur₃) = 3(eše₃); 1(eše₃) = 6(iku)

Numerous sources contain occasionally easily deciphered, occasionally entirely cryptic notations describing another important activity of Ur III households—milling grain into flour, which was done almost exclusively by female laborers (Englund 1991):

Flour Type	Labor Norm per Day
dabin	1 ban ₂ (≈ 10 liters) flour
ninda	1 ban ₂ bread flour
zi ₃ ba-ba	1 ban ₂ baba-flour
zi ₃ gaz _x (KUM)	1 ban ₂ crushed flour
zi ₃ -gu saga	5–8 sila ₃ (1 sila ₃ ≈ 1 liter) fine pea-flour
zi ₃ sig ₁₅	1 ban ₂ s-flour
eša	2 ban ₂ semolina
nig ₂ ar ₃ -ra saga	2 ban ₂ fine a-groats

This is a classic example of input (raw material = grain) and output (processed good = flour). The average production norm was 10 liters of milled grain per workday per female laborer. If we calculate the minimum rationing “cost” of one of these women to be 1 liter of unprocessed barley per day (plus “fringe”), the value of flour *should* be about 10 percent above that of unmilled grain. But as we have seen above, milled grain (*dabin*) is converted to unprocessed barley at a rate of 1:1. I have unfortunately been unable to uncover a calculation in the Ur III texts that would confirm this “added value” theory of early millwork.

In like fashion to the excavation and field prep tasks organized by field supervisors, fishing teams composed of corporate slaves, usually blood relations (adult brothers and their sons), were assigned catch and processing norms based certainly on the availability of, and the effort in drying or smoking, fish. An inspection of all available Ur III fisheries texts (Englund 1990) has resulted in a list of fish—probably both raw and processed sorts are represented—and their corresponding daily catch norms, of which several were listed above. The full list is:

Fish Sort	Quantity per Day
ku ₆ al-dar-ra	6 split fish
ku ₆ gam+gam	10 mana of gamgam-fish
ku ₆ GU ₄	2 KWU858-crates of G-fish [<i>GU</i> ₄ is commonly read <i>eštub</i> or <i>aztug</i> , a type of carp]
ku ₆ kun-zi	2 reservoir-fish
ku ₆ kun-zi saga	1 fine reservoir-fish
ku ₆ sag-kur ₂	10 “headed” fish
ku ₆ sag-keš ₂	1 “head-bundle” of fish
ku ₆ sag-keš ₂ DU	1/10 DU-“head-bundle” of fish ^a
ku ₆ suhur-gal	1/2 KWU858-crate of large suhur-carp
ku ₆ suhur	1 KWU858-crate of suhur-carp
ku ₆ ti-la	1 “life” fish
ku ₆ še ₆	6 2/3 sila ₃ of smoked fish

^a This might be simply *ku₆ sag-keš₂-ra₂*, but the value remains irregular and not entirely credible. The reference text, *SNAT* 345, obverse 6–7, has: “2(geš₂) 3(u) ku₆ sag keš₂ DU / a₂-bi u₄ 2(geš₂) 5(geš₂)-kam” for fish described as “ku₆ du₆-ku₃-ga,” followed by various numbers of *ku₆ nesag₂* fish, including (obverse 13–reverse 1): “1(geš₂) 4(u) ku₆ sag keš₂ DU / a₂-bi u₄ 1(geš₂) 6(geš₂) 4(u)-kam”—that is, $150 \div 1,500 = 1/10$, and $100 \div 1,000 = 1/10$, respectively. Correct *gin₂* in the same text to *KWU858*.

We needn’t know much about the fish or even the potential metrological designations found in this list of work norms to make other interesting comparisons with the administrative record. As was demonstrated earlier, like many other items of domestic production, fish were moved through the controlled markets of the *damgar* agents and were thus assigned silver equivalencies. Of these, we find four sorts that are also in the list of fisheries work norms:

Fish Sort	Daily Catch Norm	Fish per Shekel Silver
ku ₆ gam+gam	10 mana of g-fish	900
ku ₆ sag-kur ₂	10 headed fish	900
ku ₆ kun-zi (saga)	1 or 2 reservoir-fish	90
ku ₆ še ₆	6 2/3 liters of smoked fish	2 gur

The speculation involved in relating the *gam-gam* fish as silver equivalents in units and as catch norms in *mana* would appear to be unnecessary given the three remaining sorts with compatible numerical quantifications. These three, remarkably, result in the same equivalence of 90 fisheries workdays per shekel of silver:

- 900 *ku₆ sag-kur₂* per shekel of silver at 10 per day = 90 workdays per shekel of silver
- 90 *ku₆ kun-zi* per shekel of silver at 1 or 2 per day = 90 or 45 workdays per shekel of silver
- 2 *gur ku₆ še₆* per shekel of silver at 6 2/3 *sila₃* per day = 90 workdays per shekel of silver

The labor–silver equivalencies found in a minimum of 25 Ur III accounts result in a range of values reaching from one to six (standardized 30-day) months per shekel of silver, based on some number of workdays of laborers valued as a corresponding weight of silver, but the Umma text *TLC* 5, 6171, reverse 5–6, appears to assume a singular role in booking an amount of silver and subsequently converting that silver to an abstracted set of workdays that formed the means of common calculation in the account:

1(u) gin₂ ku₃-babbar 10 shekels of silver;
a₂-bi 1(geš²u) 5(geš₂) their labor: 900 (days)

thus 90 workdays per shekel of silver. Aside from the indirect evidence derived from the fisheries texts above, this three work-month equivalency for 1 shekel of silver is known from only two other accounts (*ITT* 3, 6541 + 5, 6829 [*NG* 2, 67] and *SNAT* 236; see Englund 1990:196–197).

Another important part of the Babylonian economy was the production of containers made of reed, and I would like to close this paper with a short discussion of how much more information we are able to press from our documents when observed in the light of an increasing awareness of unstated equivalencies. I list below some labor norms attached to basketry teams mentioned earlier.

Basket	Labor Norm per Day (especially <i>TCL</i> 5, 6036)
^{gi} ma-an-sim ninda ar ₃ -ra	3 sieves
^{gi} ma-an-sim dabin	3/5 sieve
^{gi} ma-an-sim us ₂	1/2 sieve
^{gi} ma-an-sim saga lugal	1/5 sieve
^{gi} gur-dub 3(ban ₂)-ta	4 baskets
^{gi} hal gur-dub 4(ban ₂)-ta	5 baskets
^{gi} gur-dub 1(barig)-ta	5 1/2 baskets
^{gi} hal gur-dub 1(barig) 3(ban ₂)-ta	3 baskets
^{gi} hal 1(barig)-ta	10 baskets

Simple technical considerations make the equivalence of three units per workday for sieves used with the grain called *ninda-ara* credible, since it comports well with the fact that this flour was milled about twice as fast as normal flour. Thus it would have been rougher ground and would have required a less fine mesh than better flour sorts. The second group, of *gur-dub* and *hal* baskets, gives fairly confusing numbers in light of the expectation that the smaller the container, the less work expended in its production. The accounts would appear to fail in aiding us in understanding this apparent anomaly. If we review descriptions of basket production found in related instances, however, we can draw quite unexpected new conclusions about the accounting processes that underlie superficially innocent numerical notations. The totals section reverse iv 21–26 (Figure 21.2), found in

TCL 5, 6036, a large (20-column, 750-line) account from the southern province of Umma, represents just one of numerous examples of labor notations in Ur III texts that contain a wealth of unstated information:

1a) $\text{!}\check{\text{S}}\text{U}+\text{LAGAB!}$ 5($\text{ge}\check{\text{s}}_2$) 2(u) $\text{!}\check{\text{h}}\text{al}$ gur-dub 1(barig) 3(ban_2)-ta	Total: 320 $\check{\text{h}}\text{al}$ -gur-dub baskets at 1 barig 3 ban_2 each
1b) gi-bi 8($\text{ge}\check{\text{s}}_2$) sa	their reeds: 480 bundles,
1c) a_2 -bi u_4 1($\text{ge}\check{\text{s}}_2$) 4(u) 6($\text{di}\check{\text{s}}$) $\frac{2}{3}$ ($\text{di}\check{\text{s}}$)	their labor: 106 $\frac{2}{3}$ days.
2a) $\text{!}\check{\text{S}}\text{U}+\text{LAGAB!}$ 4(u) $\text{!}\check{\text{g}}\text{ur}$ -dub 4(ban_2)-ta	Total: 40 ($\check{\text{h}}\text{al}$)-gur-dub baskets at 4 ban_2 each,
2b) gi-bi 2(u) 6($\text{di}\check{\text{s}}$) $\frac{2}{3}$ ($\text{di}\check{\text{s}}$) sa	their reeds: 26 $\frac{2}{3}$ bundles,
2c) a_2 -bi u_4 8($\text{di}\check{\text{s}}$)	their labor: 8 days.

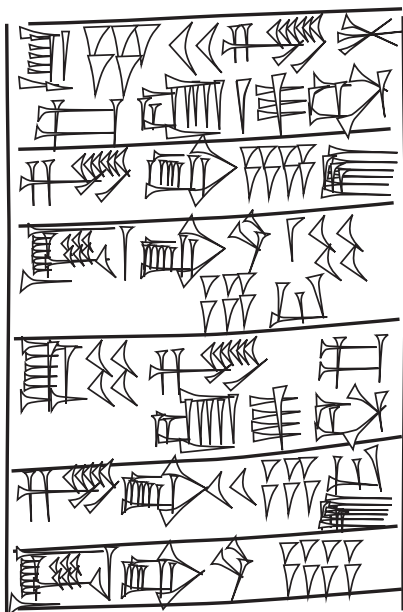


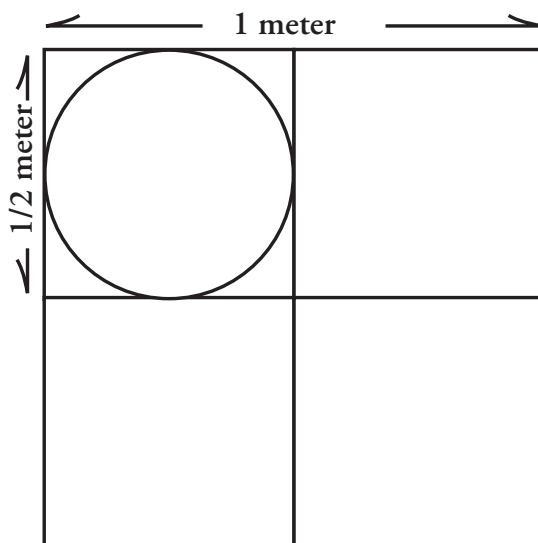
Figure 21.2. Subtotals in *TCL* 5, 6036.

Let us do some preliminary calculations to discover what these notations mean (remembering that 1 *barig* = 6 *ban*₂; 1 *ban*₂ = 10 *sila*₃; and 1 *sila*₃ is about 1 liter):

1a) $320 \div 106 \frac{2}{3}$	= 3 90- <i>sila</i> ₃ units to be constructed per workday
2a) $40 \div 8$	= 5 40- <i>sila</i> ₃ units constructed per workday
1b) $320 \text{ baskets} \times 90 \text{ sila}_3 \text{ per basket} \div 480$	= 60 basketsila per reed bundle
2b) $40 \text{ baskets} \times 40 \text{ sila}_3 \text{ per basket} \div 26 \frac{2}{3}$	= 60 basketsila per reed bundle
1c) $3 \text{ units per day} \times 90 \text{ sila}_3 \text{ per basket}$ $\div 60 \text{ basketsila per reed bundle}$	= 4 $\frac{1}{2}$ sa gi per day matted into the larger baskets, and
2c) $5 \text{ units per day} \times 40 \text{ sila}_3 \text{ per basket}$ $\div 60 \text{ basketsila per reed bundle}$	= 3 $\frac{1}{3}$ sa gi per day matted into the smaller baskets

In both cases, a bookkeeping construct capacity of 60 “basketsila” (60 liters) is expected per bundle of reed (*sa gi*). Since we know the reed bundle was, in basketry, equivalent to a *KID* mat of about 1 × 1 m (1/36 surface-*sar*; cf. Civil 1964:80; Goetze 1948; see Figure 21.3 for a potential reconstruction of what Ur III scribes might

Figure 21.3. A 60-basketsila container. The figure to the right represents the easiest way for the Ur III bookkeeper to imagine a cylinder constructed from a 1×1 m (in Babylonian lengths, 2×2 cubits) reed mat. A base of 50 cm (1 cubit) cut from a quarter of the mat would leave three sections, each 50×50 cm. Given the Babylonian approximation of π as 3, these three sections in a strip would provide the cylinder's 50-cm-high wall. Such an idealized basket would hold slightly less than 100 liters and would therefore, given the uncertainties of Ur III basket construction, make a very credible fit with the underlying metrology of the notations in *TCL 5*, 6036, discussed here.



have been using as metrological guidelines), and since 6 *sa gi* were to be matted in one day, then for mats we would expect the equivalent of 360 basketsila per workday. Here we have 4 $1/2$ *sa gi* per day matted into the larger baskets and 3 $1/3$ *sa gi* per day matted into the smaller baskets. I am unable to locate a meaningful mathematical relationship between the two. Still, these production norms make intuitive sense given the time involved in setting out the spokes or staves for a new basket, tying off the rim of the finished product, and making lids and handles.

TCL 5, 6036, is replete with background equivalencies that we find recorded in no school exercise but that did reflect the importance attached to basketry in early Babylonian economies. Baskets served to facilitate the storage of most comes-tibles of the day, as well as any number of other natural and man-made products, including, in the *pisan dub-ba*, all clay tablets of archival interest to accountants. Baskets also incorporated into daily activities a quite clear metrology, as we have seen in the current account. Expanded to use in fisheries, wood- and metalworking, and grain harvest and storage, these containers provided a quick and efficient means to quantify expenses and incomes. The 30-liter *ma-sa₂-ab* baskets used by porters during harvest to transport grain from the fields, for instance, fit seamlessly into the grain capacity system, itself based on the *barig* of 60 liters: two workers are one, next two are two, next two are three barig and so on, keep counting, eight are four, ten porters are five barig, that is, one gur, twenty are two, keep counting. Further, the utility of strictly defined piecework for basket production is evident, since in advance of the effort, supervisors achieved an exacting overview of input costs for the production of their wares. In the first instance above, assign to Foreman Smith, for a period of 10 days, 10 full-time workmen and 1 committed to two-thirds of normal labor output $((10 \text{ days} \times 10) + (10 \text{ days} \times 2/3) = 106 \frac{2}{3} \text{ workdays})$ and deliver to him 480 bundles of reed, and you can with some confidence expect to

receive back your desired 320 baskets. You need make no inquiries as to how or by whom specifically the work was accomplished. In fisheries accounts: 10 workmen for 360 days makes 3,600 workdays per year, makes 80 *gur* of smoked fish ($3,600 \times 6 \frac{2}{3}$ liters per day). At the end of the year, the foreman in charge of these laborers, themselves property of the state, has delivery receipts on hand totaling only 60 *gur*—he owes 20. How can he make that up if called upon to do so? He can submit 10 shekels of silver borrowed from his brother, his father, or the local *damgar*, since smoked fish are registered in state accounts at 2 *gur* per shekel (there are some two dozen instances of just this practice, qualified as so much *ku₃ ku₆*, or “fish silver”), or he can deliver, in baskets, 10 *gur* of grain. If he dies and leaves behind nothing but his family and this debt, the provincial household to which he was attached can claim his surviving wife and daughters as slaves, in approximate equivalency value to the missing fish.

We must take cardinal examples of equivalency use such as *TCL* 5, 6036, for what they are—namely, key texts that make available to us, using a simple pocket calculator, a myriad of important bookkeeping norms, or what may prove to be norms, that we can test against current and future text corpora. It is not difficult to abstract this use of equivalencies up the economic hierarchy to the level of provincial and then royal, or so-called *bala*, accounts. Take a slightly idealized view, from the capital city Ur, of the households under control of the governor of Lagash Province. All land, personnel, and herds are owned by the crown and supervised by the local administration in place in Girsu. Each of those three categories consists of 1 *šar₂* (3,600) or a multiple thereof (the figures, incidentally, are likely not far removed from reality): 3,600 *bur₃* (expressed in Ur III surface metrology as 1 *šargal bur₃* [cf., e.g., *RTC* 407]; about 23,000 ha) of arable land, 3,600 corporate slaves, 10,800 sheep and goats, and 3,600 oxen and cows. Šulgi claims—for the royal court; for the standing army; for the temples in Nippur, Ur, and Uruk; for trade or storage; or to “present back” to his thankful kingdom—half the grain harvest (cf. *CT* 7, 8 BM 12926; Sharlach 2003:67–69) and one-tenth the products and offspring of the herds (despite Sharlach 2003:140–142) and the labor of the workers. The equivalencies employed to calculate these taxes are known to all parties: 30 *gur* per *bur₃* grain harvest makes $3,600 \times 30 \div 2 = 15$ *šar₂* (alternatively, 15 *guru₇* or 54,000 *gur*; $3,600 \times 360 \div 10 = 36$ *šar₂* (129,600) workdays that can be credited through the receipt of any combination of products, the confirmation of work done on such crown tasks as road and waterway maintenance or monumental constructions, or the delivery of silver or some like payment foreseen in equivalency tables, including artificial “adjustments” of labor found throughout our accounts but still very imperfectly understood; $10,800 \div 10 = 1,080$ (male) sheep and goats for offerings and priestly repast; $10,800 \times 2$ (pounds [*ma-na*] of wool or goat hair per animal) $\div 10 = 36$ talents (2,160 pounds) bound for textile production (to clothe the wards of the crown and to move into domestic and interregional markets, textiles being the primary export article produced in Babylonia); and $3,600 \div 10 = 360$ (likely) oxen for

offerings and 1,800 cows \times 5 (liters of butter oil) and 7.5 (liters of *kašk* cheese) \div 10 = 900 and 1,350 liters, respectively. The governor of Girsu might well not achieve these results, but he will be in the king's debt for his generosity in forgiving at least some of the province's failings, and the royal court itself, with its many princely households, could reckon with a steady and substantial income to fund its lavish expenditures. (Though only slightly more credible than informed speculation, it is worth noting that, based on the above numbers, the crown's grain income from Lagash Province, expressed in silver [1 *gur* per shekel], would be valued at more than 10 times the combined total silver value of workdays [at 90 days per shekel], small and large cattle offerings [at about 1 and 5 shekels per animal, respectively], wool and goat hair [at 10 pounds per shekel], and butter oil and dry cheese [at 10 and 150 liters per shekel, respectively].)

This in some ways fanciful reconstruction of the office of the treasury in Ur is admittedly my own attempt to abstract the ultimate form of Šulgi's *bala* accounts, now lost somewhere in the depths of the capital, from the numerous attestations of accounting practice found in provincial archives. But we can be quite confident that at least a similarly formulated calculation of plan production played a substantive role in Ur III economies, scaling up from the various teams engaged at basic levels with farmwork, canal maintenance, brick construction, and fishing, through the administrations of relatively self-sufficient households, from there to province-level accounts, and finally to crown accounts of taxes, tribute, and the royal expenditures they funded. Ur III specialists who have attempted to piece this system together should not exclude from their imaginings the tables of implicit equivalencies that speak, with some authority, through the administrative accounts of all provinces.

CHAPTER 22

.....

CONSTRUCTING VALUE
WITH INSTRUMENTS
VERSUS CONSTRUCTING
EQUIVALENCE WITH
MATHEMATICS:
MEASURING GRAINS
ACCORDING TO EARLY CHINESE
MATHEMATICAL SOURCES

.....

KARINE CHEMLA
UNIVERSITÉ PARIS DIDEROT, SORBONNE PARIS CITÉ

ABSTRACT

.....

According to a widespread belief, once numbers and measuring units have been defined, their use to express numerically an amount of things is straightforward. The main goal of this chapter is to question this belief and to show that, in addition to attending to numbers and measuring units, historians need to describe practices for determining and expressing the numerical value of things. To reach this goal, this study highlights two distinct and yet contemporary practices of measuring and expressing the value of grain by means of the same kinds of numbers and the same measuring units, both attested to in Han China. The evidence that allows us to capture these two distinct practices is found in documents bearing witness to actors' operations and understanding of them— that is, in writings produced by practitioners of mathematics.

Grains were key products for the working of the bureaucracy in early imperial China. This chapter describes methods used in China at the time to determine the value of a given amount of grain and to compute equivalent amounts of different grains. The earliest extant writing devoted to mathematics that has been handed down through the written tradition, The Nine Chapters on Mathematical Procedures (ca. first century A.D.), and the commentaries composed on it in the third and the seventh centuries provide evidence on practices used for such matters. This study shows that The Nine Chapters attests to the practice of using, for each kind of grain, a specific standard vessel, which represented the unit of value, named hu, for the corresponding grain. More precisely, to each grain was attached a unit named hu. Even though these units all bore the same name, the corresponding volume of grain depended on the kind of grain dealt with. In this system, each unit hu of any kind of grain, measured with the vessel attached to that kind, had the same value, even though the units embodied by each vessel corresponded to different volumes. In this first way of determining and expressing the value of grain and equivalences between different kinds of grains, material artifacts thus played a key part.

The Nine Chapters also attests to the elaboration of a mathematical method designed to carry out the same function of determining equivalent amounts of different types of grain. The method relied on a mathematical procedure and a table of numbers. A concept specific to the mathematics of early China was used to designate the kind of numbers gathered in the table. These elements constituted another practice of measuring the value of grain. In the context of this second practice, the unit hu expressed the value of grain in a completely different way.

INTRODUCTION

Dynastic histories and other Chinese sources, such as documents of the practice and material artifacts, provide information regarding the measuring units used at different time periods in China and their relationship to each other within a given system. They allow us to evaluate these units, more or less exactly, with respect to present-day measuring units. These sources highlight what measuring units were used for and the material objects, such as rulers or vessels, with which practitioners assessed an amount of something according to a set of measuring units. However, these documents do not always allow us to approach actors' *practices* for determining the quantity and value of given amounts of something and expressing them by means of numbers and measuring units. Such practices are at the focus of this chapter. I suggest that the issue of how actors determined and expressed quantities and values with numbers and measuring units is trickier than is commonly assumed, and I rely on evidence provided by extant mathematical writings from early imperial China to address it. To illustrate this approach, I have chosen to concentrate on the measurement and evaluation of grain in Han China, more precisely between the second century B.C. and the first century A.D. within the framework of state institutions.

Grains were key products for the working of the bureaucracy in early imperial China. Taxes were levied in grains. Bureaucrats' wages were paid in grains (Loewe 1961). My claim is that mathematical sources provide evidence, which so far as I can tell is unique, regarding how the value of a given amount of grain was determined and how equivalences between amounts of different grains were established. On the basis of this evidence, I shall show that in Han China, the unit called *bu* 斛 was used in two strictly different ways in relation to grains.¹ On the one hand, *bu* designated a unit of *capacity* used to measure and express amounts of grain. In this context, *equivalent* amounts of different kinds of grain were determined through a mathematical procedure. On the other hand, *bu* designated a unit of *value*, based on a specific practice of measuring amounts of capacity. In the latter context, *bu* were measured with the help of a set of vessels, one *bu* of a given grain having the same value, whatever the grain may have been. In other terms, there existed, apparently at the same time, two sets of practices for determining amounts of different kinds of grain having the same value. These practices are reflected in two uses of the same term *bu*. Even though the term thus referred to two entirely different meanings, the same name *bu* was attached to the unit in its two uses. These facts illustrate how essential it is for historians to address the issue of actors' practices with measuring units to better interpret the numerical data contained in their sources.

To establish my conclusion, I shall first describe the sources used in this chapter and make preliminary remarks on measuring units for volumes and capacities in early imperial China. Note that, since we want to describe actors' practices and their own understanding of them, we must rely on writings and not artifacts. We shall use writings handed down through the written tradition as well as excavated documents. In the two subsequent sections, I shall address in turn each of the uses of the measuring unit *bu* in relation to grains to which mathematical sources from the Han Dynasty bear witness. In conclusion, I shall outline the research program that these remarks open.

SOURCES AND PRELIMINARY REMARKS ON MEASURING UNITS IN HAN CHINA

To reach the conclusions announced, I need to use several kinds of sources for the history of measuring units in early imperial China. I shall therefore introduce them in turn.

The Documents

The so-called dynastic histories are one of the most obvious sources on which to rely to obtain information about the system of measuring units used by the bureaucracy. From the Han Dynasty onward (206 B.C.–A.D. 220)—that is, shortly after

the unification of the Chinese Empire under Qin rule in 221 B.C.—state institutions regularly commissioned scholars to write the history of previous dynasties. To carry out this work, these scholars had access to governmental archives. The book that was considered the first of these histories, *The Grand Scribe's Records* (*Shiji* 史記), composed mainly by Sima Qian (145?–86? B.C.) during the first half of the Han Dynasty (Western Han, 206 B.C.–A.D. 9), served as a model for subsequent dynastic histories (Hulsewé 1993b). In particular, it contained technical monographs on various topics, including chapters devoted to the musical scale and the calendar (Sima Qian 司馬遷 1959:4:1239–1287). Following on this model, the *History of the [Western] Han [Dynasty]* (*Hanshu* 漢書, abbreviated *History of the Han*), written mainly by Ban Gu 班固 (162:32–92), also included a “Monograph on Pitch Pipes and Calendar” (*Lü li zhi* 律曆志) (Hulsewé 1993a). It is within the context of this monograph that, in contrast to *The Grand Scribe's Records*, a description of a system of measuring units enacted by state institutions was inserted (Ban Gu 班固 et al. 1962:955–972). However, note that the system of measuring units described in the *History of the [Western] Han [Dynasty]* was not the one used by Western Han institutions. As is made clear in the introduction of the monograph, the system outlined was part of a larger theoretical scheme that also encompassed the calendar and the treatment of pitch pipes and that had been formulated by Liu Xin 劉歆 (46? B.C.–A.D. 23) as the synthesis of a discussion among scholars summoned at court at the beginning of the Common Era.² Liu Xin's system had been devised for, and enacted by, Wang Mang 王莽 (45 B.C.–A.D. 23), a reformer who attempted to overthrow the Han Dynasty and establish a new dynastic rule, the Xin 新 Dynasty (9–23), thereby earning a long-lasting label of usurper in Chinese historiography. The Xin Dynasty was short-lived, and Han rule was reestablished in A.D. 25 (Eastern Han, A.D. 25–220). In sum, the *History of the Han* described a system of measures that had been put into effect at the beginning of the Common Era by a dynasty that had interrupted Han rule for less than two decades. However, with Liu Xin's work, commissioned by Wang Mang, the system of measuring units and the design of calendars and pitch pipes became a coherent field of expertise, which was treated as such in subsequent dynastic histories. This fact explains the context within which, starting with the *History of the Han*, the relevant monographs in dynastic histories provided information on measuring units.

Among the dynastic histories written after Ban Gu's *History of the Han* and the subsequent “Monograph on Pitch Pipes and Calendar,” which stand out for their treatment of this field, were those composed at the beginning of the Tang Dynasty (A.D. 618–907) for the *History of the Jin [Dynasty]* and the *History of the Sui [Dynasty]* (hereafter *History of the Sui*). After the advent of the Tang Dynasty, a huge enterprise was launched to compile official histories for several previous dynasties. For the first time, dynastic histories were produced as the result of a division of labor between several scholars, the technical monographs being entrusted to specialists of the various topics. In fact, only two of the histories produced within this

framework included such monographs. It is within this context that Li Chunfeng 李淳風, who was knowledgeable in mathematical and astral sciences, wrote, between 641 and 656, the “Monograph on Pitch Pipes and Calendar” for the *History of the Jin* and the *History of the Sui*.³ He included in them a full-fledged historical treatment of the topic. In particular, he wrote for the *History of the Sui* a long and documented history of systems of measuring units (Wei Zheng et al. 魏徵等 1973:385–413). To achieve this task, Li Chunfeng relied on many sources and material artifacts that he could probably consult within governmental archives. His text bears witness to the wealth of information to which he had access.

It is most interesting that, in addition to previous dynastic histories, canonical literature, and commentaries on it, Li Chunfeng’s monographs also relied on ancient mathematical sources to discuss facts relating to measuring units. In particular, Li Chunfeng quoted *The Nine Chapters on Mathematical Procedures* (*Jiuzhang suanshu* 九章算術), a Han book, probably compiled in the first century, which is the earliest extant writing devoted to mathematics to have been handed down to us. Li Chunfeng also quoted the commentator Liu Hui 劉徽, who completed his commentary on *The Nine Chapters* in 263. In fact, we owe the latter information precisely to Li Chunfeng’s monographs.

Furthermore, in parallel with the writing of his “Monographs on Pitch Pipes and Calendar,” Li Chunfeng also supervised the composition of a subcommentary on *The Nine Chapters* and Liu Hui’s commentary, which was presented to the throne in 656. Below I refer to this subcommentary as Li Chunfeng’s subcommentary. This subcommentary, composed within the framework of an edition of *Ten Mathematical Canons*, fixed the form in which *The Nine Chapters* was read in subsequent centuries—that is, the main text with Liu Hui’s commentary and the subcommentary. A hint in favor of this thesis is provided by how *The Nine Chapters* was handed down, since in the present day no ancient edition of *The Nine Chapters* does not include the commentary and subcommentary.⁴ We thus see that there were links between Li Chunfeng’s activity as the author of “Monographs on Pitch Pipes and Calendar” and his activity in favor of editing ancient canonical literature in mathematics.

The fact that Li Chunfeng quotes *The Nine Chapters* and Liu Hui’s commentary as sources on measuring units to compose an official account on the history of the topic indicates that he thought these writings provided reliable information on measuring units enacted in the past and instruments used to measure with them. I am thus tempted to take this fact as an indication that for Li Chunfeng, these writings were composed and used in relation to governmental institutions. We shall see below that other facts plead in favor of this hypothesis. Li Chunfeng used these sources to establish facts about measuring units precisely within the context of the management of grains, and I shall rely below on his interpretation of these documents. However, I shall also use these mathematical sources for what they reveal on ancient practices with measuring units and instruments, an issue on which Li Chunfeng did not dwell.

So far, I have introduced, as sources for my inquiry into measuring units, dynastic histories and mathematical writings, which are all documents that have been handed down through the written tradition. However, in recent decades, archaeological excavations have provided us with an entirely new kind of textual evidence; they have brought to light documents that remained untouched for more than 2,000 years. In 1984 a mathematical book, the *Book of Mathematical Procedures* (*Suanshushu* 算數書), was unearthed in Zhangjiashan (Hubei Province). Other documents buried in the same tomb indicate that the book could not have been written later than ca. 186 B.C. (PENG Hao 彭浩 2001). The *Book of Mathematical Procedures* provides important information for the history of measuring units. Moreover, the book shares a passage in common with a document unearthed in 1975, a legal document containing laws and statutes from the Qin Dynasty (Hulsewé 1985). It is interesting for the topic of this chapter that this passage deals with equivalences between different kinds of grain within the context of a regulation for granaries. The parallel between the two texts indicates that, as above, the *Book of Mathematical Procedures* and these official documents must have been linked in practice. It is striking that in both cases, the connection between the two types of documentation bears on the topic of determining equivalent amounts of different grains. I shall come back to these passages below. Also note that both unearthed writings were found in tombs of local officials. This fact indicates that, like the books discussed above, these documents were written and used in relation to the state bureaucracy.

These remarks conclude the description of the sources on which this chapter relies. Let us now consider the system of measuring units presented in the “Monograph on Pitch Pipes and Calendar” of the *History of the Han* and examine which evidence the mathematical sources provide regarding their uses.

Measuring Units in the Han Dynasty

The units of length measurement are described in the *History of the Han* as follows:

The standards for measuring length are the *fen*, the *cun*, the *chi*, the *zhang*, the *jin*. . . . Ten *fen* make a *cun*, ten *cun* make a *chi*, ten *chi* make a *zhang*, ten *zhang* make a *jin* and the five standards for measuring length are understood. 度者，分，寸，尺，丈，引也 (..) 十分為寸，十寸為尺，十尺為丈，十丈為引，而五度審矣。 [Ban Gu 班固 et al. 1962:chapter 21a, 966].

Apparently, the system is simple, the relationship between the units being decimal (for example, 1 *zhang* = 10 *chi* = 10² *cun*). The *Book of Mathematical Procedures* and *The Nine Chapters* bear witness to the use of the units of length provided in this list, except the smallest and biggest ones. The mathematical sources are thus in conformity with what official documents describe. However, these sources also show how the units were actually used. We thus discover that interpretation of simple expressions of the type “quantity—measuring units” is not as straightforward as it might appear, because in addition to being used for lengths, the same names of

units were used for surfaces and volumes. For example, *chi* is the name of a unit of length as well as a unit of surface, expressing the surface of a square whose side is 1 *chi* long (see bamboo strip 1, PENG Hao 彭浩 2001:37). It is also the name of a unit of volume that corresponds to the volume of a cube having a side 1 *chi* long.

On this basis, a volume can be expressed by a combination of a number (integer plus fraction) and a single unit, the *chi*, taken as a unit for volume. Except for one occurrence, this is the only case evidenced by the *Book of Mathematical Procedures*. For instance, on bamboo strip 143, a volume is given as 133 *chi* 1/3 *chi* 百卅三尺少半尺 (PENG Hao 彭浩 2001:103). It is the most frequent case in *The Nine Chapters*, and the commentator Liu Hui makes the principle explicit (Chemla and Guo Shuchun 2004:370–371). However, a volume can also be expressed by a sequence of units—for instance, *chi*, *cun*. In that case, one measuring unit is chosen as the basis, and the other names for the units indicate units of volume having the same relationship with the unit chosen as when the same units express length. For instance, the single volume that does not follow the former principle in the *Book of Mathematical Procedures* obeys this latter principle: on bamboo strip 147 (PENG Hao 彭浩 2001:105), 2 *chi* 7 *cun* 二尺七寸 must be understood as 2.7 *chi* or 2,700 *cun*, *chi* being taken as a basis.⁵

This example provides our first case of an unexpected practice with measuring units. Mathematical sources testify to this practice, which creates a problem of interpretation discussed by the third-century commentator. The problem is manifest if we consider the expression 2 *chi* 7 *cun*: it can represent either a length or a volume, the interpretation depending on the context. Determining the reference of the value expressed thus appears not to be straightforward. In this case, the problem is that of knowing which kind of entity is assessed. In the case of grain, the problem of interpreting a given amount derives from another feature of the practice of measuring units.

In the practice to which *The Nine Chapters* bears witness, amounts of grain are measured by means of units of length and units of capacity. The “Monograph on Pitch Pipes and Calendar” of the *History of the Han* describes the system of measuring units for capacity as follows:

The standards for measuring capacities are the *yue*, the *ge*, the *sheng*, the *dou*, the *bu*. . . Coupling *yue*’s makes a *ge*, ten *ge* make a *sheng*, ten *sheng* make a *dou*, ten *dou* make a *bu* and the five standards for measuring capacities are excellent. 量者，龠，合，升，斗，斛也 (...) 合龠為合，十合為升，十升為斗，十斗為斛，而五量嘉矣。 [Ban Gu 班固 et al. 1962:chapter 21a, 967].

The units of capacity used in *The Nine Chapters* are taken from this list. They include the *bu*, the *dou*, and the *sheng*, the relationships of which can be represented as follows: 1 *bu* = 10 *dou* = 100 *sheng* (1 *sheng* was roughly 0.2 liter).

The Nine Chapters thus again bears witness to a system identical to that described by Liu Xin and recorded in the *History of the Han*. However, for units of capacity, this statement no longer holds true for the *Book of Mathematical Procedures*, since

the highest unit of capacity mentioned in the book is the *dan* 石. This fact indicates that a change in the system of measuring units for capacity took place between the moment the *Book of Mathematical Procedures* was completed and the moment *The Nine Chapters* was compiled.⁶ This remark, among others, incited me to date the completion of *The Nine Chapters* to the first century A.D. (Chemla and Guo Shuchun 2004:475–478).

Now let us observe the evidence provided by *The Nine Chapters* regarding how these measuring units, especially the *bu*, were used for measuring grains, which was probably their most fundamental use.

EXPRESSING A VALUE WITH A NUMBER AND A MEASURING UNIT: A FIRST UNEXPECTED PRACTICE ATTESTED TO BY MATHEMATICAL SOURCES

Chapter 5 from *The Nine Chapters*, entitled “Discussing Works” (*Shang gong* 商工), contains a sequence of problems that illustrate how units of length and units of capacity were used to measure grain. These are problems 5.23 to 5.25. Each of these problems considers a pile of a given kind of grain. The shape of the pile is, respectively, a cone, half a cone (the pile is against a wall), and a quarter of a cone (the pile is in a corner). The outline of the problem gives the dimensions of the cone: on the one hand the height of the pile and on the other hand its circumference (that is, respectively, the circumference, the half circumference, and the fourth of the circumference of the cone had it been a full cone). On this basis, the procedure computes the volume of grain in the pile—this is the stage in which a quantity of grain is assessed with units of length and volume. The last step shows how to use a coefficient to transform the volume of the pile into a measure with capacity units. Here occurs a phenomenon that is of utmost interest for us. The data of the three problems are summarized in Table 22.1 (Chemla and Guo Shuchun 2004:446–453).

Table 22.1. The data and answers for problems 5.23 to 5.25 in *The Nine Chapters*.

	Problem 5.23	Problem 5.24	Problem 5.25
Grain	foxtail millet 粟	soya beans 菽	(coarsely) husked grain 米
Shape of the pile	cone	half a cone	quarter of a cone
	circumference	and height volume in <i>chi</i>	allow determining the
Amount of volume	8,000 <i>chi</i>	350 <i>chi</i>	35 <i>chi</i> 5/9 <i>chi</i>
Capacity in <i>bu</i>	2,962 <i>bu</i> 26/27 <i>bu</i>	144 <i>bu</i> 8/243 <i>bu</i>	21 <i>bu</i> 691/729 <i>bu</i>

After explaining how to yield the volume in each case, the general procedure, placed after the three problems, explains that, by *regulation* (*cheng* 程), the relationship between the *bu* and the units of volume is as shown in Table 22.2.

Table 22.2. The relationship between the *Hu* and the units of volume.

	Problem 5.23	Problem 5.24	Problem 5.25
Grain	foxtail millet 粟	soya beans 菽	(coarsely) husked grain 米
The volume of 1 <i>bu</i> is	2 <i>chi</i> 7 <i>cun</i>	2 <i>chi</i> 4 <i>cun</i> 3/10 <i>cun</i>	1 <i>chi</i> 6 <i>cun</i> 1/5 <i>cun</i>

These statements clearly show that the unit of capacity *bu* as described in the statement of the *History of the Han* quoted above is not used as we would expect a measuring unit to be used on the basis of our own practices with measuring units. Although the same name of *bu* is used in the answers given to the successive problems, the name in fact corresponds to different realities—that is, to different volumes, depending on the kind of grain measured. As above, the interpretation, in this case of an expression like 2 962 *bu* 26/27 *bu*, is by no means straightforward. It depends on the context, which means in this case the “grain” considered. Note that the value of 2 *chi* 7 *cun* mentioned in the previous section occurs in the *Book of Mathematical Procedures* precisely in a similar context. A pile of foxtail millet is shaped in the form of a cone, and the volume is transformed into an amount of capacity units *dan* by using the same coefficient as the one used in *The Nine Chapters*. We shall suggest an interpretation of this fact below.

The remarks about the functioning of the *bu* as attested to by *The Nine Chapters* raises a very simple question: Why did the actors opt for a practice with measuring units that appears at first sight strange to us?

To elucidate this question, it is helpful to rely on the commentary that Liu Hui makes on these sentences, as well as on additions to the commentary that Li Chunfeng formulates within the framework of the “Monograph on Pitch Pipes and Calendar” of the *History of the Sui* (Chemla and Guo Shuchun 2004:201–205). As Liu Hui’s commentary makes clear, for him the main text of *The Nine Chapters* refers here, for each unit *bu*, to a standard vessel, also named *bu*, whose countenance corresponds to 1 *bu* and whose volume thereby depends on the kind of grain considered. If we follow his interpretation of the sentence, there seems to have been as many such vessels as there were grains. Li Chunfeng also embraces this interpretation. In the statement in which he makes this point clear, he further provides a key element that allows us to understand the benefits that actors thought they derived from this practice. Li Chunfeng writes after this passage from *The Nine Chapters*, which he quotes in the *History of the Sui*:

In the method from [the chapter] “Discussing works” from *The Nine Chapters*, [it is said]: “By regulation, one *bu* of foxtail millet has a volume of 2,700 *cun*; one *bu* of [coarsely] husked grain has a volume of 1,620 *cun*; a *bu* of soya, mung and hemp beans, wheat has a volume of 2,430 *cun*.” These [*bu*] rely on the fineness [of the grains] to make the *li*.⁷ They cause the values/prices to be the same, but do not equalize the amount of *cun* of the volumes of these vessels. (...) 《九章商功法》程粟一斛，積二千七百寸。米一斛，積一千六百二十寸。菽、荅、麻、麥一斛，積二千四百三十寸。此據精粗為率，使價齊而等其器之積寸也。(...) [Wei Zheng et al. 魏徵等 1973:409; my emphasis; punctuation modified.]

The last words make clear that for Li Chunfeng too, *The Nine Chapters* refers to vessels at this point. Moreover, he explains that the counterpart of the fact that the volumes of these *bu* were not equal was that the *values* of these various *bu* then be equal. We thus see how an actor, in this case Li Chunfeng, interprets a practice of the past with measuring units, as guided by the intention of producing automatically, by means of instruments, amounts of different grains having the same *value*. More precisely, for him the key feature of the system described by *The Nine Chapters* was that by taking one unit—one *bu*—of a given kind of grain measured with the appropriate vessel, one always yielded the same value. The peculiar use of the unit *bu* is thus related to the fact that, far from being merely a unit of capacity as described in the *History of the Han*, the *bu* has in practice evolved toward being a unit of value. The set of vessels could be used to transform volumes directly into value. However, if the numerical values given by the regulation were associated with mathematical operations, they could as well ensure this transformation, as is made clear in the problems of *The Nine Chapters* discussed above. This is what lies behind the variability of the unit *bu*. The mathematical sources attest to a system of measuring the values of amounts of grain to which to my knowledge no other source bears witness. This conclusion illustrates why it is important for historians to be interested in how measuring units were actually used. However, in this respect we are only at the beginning of our surprises, since the *same* mathematical source also reveals an entirely different use of the measuring unit *bu*.

MORE PRACTICES—OR HOW MATHEMATICAL SOURCES SHOW THAT PRACTICES WERE NOT UNIFORM

All the other problems in *The Nine Chapters* that involve grains make use, to assess them, of only measuring units of capacity such as the *bu*. The phenomenon on which I shall now focus is that these other problems use the unit *bu* to express amounts, in a completely different way: the *bu* now corresponds to a unit of capacity having one and the same volume, whatever the kind of grain dealt with. In other words, we have met above with a problem of interpretation that was related to the fact that the volume defining the *bu* varied in relation to the kind of grain dealt with. Now we confront a problem at a higher level—that of determining in relation to which mode of use of the unit *bu* the source read should be interpreted. Let me give an example to make things clear. Problem 6.6 in *The Nine Chapters* reads as follows:

Suppose a person must receive as a gratification 2 *bu* of foxtail millet. Since in the state granaries, there is no foxtail millet, one wants to give him [coarsely] husked grain and soya beans in a proportion of 1 to 2 in such a way that this amounts to the foxtail millet that the person should receive as a gratification. One asks how much from each [the person receives]. Answer: 5 *dou* 1 *sheng* 3/7 *sheng* of [coarsely] husked grain; 1 *bu* 2 *sheng* 6/7 *sheng* of soya beans. 今有人當稟粟二斛。倉無粟，欲與米一、菽二，以當所稟粟。問各幾

何. 荅曰：米五斗一升七分升之三，菽一斛二升七分升之六 [Chemla and Guo Shuchun 2004:506–507].

The kinds of grain involved in this problem are exactly the same as those mentioned in problems 5.23—5.25, examined in the previous section. If we observe how the procedure in *The Nine Chapters* prescribes to carry out the computations, we realize that within the framework of this problem, the unit *bu* has the same volume, whichever kind of grain it may measure. Although the kinds of grains are the same and we are in the framework of the same book, the practices of measuring the same kinds of grain with the *bu* thus differ. We need to understand why and how.

The procedure solving problem 6.6 involves computing equivalences between the various kinds of grain. When in his subcommentary the commentator Li Chunfeng analyzes the rationale of the procedure (Chemla and Guo Shuchun 2004:506–507), he makes clear that these equivalences are computed by relying on a table given at the beginning of chapter 2 in *The Nine Chapters* and entitled “Foxtail Millet and Husked Grain” (*sumi* 粟米). Let us translate this table before analyzing it. It reads:

Norms/divisors for foxtail millet and husked grain

The *li* for foxtail millet is 50,
for coarsely husked grain 30,
for fairly husked grain 27,
for finely husked grain 24,
for supremely husked grain 21,
for small grits of wheat 13 and $\frac{1}{2}$,
for large grits of wheat 54,
for coarsely husked grain cooked 75,
for fairly husked grain cooked 54,
for finely husked grain cooked 48,
for supremely husked grain cooked 42,
for soya, mung and hemp beans, wheat 45,
for paddy 60,
for fermented soya beans 63,
for cooked rice with water added 90,
for soya beans cooked 103 and $\frac{1}{2}$,
for fermented grain 175.

粟米之法。

粟率五十 糲米三十

稗米二十七 粳米二十四

御米二十一 小麴十三半

大麴五十四 糲飯七十五

稗飯五十四 粳飯四十八

御飯四十二 菽、荅、麻、麥各四十五

稻六十 豉六十三

飧九十 熟菽一百三半

蘖一百七十五

[Chemla and Guo Shuchun 2004:222–223]

In this table, each kind of grain is associated with a number. The meaning of these numbers is merely relative. The ratio between any two numbers expresses the ratio between equivalent amounts, expressed according to the same capacity unit, of the two kinds of grains associated with the two numbers. The table thus constitutes a system of equivalences between all possible kinds of grains. The numbers can all be multiplied by the same factor without altering the ability of the obtained numbers to express as a whole the relationship between the volumes of the equivalent amounts of the corresponding kinds of grains. This remark explains the qualification of these numbers as *lǚ* at the beginning of the table.⁸

The numbers gathered in the table are pure numbers, without any measuring unit. They are more or less all integers if we except two occurrences of the fraction $\frac{1}{2}$. Another feature of these numerical values is mathematically interesting: they are relatively prime, sharing no common divisor except 1. As a result, these numbers are the smallest integers—if we except $\frac{1}{2}$ —expressing the ratio between volumes of equivalent amounts for all kinds of grains. The fact of accepting the fraction $\frac{1}{2}$ allows practitioners to use numerical values that are twice as small as they would be otherwise.⁹ Obtaining such numbers for the table was possible thanks to the fact that all values are *lǚ*.

If we go back to problem 6.6, Li Chunfeng analyzes the procedure, solving it in the following way: The procedure picks up in the table the numbers corresponding to the kinds of grains put into play and uses the rule of three—a mathematical procedure—to determine the amounts of coarsely husked grain and soya beans equivalent to 2 *bu* of foxtail millet and having a proportion of one to two with respect to each other. The amounts of grain determined are expressed with units of capacity that all correspond to the same volume, whatever the kind of grain considered may be.

This remark concludes our argument establishing that within the same mathematical source, *The Nine Chapters*, depending on the context, the use of the unit *bu* is completely different. The two uses identified are related in an essential way by a key feature, however. The relationship between the grains expressed in the table is the same as the relationship between the volumes of the vessel. For instance, the ratio between the volumes of 2,700 *cun* and 1,620 *cun*, corresponding, respectively, to the *bu* of the foxtail millet and that of the coarsely husked grain, is equal to the ratio of 50 to 30.

In conclusion, we see that to determine amounts of different grains having the same *value*, two practices coexisted; both are attested to in *The Nine Chapters*.

Either the practitioner used a set of specific vessels attached to grains and the same amount of *bu* corresponded to the same value, whereas the volume corresponded to the *bu* changed with the kind of grain, or the practitioner used a table of numerical values and a mathematical procedure. In the latter framework, the same amount of *bu* corresponded to the same volume, whereas the table and the rule allowed the practitioner to determine the volumes of distinct kinds of grains

having the same value. We still need to understand why our sources attest to these two practices of assessing the value of grain and the factors that determined which practice was used.

What is important here is to note how two ways of determining amounts of grains with the same value were shaped on the basis of a key measuring unit for capacity—the *bu*—used in two distinct ways.¹⁰ As a result, depending on the context, the same name for a measuring unit was used with two different meanings. The *bu* sometimes measured the value of an amount of grain and sometimes measured its capacity.

In the latter case, a question arises naturally: Which *bu* was chosen to be the fundamental unit for measuring all capacities? In other words, what grain was chosen as providing all the others with a measuring unit and thereby constituting the basis for the measures of equivalences. The statement that Li Chunfeng inserts in the “Monograph on Pitch Pipes and Calendar” in the *History of the Sui*, after the quotation from *The Nine Chapters* mentioned above, seems to formulate his answer to this question. He writes: “The *bu* of the [coarsely] husked grain is taken as the standard, this is thus the same as the “Monograph” of the [*History of the*] *Han* 以米斛為正，則同於《漢志》” [Wei Zheng et al. 魏徵等 1973:409].

Analyzing this assertion within a larger documentary context yields interesting observations. As I recalled in the first section of this chapter, the “Monograph on Pitch Pipes and Calendar” in the *History of the Han* made clear that it relied on a text written by Liu Xin for Wang Mang to describe measuring units. The monograph evokes in some detail the making of a bronze capacity unit associated with Wang Mang’s rule: the bronze *bu* vessel, the “*bu* that excellently measures capacity by regulation” (律嘉量斛). The commentators on *The Nine Chapters* also regularly refer to this vessel, quoting the inscription carved on it—especially parts relating to the shape of the vessel and the figures mentioned (the area of the circle that constitutes its inner section, its height, its volume of 1,620 *cun*, and so on). One can identify two major contexts in relation to which commentators refer to the *bu* vessel. One is the computation of π , since they compare volumes derived from new values for π to figures mentioned in the inscription.¹¹ The other is connected with the use of *bu* measuring units specific to various grains (problems 5.23–5.25, 5.28). In this context, the key point motivating the commentaries seems to identify the value of 1,620 *cun*, mentioned in *The Nine Chapters* as the volume of the vessel attached to coarsely husked grain, with the value mentioned by the inscription on Wang Mang’s *bu* vessel.¹² This remark echoes Li Chunfeng’s assertion in the *History of the Sui* under discussion. These observations suggest that on the one hand, Li Chunfeng seems to have considered the *bu* vessel for the coarsely husked grain as the basis for defining the measuring unit for capacity in general at the time when *The Nine Chapters* was compiled, and on the other hand, that he identifies the *bu* used for general purposes in *The Nine Chapters* as the one enacted by Wang Mang. By contrast, as we have seen above, the only value mentioned by the *Book of*

Mathematical Procedures to convert volumes into capacities is that of 2,700 *cun* and relating to foxtail millet—the value being in continuity with what we find in *The Nine Chapters* for the latter grain. This observation can be combined with two other observations made above. On the one hand, the highest measuring unit for capacity changed between the composition of the two books. It was the *dan* when the *Book of Mathematical Procedures* was written. It had become the *bu* by the time *The Nine Chapters* was compiled. On the other hand, the structure of the text providing the equivalences between grains that is included in both the *Book of Mathematical Procedures* and Qin regulations for the granaries drastically differs in form from the one contained in *The Nine Chapters*. All these observations seem to indicate that between the composition of the two mathematical sources, the system for managing grains, including the measuring units for capacity, and the basis chosen for that system both changed. How do these evolutions relate to the reshaping of the task of assessing the value of grain for the working of the administration? This is the key question that awaits further research. However, on a more general level, the documents discussed above already clearly show why it is not enough to describe measuring units and systems of numbers to capture the attribution of a quantitative value to things. Actors also shaped practices that we need to recover to fully attend to how they determined and expressed numerical values.

ACKNOWLEDGMENTS

.....

It is a pleasure to thank John Papadopoulos and Gary Urton for their invitation to take part in this project and for the generosity with which they helped me in the preparation of this chapter. The remarks of the participants in the workshop were most helpful, and I express my gratitude to them. I started research on this topic within the framework of a joint research program on *The Nine Chapters*, which I carried out with Guo Shuchun (Academy of Science, Beijing) and which led to the publication of Chemla and Guo Shuchun 2004. Our collaboration influenced my ideas on every topic linked to *The Nine Chapters*, and I gratefully acknowledge my debt. Since 2007 I have been collaborating with Ma Biao (Yamaguchi University) on measuring units in the Qin and Han dynasties and their use in the measurement of grains. Within this context, I have certainly improved my understanding of the relevance of the earliest extant Chinese mathematical writings for the general history of China, and I am grateful that he expressed interest in this topic. Our collaboration aims at answering questions such as those formulated in the conclusion of this chapter.

NOTES

.....

1. I have addressed the question of *bu* for the measurement of grain in Chemla and Guo Shuchun 2004:201–205, 475–481. I take up the issue again from the perspective of the construction of value. The distinction between the quantity of grain and the value of grain is here central, and it is essential to understanding what is at stake in the sources.

2. Ban Gu 班固 et al. 1962:955, translated in Vogel 1994:141. The theoretical relationships established in early imperial China between the system of measuring units, the structure of the calendar, and the set of lengths of pitch pipes are described in Granet 1968 [1934]; Major 1993; Vogel 1994.

3. On the writing of official histories in the first decades of the Tang Dynasty, compare McMullen 1988:159–170, esp. 167–169.

4. Chemla 2010 more generally argues for this thesis by examining the extant evidence on the cohesion of *The Nine Chapters*, Liu Hui's commentary, and Li Chunfeng's subcommentary as a whole over history.

5. The commentator Liu Hui also explains the second principle, at a point when a quantity in *The Nine Chapters* is expressed according to this principle (Chemla and Guo Shuchun 2004:416–417). The volume 2 *chi* 7 *cun* is also found in *The Nine Chapters*, in exactly the same context as in the *Book of Mathematical Procedures*. One can also find in *The Nine Chapters* volumes expressed by means of a combination of the two principles, such as 2 *chi* 4 *cun* 3/10 *cun* 二尺四寸十分寸之三, which Liu Hui interprets as 2,430 *cun* (Chemla and Guo Shuchun 2004:450, 453). In the former expression (2 *chi* 4 *cun* 3/10 *cun*), a *cun* is 1/10 *chi* and *chi* is the basic unit for volume. In the latter (2,430 *cun*), a *cun* is the basic unit for volume—that is, the volume of a cube whose side is 1 *cun* long.

6. I developed a research project with Ma Biao (Yamaguchi University) to understand what motivated the change for the units of capacity and transformations in practices with these measuring units that accompanied this change.

7. *Lü* is a concept specific to the mathematics of ancient China. It qualifies numbers taken as a set and captures the property of these numbers to define the magnitudes of given entities up to a multiplicative factor. In our case, *lū* are numbers defining relationships between the equivalent volumes of different kinds of grains. Note that soya, mung, hemp beans, and wheat were handled together in the *Book of Mathematical Procedures*, *The Nine Chapters*, and the Qin regulations.

8. Here the commentators introduce a subtlety. Numbers *a* and *b*, associated to grains *A* and *B*, can be *lū* attached to the grains in two ways. They can be “*lū* of the relationship with each other *xiang yu zhi lū* 相與之率” of the two kinds of grain. In such a case, amounts having the same value and both expressed in units of capacity (C_A and C_B) of grains *A* and *B* have the relationship $C_A/a = C_B/b$. Numbers *a* and *b* can also be the “*lū* giving the equivalence of one with the other *xiang dang zhi lū* 相當之率” of the two kinds of grain. In such cases, the same amounts of the two grains, expressed in the same units of capacity, have values V_A and V_B for grains *A* and *B*, respectively, with the relationship $a V_A = b V_B$. On this opposition, compare Guo Shuchun 郭書春 1984.

9. Both the set of vessels and the kind of numerical values attached to grains in the table strongly evoke pitch pipes and the notes they emit. Indeed, each note can be associated to an integer in such a way that the interval between two given notes would be represented by the ratio between the integers associated with the notes. This parallel is interesting, and I plan to come back to it in a future publication. It is all the more important that grains play a key part in the “Monograph on Pitch Pipes and Calendar” of the *History of the Han* in measuring units and pipes.

10. After I pointed out the double use of the measuring unit *bu* (see my introduction to chapter 2 in Chemla and Guo Shuchun 2004:201–205), Zou Dahai 鄒大海 2009:513–515

described a similar phenomenon for the unit *dan* 石, which is the forerunner of *bu* as the largest measuring unit in the scale for capacity. Relying partly on the same documents as those mentioned here, Zou pointed out that during the Qin Dynasty, as a measure for capacity, *dan* had two meanings. He interprets one as referring to a measuring unit for capacity strictly speaking and the other one as designating a measuring unit for food, defined by reference to the capacity measure. This phenomenon holds true also for the early Han Dynasty. I believe that the phenomenon Zou describes is in continuity with the one I described with respect to the *bu*. We thus have a long-term phenomenon regarding the management of grain in the Chinese Empire. We can therefore complement the documents Zou discusses with those discussed in this chapter. Thus it may well be that the second use of *dan* refers to its use as a unit of value for the administration rather than as a unit for food.

11. Volkov 1985, 1994a, 1994b, 1995, provides a detailed analysis of the measuring vessels and the relationship between computing π and the inscriptions on the vessels. In notes added to the French translation of the key passage of *The Nine Chapters* and its commentaries (Chemla and Guo Shuchun 2004:182–185), I give further elements of bibliography and summarize my results on the topic.

12. Both commentators mention Wang Mang's bronze vessel in this context—Liu Hui after problem 5.25 and Li Chunfeng in the subcommentary after problem 5.28. On the attribution of the commentary to Li Chunfeng, see Chemla and Guo Shuchun 2004:832, note 159.

CHAPTER 23

RECORDING VALUES IN THE INKA EMPIRE

GARY URTON
HARVARD UNIVERSITY

ABSTRACT

The only available indigenous preconquest information pertaining to Inka recordings of numbers and values is locked up in still only partially deciphered knotted cord khipus. This study first discusses how numerical data were registered in general and then analyzes the organization of numerical data and color coding in a complexly formatted khipu from the south coast of Peru. This case allows for an exploration of the registration of status and prestige differences as an example of the construction of value in a social context. The discussion turns to possible means of recording three basic formulations of value in Inka political economy: exchange and market-based value; value expressed in comparative terms; and intrinsic value. Focus in the latter value form is on sacred places (wakas) in the landscape, including a consideration of ethnographic material illustrating by example one discursive practice by which places become sanctified through attachment to (supposed) ancestral events. The study ends with speculation on the possible semiotic connection between place value in constructions of landscapes and in the Inka positional (base 10) numeration system.

INTRODUCTION

My objective in this study is to explore the nature of and the relationship between *number* and *value* as constructions of these concepts took shape in *khipus*, knotted cord devices used for accounting and record keeping in the Inka Empire (Urton 2003). As I and others who have investigated these devices in recent years (e.g., Ascher and Ascher 1997; Conklin 2002; Salomon 2004) have noted, Inka knotted cords were means for registering information related to an array of institutions and

procedures in Inka state administration. This information included most prominently census and tribute data, as well as descriptions and observations produced by state administrators—*khipukamayusqs* (“knot keepers/organizers”)—relating to land measurements; agricultural production on state lands, lands of the gods, and local *ayllu* (kin group) lands; the enumeration of goods, such as textiles, arms, and sandals, that came into and went out of state storehouses; and many other items produced or accumulated by the state.

Finally, and most perplexing for students of the *khipu* today—since we still cannot decipher the full messages encoded in the *khipu* medium—is that the cords are said to have contained registries of units of information denoting the character, substance, or qualities of past events in such forms that Spanish invaders of the sixteenth century commonly referred to these records as historical annals (Acosta 2002:343 [1590]; Molina 1989:57–58 [1575]). In sum, the challenge before us is one of understanding how representations of numerical and value-based expressions of this wide range of observations, objects, and events were encoded in the cords, knots, and colors of *khipus*.

From the outset, we can say that recording the various kinds of information referenced above would generally have required some numerical/quantitative signs combined with nominal or identifying labels. For instance, a record of land measures might consist of a numeral signifier, if more than one unit was denominated (if only one unit was referenced, the signifier or identifying label—in this case, “[one] unit of land”—is all that would have been required), in addition to a label signifying “land” (*pacha* in Quechua) or, more specifically, “agricultural plot” (*chakra*). In addition, our exemplary recording might have included an attached signifier, or classificatory label, indicating whether the *chakra* in question was state owned, the property of the gods, or a plot of farmland belonging to a local *ayllu* (as all land in the empire was classified as one of those three types). While we possess a good understanding of how numerical data were recorded (see below), we do not in fact know how labels for various categories of information were formed in cord construction or color. What we do have is a wealth of diversity in the patterning of these components of *khipu* construction in some 850 samples extant in museum collections.

As we consider the types of signifiers that would have been called for in recording a piece of information as relatively straightforward as “three *chakras* of the gods,” we realize how complex labeling might have been in the knotted cord system. Once we arrive at this understanding and determine to investigate the matter further, our analysis could move in either of two directions. One direction would take us toward addressing the question, How could one record the specific quantities, labels, and identities of such a range of entities using only strings, knots, and colors? This is essentially the challenge of the decipherment of the *khipu*—what we might term the holy grail of *khipu* studies, a task that is well beyond the objectives of this paper and certainly beyond my own understanding of how information was recorded in

these devices. The other direction our analysis could move toward is addressing the question, How might the range of *general types* of signifiers alluded to in the above statement have been signed and parsed in the knotted cord records? This latter question is somewhat more manageable (though only barely so) and will be the objective of the discussion and analysis here.

Regarding what general types of categorical signifiers are implicated in the statement “three *chakras* of the gods,” I would answer that two general categories of things are indicated: one number/quantity label (“three”) and two identity labels (“*chakra*”; “gods”). As I have stated, we are now able to explain how quantity labels, number names, or conclusions of counting, such as “three,” were signed in the *kipus*. As for identity labels, I will later suggest ways these might have been encoded in the cord medium (see also Pärssinen 1992; Salomon 2004; Urton 2003). What is important to note is that investigating the recording of numbers and identities at the same time puts us squarely on the path to considering the larger, more abstract question of how estimations of *value* were recorded. That is, what was centrally at issue in the signing and labeling practices of the *kipukamayus* was the registration of Inka perceptions and formulations of value in different “registers” or domains of experience. In some cases, the domain or form of “value” at issue might have been related to relative quantities of items (for example, so many of this thing are equivalent to, or might be given in trade or payment for, so many of those things). In other cases, the issue might have concerned distinguishing and applying a valuation to one type of thing relative to another or parsing among different types/species of a single thing (for example, a fertile agricultural plot rather than sterile lands; a *chakra* pertaining to the gods rather than one belonging to the state or to a specific *ayllu*). In the latter case, the forms of “value” at issue would have concerned classificatory distinctions by which the world of objects, actions, events, and so on was parsed into different, often ranked categories. The latter would have constituted the grounds for political, social, and ritual action in Inka society. As we will see below, undoubtedly many things were considered precious and desirable, as well as undesirable, in and of themselves—that is, intrinsically—quite apart from evaluations arrived at through barter or as a consequence of how the item in question ranked vis-à-vis any other thing. While the three forms of value outlined here probably did not exhaust the realm of value considerations, I suggest below that they represented the core or principal types of value in Inka political economy, ritual practice, the narration of myths, and other practices and contexts. If we can deal with these forms of value, as I intend to do here, we will have a good beginning on investigating how value was (or values were) recorded in *kipus* across the broad sweep of the practice of valuation in Inka society.

THE LANGUAGE OF VALUE(S) IN THE KHIPUS

In asking how *kipus* might have been manipulated to record and display value, we should first explore the vocabulary of terms related to this concept in the languages that are relevant for this discussion—English and Quechua. I begin with English, in hopes of establishing at least a modest baseline of glosses for “value” familiar to the reader. I then turn to Quechua, the lingua franca of Inka state administration.

Webster’s New Twentieth Century Dictionary defines “value” as:

1) a fair or proper equivalent in money, commodities, etc., for something sold or exchanged; fair price . . . 6) that quality of a thing according to which it is thought of as being more or less *desirable, useful, estimable, important*, etc.; *worth*, or the degree of worth 7) that which is *desirable* or *worthy of esteem for its own sake*; thing or quality having *intrinsic worth* [as opposed to, for example, functional worth/utility;] (my emphases).

There are obviously many more English terms relating to value than are listed above, although I would argue that what is given here represents the principal forms or types of value as formulated in English language utterances. (I depend on the reader’s knowledge of the language in which this text is written to anticipate the subtleties and to fill out what would otherwise be a very long list of value-related terms.) As we will see when we survey Quechua terms denoting different forms and concepts of value, they in fact touch on versions of the three adduced in the above definitions. This is interesting in itself and suggests that these three ways of conceiving of value may be broadly shared, in comparative terms.

What we should note in the above glosses is that value is understood in three different senses in the English language. First there is value as a result of the price established for an item in the context of exchange or sale, in which commodities are bought and sold, whereby a price—a relative valuation between our item of interest and some quantity of another item or currency—is arrived at. Second is a sense of value, in which a set of related objects may be evaluated in relative qualitative terms, along a continuum, with one object being regarded as better, finer, etc. than the next and so on until we arrive at ones that are least desirable. Finally value may be conceived of in ontological terms as an intrinsic property of something “for its own sake”—that is, not as a result of the activity of sale, exchange, or barter, nor in explicit comparison to some other object (or group of objects), but rather because it is considered of value (or possessing a lack thereof) by its very nature. The first form of value will be arrived at most commonly in the exchange, barter, or the sale of objects; the second will emerge in comparative claims, counterclaims, and even open dispute among informants concerning the value of items constituting a set of related entities; the third form of value (intrinsic) will be more subjectively realized in what we might term ontological statements—for example, “This is a thing/event/person of great and abiding worth or esteem.”

It is important to stress that the three different forms of value characterized above are not distinct and unrelated. Rather, they become entangled with each other in both discourse and action, thereby making their discernment difficult in any given cultural context—and even more so in an archaeological (nontextual) context. The latter form is what we face in this study in that we are treating here formulations of value registered in a recording system that has been only partially deciphered. I suggest below that we find echoes of the three forms of value identified above in lexical entries in colonial dictionaries of the Quechua language.

QUECHUA CONCEPTS OF VALUE

Barter/Sale/Exchange

chani: the value or price put on a thing

chaniyoc: a thing of value or price

chanillantam, o chanintan camantan o chayacantamconni: to give the fair price or its value

Chunca buarcup yupanmi: it is worth 10 pesos.

rantini: to trade in exchange and from that to buy and sell

Comparative/Serial

ñaupac, o ñaupaquen: first thing

collana: first or principal

pissiman yupani: to esteem a little (a lesser amount)

Intrinsic

chaninchani: to give esteem or value

yupachicuy: to esteem in and of itself

yupay: that which is counted or esteemed for something

yupay yupay: honor or esteem or honorable appreciation

(González Holguín 1952 [1608])

From the above, we see that Quechua has terms denoting the three forms of value described earlier for English. Dictionary references can take us only so far, however, as they do not detail the range and depth of subtleties of how such conceptions as those adduced above are realized in social, political, economic, and other forms of practice. It is in the latter contexts that we gain a clearer sense not just of abstract meanings but of the on-the-ground interactions within which such glosses took on meaning. In general terms, what we refer to as constructions of value are realized both in discourse around quantification and in discourse and practice linked to processes of classification and the formalization of typologies. One feature of the latter, as forms of value, is that the naming of different classes or types of things often implies distinctions among related objects in terms of some defined principles of order, priority, status, and/or perceived quality. Such distinctions often involve

claims of one thing being better, purer, richer, etc. than another. This is the language (in English) of value comparisons. The matter becomes complicated at this point, for claims distinguishing objects by comparative grades, or ranked categories (good, better, best), often employ number-based expressions. This may include the assigning of cardinal numbers—the sequence of integers, “one, two, three . . . n”—to sets of items to distinguish among them in hierarchical terms or by priority. Such formulations may also take the form of ordinal-based expressions (first, second, third), which are commonly used to order items into a series by precedence, priority, or preference. In either case, number-based formulations often become entangled with expressions of value, so it is often difficult to parse number-based expressions from those denoting more abstract, relative expressions of “value.” One challenge for us here will be to attempt to understand how numerical statements may be disentangled from value statements (“six of these and two of those” as opposed to “these are the six best, and those are the two least desirable”).

In sum, my objective here is to investigate the nature of value and the interrelationships between this general concept and practices involving quantification, classification, and ranked typologies in the specific context of the recording of “information” in the Inka *kipu*. This work will involve close analyses of the knots, colors, and cord structures of the *kipu* themselves, as well as of statements made about *kipu* and cord-based accounting by the (literate) Spanish administrators who entered the Andes on the heels of conquest—following the events of Cajamarca in 1532—and who thereafter set about building a new (hybrid) centralized colonial administration on the ruined foundations of the Inka state. We begin with an overview of the structures and physical properties of *kipu*.

THE KHIPU: BASIC STRUCTURES AND THE SIGNING OF NUMBERS

Khipu are colorful arrays of spun and plied cords made of camelid and/or cotton fibers. In terms of their construction, *kipu* cord arrays are hierarchically structured in the sense that from a main or primary cord one finds multiple strings, called pendant cords, attached. The pendant cords themselves often carry secondary (commonly termed subsidiary) strings, which may themselves bear subsidiaries, and so on. Some *kipu* contain up to six levels of subsidiaries. The majority of pendant and subsidiary cords bear knots, which are usually though not always organized in tiered clusters along the cords (Figure 23.1, *see color plates*) (Ascher and Ascher 1997; Locke 1923; Urton 2003).¹

Thus the image of a *kipu* presented to the viewer is of a discontinuous, three-dimensional fabric plane composed of vertical and hierarchical arrays of cords bearing knots—the latter representing what we could term site markers—spread across the plane-like surface of the curtain of cords. These knots/site markers are

most commonly organized in tiered clusters, although all or part of approximately one-third of all samples display knots distributed in seemingly random patterns across the cords. I have argued elsewhere (Urton 2002) that the difference between *kipus* bearing hierarchically organized knots and those whose knots are randomly arrayed constituted the difference between, respectively, quantitative and qualitative, or narrative, accounts. I explain and explore some of the potential implications of this difference (for example, in relation to general and specific expressions of value) in the following sections.

The tiered clusters of knots found on the majority of *kipu* cords are explained by their having been tied to sign quantitative values in a base 10 positional, or place value, system of number notation. A place value notation system is one in which each position is related to the next by a constant multiplier (a common ratio), called the base of that numeral system. In such a system, the value of each position is the value of its digit (or knot) multiplied by a power of the base. As in our own base 10 place value number system, in which the rightmost digit has a place value of 1 and every other digit to the left has a place value 10 times that of the place value of the digit to its right, the tiered knots on most *kipus* were organized on a base 10 place value principle. In the *kipus*, however, the successively higher values were shifted at a 90-degree angle to the orientation of our own horizontal (right to left) arrangement of place values, producing vertical arrays of tiered knot clusters displaying decimal values. That is, unit knots were tied near the bottom of cords, farthest from the main cord, and each successive tiered knot position higher on the cord represented the next higher power of 10.

It is important to note that, as in all positional or place value notation systems, Inka accountants needed a way to sign zero—the absence of value in a position. Chrisomalis (2010:193–195) has pointed out that the introduction of some way of signifying zero was an essential component of the evolution of all positional number notation systems. In the Inka case, the *kipu* accountants signed zero not with a sign but by *not* tying a knot in a position of value. This required careful calibration of the placement of knots along cords, as too wide a space left between any adjacent pair of tiered knot clusters might suggest that one should assign a zero to an unintentional place of value between the two tiers.

The decimal-based positional nature of *kipu* numerical notations was attested to by the seventeenth-century mestizo (Quechua/Spanish) chronicler of Inka civilization Garcilaso de la Vega, who noted:

The knots were arranged in order of units, tens, hundreds, thousands, tens of thousands, and seldom if ever passed a hundred thousand. . . . These numbers were reckoned by means of knots in the threads, each number being divided from the next. But the knots representing each number were made in a group together, on a loop . . . there were never more than nine, seeing that units, tens, etc., never exceed nine [Garcilaso de la Vega 1966:330 (1609)].

In the 1920s, Garcilaso's assertions were confirmed, at least for the majority of extant samples, by L. Leland Locke, on the basis of his study of samples in the American Museum of Natural History in New York (e.g., see Locke 1923).

The Spanish chronicles are replete with references indicating the complexity of numerical information recorded in the *quipus*. Turning again to Garcilaso de la Vega, one of our most knowledgeable sources on Inka cord accounting, we learn that when the Inka sent out word, for instance, for the production of goods to meet some state need, such requirements arrived at the local level in terms of specifications assessed by quotas according to the quality and productivity of the land. As our source notes, "So to deliver a hundred thousand bushels of maize, for example, they already knew that a certain province was responsible for a tenth part, and such and such another for a seventh, and such and such another for a fifth, and so on; and it was the same for the towns and municipal divisions and *ayllus*, or clans" (Garcilaso de la Vega 1966:349–350 [1609]). A variety of ethnohistorical accounts suggest a high level of complexity of the numerical, quantitative information encoded in *quipus* used in state accounting or bookkeeping (see Urton 2002, 2009; Urton and Brezine 2005 and 2011).

I have already suggested that number and value are often confused—referentially overlapping and entangled—in statements about the characteristics and/or qualities of objects. This fact becomes especially relevant as we move now to consider how statements denoting "value" were recorded on *quipus*. What has been said previously concerning how numbers were recorded on cords has implications for the recording of value. For instance, exchange values and equivalence measures implicate all the forms of valuation mentioned to this point. The recording and later parsing of equivalency propositions, such as "10 measures of corn are equivalent to 20 measures of potatoes," would (if such statements are in fact knotted into extant cords) have depended on shared understandings and valuations of different classes of objects (for example, corn and potatoes as types of agricultural products) and their potential exchange values (for example, 10 of one equals 20 of the other) among cord keepers. Readable knot registries of the results of such classificatory distinctions and qualitative evaluations would have depended on shared understandings among Inka accountants, especially as those officials resided at different places in the empire and operated at different levels across the administrative hierarchy.

Having provided a general overview of *quipu* recording, I believe it will be informative for our study of number and value in this paper to examine how an exemplary sample is organized in terms of numerical information and structural properties of the patterning of cord groups and color sets. We will pursue these matters by looking at a sample from Atarco, near Nazca, on the south coast of Peru.

REGISTERING NUMBER AND VALUE IN A KHIPU FROM NAZCA

How might a registry containing both numbers and abstract values actually appear in a *khipu* sample? In addition, how complex might *khipu* registries actually be, given that the means for recording data in these devices were generally limited to variations in colorful knotted cords composed of spun cotton and/or camelid fibers? To address these questions, I turn to the analysis of an interesting and highly complex sample in the collections of the Museum für Völkerkunde in Munich, Germany.² The sample in question, which I will refer to here as UR28, is one of six samples tied together into what I term a linked set (Figure 23.2, *see color plates*). This set of samples is said to have been recovered from “grave robbers” (*buaqueros*) at Atarco. While some of the physical characteristics and organizational features I will describe for UR28 are found in one or more of the other five members of this linked set, I have space here to discuss only the one sample.³

Sample UR28 is composed of 74 pendant cords made of final S-ply cotton threads. A dozen of the pendant cords bear one subsidiary cord each. The cords of UR28 are of one of two hues: light brown (AB) or medium brown (MB). At the most general level, this *khipu* is organized into three sections as defined by the following cord groupings: (1) cord 1; (2) cords 2–4; and (3) cords 5–74. The reader may follow my description of the organization of this *khipu* by viewing Figure 23.3.

Figure 23.3 is organized into three major sets of columns, as defined above. The leftmost subcolumn within each major set of columns shows the cord numbers, from 1 to 74. (The notation s1 that follows 12 of the cords indicates a subsidiary attached to that cord). The next subcolumn to the right (within each major column set) shows the color of the cord, either AB or MB (see above). The column to the right of the color notations displays the numerical values knotted into the respective cords. Finally, the rightmost subcolumn displays the sums of values recorded on groupings of cords in the subcolumns to the left.

What we find when we examine closely the organization of numerical and color values on sample UR28 is an arrangement that I would characterize as summations of set values from left to right and from bottom to top, and/or repartitions (or subdivisions) of set values from top to bottom and/or from right to left. Thus, as we see, cord 1, an AB cord, carries the value 102; this same numerical value is the sum of the values knotted into cords 2 through 4 and their subsidiaries. The actual sums on the linked cord/subsidiary pairs are 29/14, 13/10, and 12/24 (equals 102). I note that the pendant cords are color AB, while the subsidiaries are color MB. What follows, in cords 5 through 74, is a complicated arrangement of various groupings of five-cord sets; some of these are what I would term odd five-cord sets in that the cord number of the first cord of each set is a value ending in a [...]5 (that is, 5 + 15 + 25; 35 + 45; and 55 + 65). The cords of these odd five-cord sets are all AB (light

Figure 23.3. Schematic of the organization of values in *kipu* UR28.

brown). There are also what I term even five-cord sets; that is, their first cords have a cord number of an even decimal value ending in 0 (that is, 10 + 20 + 30; 40 + 50; and 60 + 70). The cords of these even five-cord sets are all MB (medium brown).

When we sum the values on the odd and even groupings of five-cord sets, we find that, with one exception (see below), the sums are equivalent to those appearing on either the pendant cords or the subsidiaries in cord positions 2 through 4. Specifically, the odd/AB five-cord set sums are equivalent to the values on pendant cords 2, 3, and 4, while the even/MB five-cord set sums are equivalent to the values on the subsidiaries of the above three cords (2s1, 3s1, and 4s1). It is clear that there is a recording error either on cord 4 (equals 12) or on the two odd five-cord sets (55–59) + (65–69), which total 14. I strongly suspect that the error is on the latter cord groupings and that the intended sum of these odd five-cord sets should be 12 (as on cord 4) rather than 14. If we accept this explanation for where the error lies, we then note that the value 102, which is registered on cord 1 and is the sum of values on cords 2–4, is replicated on the complex of odd/AB and even/MB five-cord groupings from cord 5 to cord 74.

In sum, *khipu* sample UR28 is a complex arrangement of bicolor (AB/MB) cords organized in different arrays of odd/even five-cord groupings whose numerical sum (102) is reproduced both on the cords and the subsidiaries from cord 2–4 as well as on the first cord of this sample, cord 1. What can we surmise or theorize about the use and significance of this *khipu* account? And what, if anything, might this account instruct us with respect to the relationship between numbers and typologies as interrelated expressions of value in the Inka *khipus*?

The first observation I would offer is that the numerical values registered on the five-cord sets strike me as similar in magnitude (that is, in the range 1 to 6, with an emphasis on the lower end of that range) to what I argued in an earlier paper (Urton 2006) were census-type numerical values, particularly when what is displayed is not total household composition but rather, the number of tributaries per household. In the case of *khipu* UR28, we could be looking at the count of tributaries within a number of *ayllus*, or clan-like social groupings. Specifically, I would interpret the six values on cords 2–4 and their subsidiaries (that is, the values 29/14, 13/10, and 12/24) as the tributary counts for six *ayllu*-like social groups in the area of Nazca. The total summary count, 102, is interesting in regard to census values as well. Numerous colonial Spanish sources (see Pärssinen 1992:381–389) inform us that one of the principal groupings used to organize populations in the Inka state census was the *pachaca* (“one hundred”), a group composed of 100 tributary (corvée) laborers.

The above interpretation leaves us with a question: What could have been the meaning or the sociopolitical organizational significance of what appears to be a division of this (hypothetical) *pachaca*-sized census unit into two parts? This division is most apparent in the color difference between cords (AB versus MB) and in the distinction between odd and even five-cord sets. I would argue that here we are seeing signing values used to identify a two-part moiety division of the *pachaca*

(accounting group of 100 tributaries). In the Inka state, such dual-ranked groupings were exceedingly common. In most such instances, the two parts, which were hierarchically related to each other, were referred to as *hanan* (upper) and *hurin* (lower). I suggest that such a two-part sociopolitical division was signed in *kipu* UR28 in three ways: (a) by color (AB/MB); (b) by the distinction between pendant cords and subsidiary cords, at cord positions 2–4; and (c) by the distinction between odd and even five-cord sets at cord positions 5–74. In sum, I would argue that Table 23.1 is a fairly accurate representation of the moiety organization of six *ayllus* at Atarco, whose census was recorded on UR28.

Table 23.1. Moiety organization and ayllu rankings among a group of six ayllus in Atarco, Nazca, as interpreted from a local Khipu (UR28).

Hanan (“upper”) / AB		Hurin (“lower”) / MB	
Ayllu Rank	# of Tributaries	Ayllu Rank	# of Tributaries
1 -	29	4	14
2 -	13	5	10
3 -	12	6	24

It is interesting to note that the above interpretation may help explain why the summary cord (cord 1) is colored AB rather than MB. That is, this would be explained on the principle of “encompassment” (Turner 1996), by which the dominant member of a ranked, asymmetrical pair stands for the two parts when they are represented as a single unit. Thus when AB and MB are brought together within a single unit, the identity of that unit is signed by the color identity of the dominant member of the pair—in this case AB.

To the extent that the above interpretation of the numbers, colors, and odd/even distinctions among cord groups in sample UR28 might have combined to detail the organization and status relations among a group of six *ayllus* divided into moieties (as outlined in Table 23.1), we could conclude that this *kipu* represents an instance of value construction by way of the linkage of signs for the numerical values and social types, or ethnocategories, making up a population. *Khipu* UR28 represents value construction in an explicitly social register.

CONTEXTS AND PRACTICES OF THE CONSTRUCTION OF VALUE IN THE INKA EMPIRE

To evaluate critically how cord registries denoting distinctive categories of objects, such as those in the *kipu* from Atarco, might have been conceptualized and constructed in knot registry, we examine claims in the ethnohistorical literature about the registration of different types of data in the *kipus*. I organize the review of these data in the three categories of value discussed earlier: value as derived from

barter, trade, and marketing; value as formulated in ranked comparisons; and intrinsic value.

Value Arrived at by Barter, Exchange, and Buying and Selling

In discussing forms of value deriving from exchange and marketing, we have to be wary of whether any such glosses represent Inkaic practices of trading, buying, and selling, or if such reported activities relate exclusively to postconquest, colonial contexts. The matter is complicated because it has long been argued that markets and virtually all activities connected with the buying and selling of goods (including currency) did not exist in the Andes before the arrival of Europeans (e.g., Murra 1980 [1956]). This is a more complicated discussion today than when Murra originally articulated his arguments for the absence of markets in the Andes. While current research tends to support Murra's position insofar as Inka-period societies from the central highlands southward through the altiplano—what is today central and southern Bolivia—are concerned, there is an increasing body of evidence that not only marketing but also commercial trading and even a form of indigenous money were characteristic of the economies of societies of the Chincha Valley and Huancavelica in central Peru, northward through the north coast of Peru, and into the territory of the coast and highlands of present-day Ecuador (Espinoza 2008; Santillan 2008).

A central player in the trading and marketing activities defined above was the kingdom of Chincha, on the central coast of Peru. The lord of Chincha was said to have a fleet of 1,000 balsa rafts, which he employed in moving goods from the central coast north to the coast of Ecuador. Once in equatorial waters, Chincha merchants traded for one of the highest-value objects in the Andes—the warm water *Spondylus* shell known as *mullu*. *Spondylus* was used for a variety of artistic and ritual purposes. It appears archaeologically in the form of entire shells cut into chunks or ground into a fine powder. Entire shells or parts thereof were employed in the production of ornaments that adorned statuary and elite bodies. *Mullu* powder was included in offerings as food for the gods (Santillan 2008:289–294). Waldemar Espinoza presents compelling evidence that in addition to *Spondylus*, coca and peppers (capsicum) were important objects of trade. These three substances were central in the buying and selling of other, essential goods such as ceramics, fabrics, and metals (Espinoza 2008:402).

In Ecuador, ethnohistorians have documented the existence of traders, known as *mindaláes*, who were active in circulating the three products (shell, coca, and pepper) in a complex web of trade that moved products around the northern highlands and along the north and central coast of Peru (Salomon 1986). In addition to the three core substances, traders commonly carried tropical plants, used as stimulants and medicine, and salt (Espinoza 2008:402). Espinoza argues that *mullu*, coca, and peppers constituted what he terms *monedas-mercancías* (“merchandise monies”)—that is,

natural products that had the function of money in that they could be used in the buying and selling of a wide range of everyday goods; the highest valued of these objects were the shells:

Thus it was that mullu, peppers and coca permitted products to circulate rapidly, as with these things anything could be obtained. Because of this set of circumstances, we can speak of buying and selling in that in giving one of these merchandise-monies one could acquire any object that had use value. This was, manifestly, a form of barter, but not using just any product, but only with mullu, peppers and coca [Espinoza 2008:416; my translation].

Espinoza also discusses steadily growing evidence pointing to the use of “ax money” in the Andes (Figure 23.4, *see color plates*). This consisted of ax-head-shaped objects made of copper arsenic, which have been found in quantity from Chincha northward to Manta (near Guayaquil, Ecuador). Espinoza argues that this form of money was perhaps invented by craft specialists and merchants of the far north coast of Peru; in any case, the majority of the evidence for the use of these objects comes from that area (Espinoza 2008:417–418).

Espinoza cites a passage from an anonymous document from 1577, housed in the Biblioteca del Palacio Real in Madrid, concerning the use of this money form by the merchants of Chincha:

The people of Chincha were adventurous, sensible and well-governed because it was only they in this whole kingdom of whom we can say that they functioned/dealt with money, because among them they bought and sold with copper what they needed for food and for clothing. And they established the value of each mark of copper. And likewise they estimated each gold *peso* as ten times the silver *peso*. And they had their weights and measures with which they weighed the gold and silver and their stones [*toques*] with their points with which they assayed the gold from ten karats to twenty-one and a half.

[Era la gente de Chincha muy atrevida y de mucha razón y policía, porque podemos decir que sólo ellos en estos reinos trataban con moneda, porque entre ellos compraban y vendían con cobre lo que habían de comer y vestir. Y tenían puesto lo [que] valía cada marco de cobre. Y demás de esto estimaban cada peso de oro en más de diez veces el peso de plata. Y tenían sus pesos y pesas con que pesaban oro y plata y sus toques con sus puntas con que tocaban el oro desde diez quilates hasta veinte y uno y medio] [Espinoza 2008:418–421; my translation].

The point of this discussion is to stress that when we adduce glosses for concepts of value linked to buying and selling, as in the definitions from the colonial dictionary of González Holguín (see above), we do indeed have evidence that such activities—and therefore the related concepts of value as derived from exchange—were salient in the preconquest Andean world.

Value as Realized in Ranked Classifications of Entities

As for representations of relative worth or merit, as groups of objects were considered to be related to each other—that is, ranked—in a standard sequence or continuum, we have several relevant examples. For example, from transcriptions

of *kipus*, we find references to objects ordered in hierarchies of “precedence and worth.” Perhaps the most explicit example of this mode of recording relative values is in a now classic study by John Murra of the transcription of a *kipu* dating to 1561 from Xauxa in the central Andes of Peru (Murra 1975). In the transcription, we find a clearly articulated ordering of what Murra termed ethnocategories. Murra used this term to refer to objects organized according to an “Andean” cultural order of precedence—that is, according to an explicit valuation of categories of objects in the Inka/Andean conception of things. For instance, on the Xauxa *kipu*, cords enumerating humans were placed first (men before women); next came a section of cords accounting for the Andean camelids (llamas and alpacas); then textiles were recorded; and there followed cord sections for various other types of goods, including food plants, beginning with the highly regarded maize and continuing on through various agricultural products, ending with the lowly (but vital) potato (Murra 1975).

Such ordering by precedence, implying relative quality, is explicitly attested to in the seventeenth-century chronicle of Garcilaso de la Vega, who noted,

Objects that had no special colors [as some did—for example, yellow for gold, white for silver, and red for warriors] were arranged in order, beginning with the most important and proceeding to the least, each after its kind. . . . For illustration let us arrange the plants that grow in Spain: first wheat, then barley, then chick-peas, beans, millet, etc. Similarly in dealing with arms, they placed first those they considered noblest, such as spears, then darts, bows and arrows, clubs and axes, slings, and the other weapons they possessed [Garcilaso de la Vega 1966:330 (1609)].

Garcilaso’s statement to the effect that arms were ordered beginning with “those they considered noblest” goes to the heart of the question of the relationship between subjective—or what we can term cultural—values and the positioning of signs for objects in the spatial arrays of the cords, colors, and knots of the *kipus*. As I will suggest later, the recording of different, hierarchically ordered classes of items (for example, agricultural produce or arms) was probably done in the *kipus* by cord placement and color. For example, we might hypothesize that groups of five cords, organized in a color-differentiated sequence (for example, red-and-white barber pole, dark brown, medium brown, light brown, and white), could have been used for registering such ranked, five-element groups as those detailed in Garcilaso’s account above.⁴

I would note as well that at times, or in certain contexts, objects recorded on *kipus* were also ordered and valued relative to each other in a temporal mode. For instance, at the time of the annual feast dedicated to worship of the sun (Inti Raymi) in the capital city of Cuzco, which local lords (*curacas*) from around the empire attended, bringing with them fine objects from their home provinces, “the *curacas* approached in order of seniority according to the period when their people had been incorporated into the empire, and they handed over their vessels and other objects of gold and silver which they had brought from their own provinces to present to

the Sun” (Garcilaso de la Vega 1966:359 [1609]). Here, antiquity (in this case of the incorporation of different peoples into the empire) was the basis for prestige, a convergence of qualities that emerges in other social contexts in the Andes, such as in the hierarchical ranking of groups of *ayllus* and paired *sayas* (moieties; see Gose 1996; Urton 1990; and below).

Finally, studies of transcriptions of Inka census *kipus* make it clear that the enumeration of different groups (such as the clan-like *ayllus*) within any given province was based on each group’s location within the local terrain. Such ranking by spatial cord arrays would probably have been recapitulated in the journey of census takers as they moved from place to place, accounting for different categories of people resident within each locale. Such movements were no doubt based on standardized and locally, if not regionally, well-understood conceptual schemes of the organization and ranking of groups within some clearly, socially delimited landscape. For instance, Garcilaso de la Vega notes that once census takers arrived at a locale, census data were recorded according to a standardized (and undoubtedly ideal) system in which the local populace was broken down into age grades, each grade covering ten years:

If they referred to their subjects, they recorded first the inhabitants of each village and then those of each province combined: on the first thread they would enumerate the old people of sixty or more, on the second men in their maturity of fifty upwards, the third stood for those of forty, and so on in groups of ten years. . . . Women were counted similarly by age groups [Garcilaso de la Vega 1966:330 (1609)].

Value as Intrinsic Worth

As for the form of value characterized earlier as “intrinsic worth,” there were undoubtedly many objects, actions, and other phenomena in Inka social life that would come under this heading, from one’s ancestral mummy (*mallki*) to acts of support and solidarity—that is, things or actions whose value was determined not by market forces or according to a given position along a comparative continuum but in and of themselves. Of course, we cannot characterize the ontological properties of all such objects and/or actions bearing intrinsic worth here. What I will focus on in this study is a category of entities whose high value and intrinsic worth are well attested in the ethnohistorical literature: entities classified as *waka*. This term was applied to the state of being primarily (although not exclusively) of objects and places we commonly term sacred (Bray 2009; Zuidema 1964). We could discuss the concept of *waka* in many different contexts; our focus here will be on places in the landscape that were considered sacred. Place-based *waka* entities were sites in the landscape where some important, often socially foundational event was considered to have occurred in the past. When the identity or category label *waka* was applied to a place in the landscape, the site was thereby designated as an intrinsically high-value place—a focal point of the sacred.

We have ethnohistoric information pertaining to an extraordinary collection of Inka *wakas* whose identities and qualities were recorded on a *khipu*, although the source *khipu* is no longer extant. I refer to the so-called *ceque* system of Cuzco, which was the framework for the sociopolitical, ritual, and calendrical organization of the Inka capital (Bauer 1998; Zuidema 1964). The *ceque* system was an arrangement of some 328 to 350 named sacred places (*wakas*) located in and around the capital of the Inka Empire, Cuzco. The *wakas* were organized along 41 *ceques*, or lines, each of which represented a more or less linear orientation of *wakas* from the Temple of the Sun (Coricancha) in the center of Cuzco to the horizon. Our knowledge of the specific features of the *ceque* system comes from a mid-seventeenth-century chronicle by the Jesuit priest Bernabé Cobo (1990 [1653]). The information Cobo himself drew on almost certainly dated back to the mid-sixteenth-century chronicler Polo de Ondegardo (1916 [1571]; see Presta and Julien 2008). Cobo informs us that the care and tending of each *waka* of the *ceque* system was the responsibility of one or another of numerous sociopolitical groups resident within the city. These groups were classified as either *panakas* (royal *ayllus*) or commoner *ayllus*.

As for the organization of the *ceque* system, Cobo's account indicates that groups of *ceque* lines were ranked according to a repeating series of three hierarchical categories (first *collana*, second *payan*, third *cayao*), with a theoretical possibility of a fourth (lowest) category (*caru*). The *wakas* located along each *ceque* were named and enumerated, from the site on the line nearest to the Coricancha, which was the first *waka* of that *ceque*, to the last. There were 3 to 15 *wakas* along the various lines. In his account of the *ceque* system, Cobo gives detailed information on each *waka*, including an accounting of why (that is, in relation to what event or activity in the past) each place was considered sacred and what sacrificial offerings were made at the site. To give the reader a sense of the nature of the information contained in Cobo's *waka-by-waka* descriptions of sites along each *ceque*, we can look at the following description of several *wakas* along the first *ceque* of Antisuyu (one of the four *suyus*, or quarters, of the ancient city and empire):

The first *ceque* was named Collana and was under the care of the *ayllo* of Çubçu Pañaca Ayllu.

The first *guaca* [*waka*] of it was called Chiquinapampa. It was an *enclosure* next to the Temple of the Sun [Coricancha] in which the sacrifice for the universal health of the Indians was made.

The second *guaca* was called Turuca. It was an *almost round stone*, which was next to the said Temple of the Sun in a window; this stone was said to be the *guanque* [brother] of Ticci Viracocha. Universal sacrifice was made to it for all the needs that arose. . . .

The fourth was called Autviturco. It was a *large cave* . . . they held the view that the Indians of the town of Goalla had been born there. The sacrifice was to sprinkle it with the blood of llama

The last [eleventh] *guaca* of this *ceque* was called Quiscourco; it was a *round stone*, not very big, which served as the limit and marker of these *guacas* [Cobo 1990:63–64 (1653)].

What is evident in this account is that *wakas* were often not particularly large, beautiful, well-formed, or otherwise notable in their physical aspect. What made these objects and sites in the landscape significant was their materiality, their “situatedness” in and around the ancient capital, in places whose significance was recounted in myths and legends of what had transpired in the valley, at those places, in the distant past. Although *wakas* were enumerated from first to last along lines (*ceques*) that were hierarchically ranked according to (more or less) regularly repeating categories (*collana/payan/cayao*; high/middle/low), what is clear from accounts of these sites in the Spanish documents is that the quality of sacredness embodied by each *waka* was not a product of its place within the system. Rather, the “system” was itself the formalization of the web of sacrality—the interconnected network of intrinsically valued places—of the *wakas* as these sites were recognized and experienced individually and collectively in ritual practices that went on in the valley annually. The particular characteristics and qualities attributed to *wakas* were constructed and continually reaffirmed in myths as well as in sacrifices offered to the *wakas*, each receiving its prescribed offering on its particular day in the annual ritual cycle (Zuidema 1977).

Although the *kipu* that detailed features of the *ceque* system is not extant, and we do not therefore know what its particular characteristics were, nonetheless we can surmise certain of its probable features given what we have learned about *kipu* recording to date (see Figure 23.5, *see color plates*). In the first place, I suppose that “the” *ceque kipu* might actually have been a *pair* of *kipus*, one for each of the moiety sections (*hanan*/upper and *hurin*/lower) of the city. Beyond that, at the level of the features of each *kipu*, I suppose the principal features would have consisted of: (a) sets of probably color-differentiated cords (like the five-cord AB/MB sets of the Atarco *kipu*) signifying the repeating status identities *collana-payan-cayao*; (b) knots tied along the cords indicating the sequence of *wakas* along *ceques*; and (c) some indication on the knots of the categories of sacrifices to be performed at each *waka*. The latter could have been signed by color or by some feature of cord construction (perhaps by knot directional variation; see Urton 2003).

CONSTRUCTIONS OF THE INTRINSIC VALUE OF WAKAS

Although we cannot know the precise histories of the attribution of particular properties to each *waka* of a complicated organization such as the *ceque* system of Cuzco, we can perhaps gain a sense of the basic discursive processes that gave rise to such constructions by considering how value and sacredness are attributed to sites today. If it is salient (as suggested above) to conceive of “places” in a sacred landscape such as the valley of Cuzco as having been signified by the ordered places, or positions, in knotted arrays of *kipu* cords, this encourages us to explore how sites within a landscape might have been constructed and continuously sacralized in narrative

productions, such as myths. An example would be myths linking people situated at some place at a given point in time with identities and events of the past. These would have represented a strategy for constructing value and values and assigning them to sites within a socialized landscape. In this exploration, we are concerned with discourse and practices that give rise to what we have termed intrinsic value, especially as seen in the category of sites classified as *wakas*.

The Andean countryside in the past was a mosaic of socialized and sacred places; of settlements occupied by *ayllus*; of agricultural fields; of springs and rock outcrops; and of caves containing ancestral mummies. Such local terrains in Inka times were the landscapes within which people produced crops, herded animals, built houses and towns (*llaqtas*), and paid homage to their ancestral mummies. Sites that were considered important because of a particular connection to the past were incorporated into myths, thereby connecting the contemporary inhabitants of the land to ancestral identities and events. In short, the local landscape was the canvas on which the history of its residents was drawn and redrawn, resulting in a complicated palimpsest-like array of transtemporal identities (for example, of toponyms, personified topographical features, excrescences of personal memories). This is the terrain of the discursive construction of value in the context of places constituting lived, socialized space.

It is of interest here to discuss Quechua linguist Rosalyn Howard-Malverde's (1990) study of toponyms and of special sites in the landscape as portrayed in an oral narrative from a community in the central Andes. The story in question was recorded by Howard-Malverde from one of her informants, Don Eduardo, in the central Andean village of Pariarca. Howard-Malverde describes how in the text of his story/myth, which concerns Inkas passing through the village in the distant past, Don Eduardo often used a particular verbal suffix, *shqa*. In normal usage, *shqa* is linked with *shi* to indicate something that happened in the distant past with which the speaker does not have personal knowledge. This pairing is normally opposed to *rqa* and *mi*, used for events in the recent past that were personally witnessed by the speaker (Howard-Malverde 1990:78).

In the story recounted by Howard-Malverde, however, Don Eduardo often linked *shqa* with *mi*, indicating that the events had happened in the distant past but that he had personal knowledge of those events. How could that be? As Howard-Malverde argues, the events are closely tied to points in the Pariarca landscape referred to by means of local toponyms. This topography is part of the everyday experience of the narrator and his audience. Topography provided a cognitive bridge between past event and present experience, which led Don Eduardo to use the *shqa/mi* pair of evidentials, thus allowing him to assert the facts as personal knowledge. That is, since he was intimately familiar with places where things occurred in the myth, he vouched for the truth of the events in the myth as well. Howard-Malverde concludes, "It is as if don Eduardo was saying: 'The Inka has been past this way;

I personally know it to be so and can prove it, look, here is the evidence [in the landscape]” (Howard-Malverde 1990:80).

I suggest that such constructions of sacred places in the landscape evoke for us as concretely as possible the general character of the discursive and conceptual strategies whereby, for instance, sites in the valley of Cuzco would have been invested with sacralized status—that is, would have become places of high value—in the formative processes of the *ceque* system. I would also stress that while we have focused in this discussion on place as the object of the construction of value, the processes and strategies we have arrived at (for example, linking the object to sacred, idiosyncratic, and/or ancestral identities or events; the incorporation of the object into sacrificial rites; discursive projections of the uniqueness of the object) would have been the same or similar to those employed in constructing representations of value vis-à-vis other objects—for example, shell [*mullu*], coca, peppers, and salt; objects of gold, silver, and copper; mummies; and a wide range of other phenomena.

The discussion above points us in the direction of a final topic: the relationship between “place” as a semantic and semiotic operator in the context of landscapes and positional numeration.

ELABORATIONS OF “PLACE” IN THE LANDSCAPE AND IN NUMERICAL FORMULATIONS

A question that arises in relation to the above discussion is: “How might the concept of place value, as used in *khipu* recording, have partaken of the broader conceptions and social processes of place construction in the landscape more generally?” By “landscape” as used here, I mean what Layton and Ucko (1999:1) refer to as environments shaped by human action, as well as representations of environments signifying social meanings attributed to such settings. Landscape concerns both physical and conceptual understandings and representations of a given terrain. Ingold defines landscape as “a pattern of activities ‘collapsed’ into an array of features, an external form created by a pattern of human activities which remains visible to archaeologists after its creators have disappeared” (cited in Layton and Ucko 1999:2). I argue that this abstract understanding of place is related to what we encounter when we view *khipus*—that is, patterns of activities “collapsed” into arrays of “topographic” features (for example, cords organized into groups or sets bearing knots in complex patterns).

The question posed above concerning how the notion of place, which is central to conceptions of landscapes, may have been related to “places” constructed in place value notation systems calls for some clarification. I believe that this relationship points to an important and heretofore generally unrecognized problem in semiosis. The gist of the problem is whether or not the concept of place as it emerges in relation to the conceptualization of inhabited (that is, socialized) geographical

landscapes may be related to the place principle used in numerical place value systems. It is worth considering how the general concept of place might implicate, or draw together at a broad, conceptual level, such varied constructions as sites bearing social significance within a lived landscape, signs composing written texts (with their syntactical, rule-regulated arrangements of inscriptional elements), and positions within place-based numerical notation systems. An example of the latter would be the Quechua place-based (positional) system of decimal numeration. I argue that *khipus*, composed of strategically placed cord sets, the elements of which carried knots in complex hierarchical arrangements, were the principal instruments used by Inka administrators for signing all three types of place-based semiotic productions—landscapes, texts (that is, cord-based accounts), and decimal arrays.

What is the implication of the expanded understanding of place described in the foregoing discussion? More concretely, what are the implications of this maneuver for our investigation of numerical, topographical, and value notations in the Inka *khipus*? I think the potential significance of making this interpretive connection is that such a maneuver would represent a way to move from the physical structures of inscription—that is, the arrangements of cords and knots, in the case at hand—to sign production processes elsewhere within the society in question. For example, when storytellers within a given society call forth images of places within a landscape, such as hills, rock outcrops, or groves of trees—any of which could be classified as sacred (*waka*)—in their telling of myths, the meanings that emerge in relation to such places may constitute models, or paradigms, for the construction of meanings within artificially constructed “arrays of places”—as in arrangements of colorful, knotted cords (Figure 23.6, *see color plates*).

A site-based emplacement strategy of cord construction, such as that outlined above, was in fact alluded to by the chronicler Antonio de la Calancha in 1638. In describing how *khipu* keepers interacted with, or “read,” their cords, Calancha stated:

The Quipo Camayos . . . were continually studying the signs, ciphers and relations [of the *khipus*], teaching them to those who would succeed them in office, and there were a number of these Secretaries, each of whom had assigned his particular class of material, having to fit the story, tale or song to the knots of which *they* [the knots] *served as indices, and points of site memory* [*punto para memoria local*] [Calancha 1974:205 (1638)].

In this quote we read an account—virtually the most explicit one in the ethnohistorical literature concerning the processes of *khipu* semiosis—of the engagement of a creative intellect with the materiality of a knotted cord record in the construction of value in the Inka Empire.

ACKNOWLEDGMENTS

.....

I express my sincere thanks to Carrie Brezine and Jason Urton for reading and commenting on earlier drafts of this paper. I am grateful too for comments on the paper made by the two (anonymous) external reviewers. Any errors that remain in the paper are the responsibility of the author. Thanks also to my friend and coeditor John Papadopoulos, who gave me much support and encouragement as I worked to complete this article.

NOTES

.....

1. For additional descriptions, diagrams, and photos detailing *khipu* construction features, see the Khipu Database Project website at <<http://khipukamayuk.fas.harvard.edu/>>.

2. Thanks to Helmut Schindler for his help and kind hospitality during my two-week visit to the Museum für Völkerkunde in Munich in the summer of 2004. I also express my profound appreciation to Carrie Brezine, who provided me with the breakdown and initial structural analysis of *khipu* UR28. At the time, Brezine was administrator for the Khipu Database Project. Further interpretation and analysis of the *khipu* presented herein is the work of the author.

3. The full tabular descriptions for UR28 and the other samples in this linked set (UR23, UR24, UR27, UR28, UR29 and UR57) may be found on the “Data Tables” page at the Khipu Database Project website, <<http://khipukamayuk.fas.harvard.edu/>>.

4. See Frank Salomon’s informed and highly stimulating analysis of the organization of different categories of information by color coding of cords in patrimonial *khipus* in the present-day community of Tupicocha in central Peru (Salomon 2004). This work is a model for how one should go about making analogical use of signing practices in an ethnographic setting for archaeological interpretations.

CHAPTER 24

.....

THE VARIETIES OF
ANCIENT MAYA
NUMERATION
AND VALUE

.....

DAVID STUART
UNIVERSITY OF TEXAS, AUSTIN

ABSTRACT

.....

The ancient Maya are famous for their frequent use of numbers in written texts. The phonetic decipherment of Maya writing has recently allowed for many new insights about how hieroglyphic records of numbers, especially large ones, correspond with patterns of numeration found in Mayan languages. My overview of these developments will lead to a discussion of the Long Count calendar, the standardized place-notation system that specified large quantities of elapsed days. I will focus in part on the most elaborate variations of this well-known calendar, examining a series of remarkable “deep time” calculations and representations that until now have received only cursory study. The largest unit of time recorded in any Maya text was 2021 years, as part of a vast and highly abstracted representation of cosmological time. My presentation will also focus on infrequent but revealing examples of noncalendar numeration and valuation, used in enumerating specific important commodities or ritual goods, especially cacao beans and jade jewels. Chocolate and jade were among the most highly prized things in ancient Mesoamerica, and both were central to defining and quantifying material wealth among Classic Maya elites.

INTRODUCTION

In this essay I describe two different yet related systems by which the ancient Maya expressed number value. One method was a standard and no doubt widespread numeration system used to count important commodities and things—cacao beans, ritual offerings, and the like—whereas the other was a far more restricted system used for the reckoning of days and years. Given that the ancient Maya are noted for their use of numbers, it might first appear repetitive or unnecessary to present yet another description of their numerology. However, little attention has been given to these topics in the last few decades and certainly with little regard to the sorts of comparative questions being addressed in the current volume. In fact, there is a great deal new to say, for nearly all earlier research on Maya numeration has focused almost solely on calendrics, the second of the systems I will discuss here, as though counting and timekeeping were one and the same thing. This is simply not the case. While closely related, Maya systems of counting and tracking years operated in two parallel but distinct worlds.

Until recently, Maya scholarship on numeration has focused only on calendrics and astronomy, for understandable reasons. The foundations of Maya epigraphic research were laid with the early work on the *Dresden Codex* and its many complex tables of dates and planetary movements (Forstemann 1906), and nearly all inscriptions of the Classic period feature one or more historical or mythological dates. In other words, “time” seems to be everywhere in the extant sources, and this situation is naturally well reflected in the focus of earlier studies of numbers and values.¹

Perhaps the most exhaustive early treatments of Maya numerology are the lengthy and still very useful discussions by Thompson (1950) and Lounsbury (1978), and it is remarkable how little has been written on these subjects since about 1980. In fact, one recent bibliographic overview of Maya epigraphic research (Houston and Nelson 2001) shows hardly any studies devoted to the general subject in the last three decades. This situation is probably best understood as a reflection of the field’s recent shift in focus away from the dominant astronomy paradigm of earlier decades and toward the more historical and linguistic concerns of recent epigraphic work. Now seems a perfect opportunity to begin joining these two important but seldom overlapping aspects of Maya studies, bridging the results of new language-based readings with the traditional interest in how Maya numbers worked.

BUNDLES OF VALUE

Despite the long-standing scholarly focus on numeration, we still know very little of ancient Maya concepts of value in economic and social terms. In Mayan languages historically, the word *ajil* seems to correspond more or less to our own definition of value as it applies to numbers and counting.

The means by which the ancient Maya made their computations is not well known either. In the sixteenth century, Landa noted that traders of cacao beans in Yucatán often had to calculate large numbers, making “their counts on the ground or on something smooth” (Tozzer 1941:98). Tozzer saw this statement as implying the use of the familiar bar and dot numbers, by which numbers were written using shells or cacao beans for units of one and sticks for units of five. A trader making a calculation would thus represent 16 as “three sticks and one shell” (Tozzer 1941:98). This is pure speculation, however, and still we know next to nothing about the actual practice of counting—calendrical or otherwise—among the ancient Maya. Most ethnographic sources that touch on the subject focus on the practice of counting in divination, especially where the 260-day calendar has survived among day-keeper shamans of the Maya highlands (Bunzel 1959:286–292; Tedlock 1982). The counting and arranging of seeds called *tz’ite*, sometimes mixed with small crystals, still is basic to this process. What remains especially unclear is the means by which Classic Maya mathematicians were able to calculate the vast spans of time represented in some calendrical texts, such as those from Coba, Mexico, that we will examine later in this essay.

Although no term for value has been found in the ancient sources, one related term that we do see is *tojool* (**U-to-jo-li**), meaning “price” or “payment” (Figure 24.1).² In one inscription from Jonuta, Tabasco, it appears in proximity to the term *ikatz* or *ikitz*, “load” or “cargo,” a general term for bundles of precious commodities such as jade jewels. It is possible that the partially preserved Jonuta text once made reference to a local lord’s tribute or gift payment. Unfortunately, this one mention of the “price” or “payment” is unique as far as I am aware.

If general ideas surrounding value are difficult to grasp, we do have a better idea of what things were considered “valuable” or “precious.” The latter term, often used in translations of Mesoamerican languages and texts, indeed might be more applicable to situations that encompass our very broad and sometime unwieldy notion of value. Numerous “precious” commodities such as jade, quetzal feathers, and cacao were largely controlled through elite trade networks and were extremely important in the gift and tribute economies of Mesoamerica in general.

In a previous essay (Stuart 2006), I posited that Maya art and texts featured both jade and cacao as principal commodities in the display of wealth within elite political and social economics. Other familiar high-end prestige materials with nearly equal value, such as quetzal plumes and elaborate textiles, were not, as far as I am aware, so prominently used as *enumerated* goods for measuring wealth and value.³



Figure 24.1. The glyph for “payment” or “value” (*u tojool*, **U-to-jo-li**) from an inscription on a stela from Jonuta, Tabasco, Mexico (drawing by the author).

In certain ritual contexts, cacao beans especially seem to have played a great role in the system of Classic Maya economics. Colonial accounts and ethnohistorical sources are replete with evidence of extensive cacao cultivation in the humid, low-lying areas of ancient Mesoamerica, and early Spanish chroniclers were fascinated with how “almonds” of the cacao tree served in some capacity as “money” (Millon 1954). Writing in the late sixteenth century, José de Acosta noted this situation directly, claiming that in central Mexico, “with five cacao beans one thing can be bought, and with thirty another, and with a hundred another, without haggling” (Acosta 2002:210 [1590]). This process seems to have been a widespread feature of Mesoamerican economies, although the extent to which it was systematized no doubt varied a great deal from region to region. According to Bishop Landa’s famous quotation, also from the sixteenth century, cacao was measured in counts

by fives up to twenty, and by twenties up to one hundred and by hundreds up to four hundred, and by four hundreds up to eight thousand; and they used this method of counting very often in the cacao trading. . . . They make their counts on the ground or on something smooth [Tozzer 1941:98].

In Landa’s description we see a hint of the vigesimal (base 20) counting system that existed in Mesoamerican languages and cultures (Yasugi 1995:83). Much more on this will be described in the pages to follow.

Cacao was not grown throughout the Maya area. Areas of intensive production included what is now Tabasco, the Pacific piedmont slopes of Soconusco (Xoconochco), and northern Honduras (McNeil 2006). As Landa also noted, traders from Yucatán would arrive in Tabasco “carrying salt and cloth and slaves . . . exchanging all they had for cacao and stone beads” (Tozzer 1941:95). It is interesting that the two most important elite commodities among the Classic Maya—cacao and jade—are mentioned here together and were associated more with Maya areas and provinces of the south.

The tallying of cacao beans in the number units described by Landa—especially 8,000—was common throughout ancient Mesoamerica and is well documented in Aztec sources. The Aztecs recorded tallies of cacao beans in the *Mendoza Codex* and other pictorial documents using a bag-like sign to write *xiquipilli*, expressing 8,000 (Figure 24.2a). (The Nahuatl counting system, too, was mostly vigesimal in structure.) The Classic Maya indicated counts of cacao beans using an identical numerical system, with *pik* being its main unit for 8,000 (Figure 24.2b). We find this glyph written in several instances on large cloth bundles used by the Classic Maya in the transportation of cacao beans.⁴ In some cases, we see the bundles simply decorated with hieroglyphic expressions such as *hun pik* (one *pik*, or 8,000) or *ux pik* (three *pik*, or 24,000), without denotation of what was actually being counted. (*Pik* is attested historically as a term for 8,000 in both Yukatekan and Tzeltalan languages.) In one instance, a bundled commodity is clearly indicated as cacao in

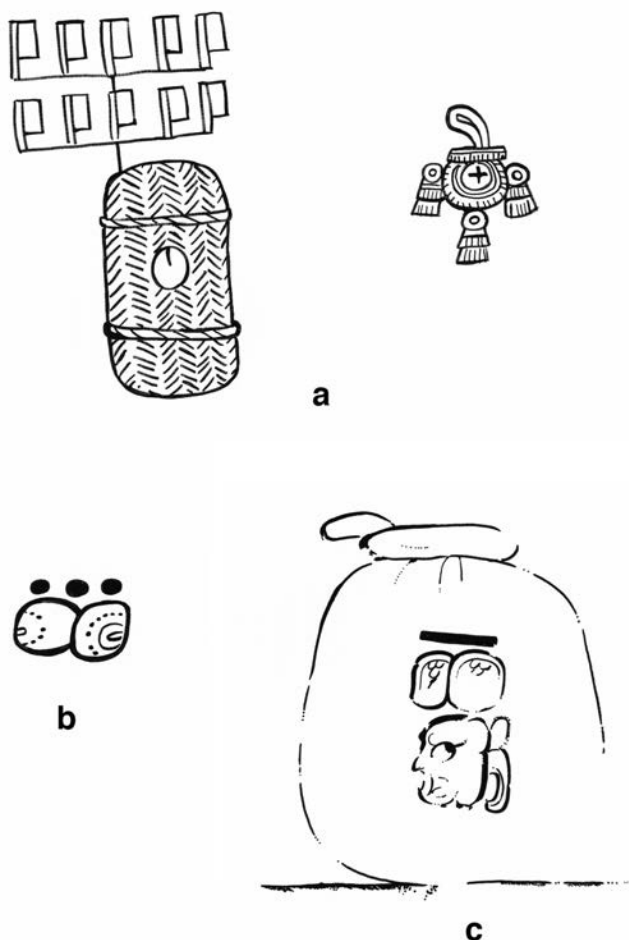


Figure 24.2. Numeration of cacao in Mesoamerica: (a) a cacao bundle from the Aztec *Mendoza Codex*. The small banners above each represent the number 20, marking a total of 200 *cargas*, or loads, of cacao. The unit for 8,000 (*xiquipilli*), represented by the bag sign at upper right, was used for counting cacao beans within loads; (b) the Maya hieroglyph *pik* or “8,000,” here prefixed with 3 for *ux pik* or “24,000”; (c) a bundle marked “40,000 cacao (beans)” from the murals of Bonampak, Mexico (drawings by the author).

the glyphic label **5-PIK ka-(ka-)wa** (*ho’ pik kakaw*), or five *pik* (40,000) cacao beans (Figure 24.2c).

Knowing that the Classic Maya enumerated specific expressions of value in such a way is important to be sure, yet we still face a difficult task in knowing how such bundles or quantities functioned in a wider monetary or tribute system. The painted scenes where the bundles appear suggest that visitations among royalty were key settings for the presentation, exchange, or payment of chocolate, but in what larger context? Were units of cacao beans functional as “true money”? For what goods

and services were they exchanged exactly? I doubt we will know unless specific sorts of economic records someday come to light. But there are hints nevertheless that cacao beans constituted something close to a standardized monetary system, at least in some times and places in ancient Mesoamerica.

The decipherment of the term *pik* leads to one other important and more specific question: How can this word and its hieroglyph stand for the specific abstract quantity 8,000 in one setting and for another amount (400 *tuns*, or 144,000 days) in another? To resolve this apparent conundrum, we need to look more specifically at how the Maya constructed two different but complementary worlds of numbers, one related to beans and other things and another to the reckoning of days.

SPEAKING AND WRITING BASIC NUMBERS

As briefly noted, Mayan languages make use of a vigesimal, or base 20, counting system. Within this higher unit of counting, number terms are formed with separate words for 1 to 12, with 13 to 19 formed by the addition of words for 3 through 9 to the base 10, probably a vestige of a partial decimal count that came to be incorporated in a larger system. The number terms from modern Tzeltal Mayan show this structure, much as it exists in all Mayan languages:

- 1 *bun*
- 2 *cha'b*
- 3 *ox-eb*
- 4 *chan-eb*
- 5 *ho'-eb*
- 6 *wak-eb*
- 7 *buk-eb*
- 8 *waxuk-eb*
- 9 *balun-eb*
- 10 *labun-eb*
- 11 *buluch-eb*
- 12 *lach-eb*
- 13 *oxlabun-eb*
- 14 *chanlabun-eb*
- 15 *ho'labun-eb*
- 16 *waklabun-eb*
- 17 *buklabun-eb*
- 18 *waxaklabun-eb*
- 19 *balunlabun-eb*

(The suffix *eb* appears on 2 and above as a general classifier on numbers in “absolute” form in Tzeltal and other highland languages [Haviland 1981:165]. This is

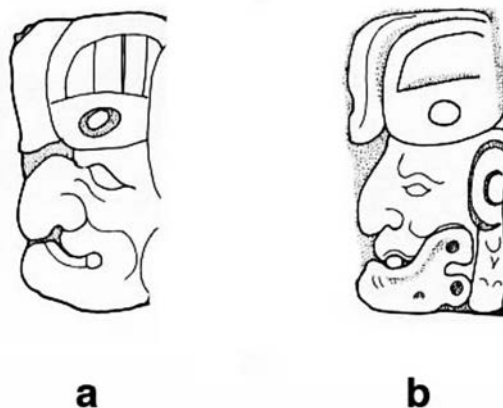


Figure 24.3. Animated numbers in Maya writing: the deities for (a) 5 and (b) 15 (showing the mandible for 10) (drawings by Linda Schele).

historically derived from a pluralizing suffix [Kaufman 1971:92].) In ancient times, these numbers were usually written with the familiar bars and dots, but from a very early date they could also be written as animated signs, known as number head variants, representing portraits of specific deities of Maya mythology. A different portrait stands for each number leading up to 13, probably for cosmological reasons given the great importance of 13 in the celestial structure. Animated numbers for 13 to 19 take the form of fused elements, sharing features of 10 (a human skull) and the gods of 3 through 9 (13 may be written as its own head or as a combination of 3 and 10). For example, 15 appears as the elderly deity 5 with a fleshless mandible, a visual cue for 10 (Figure 24.3).

For 20 or a score, many Mayan languages use a term derived from proto-Mayan, **juun winaq*, literally “one person,” based on the number of digits on the human body. The Lacandon Maya of the lowlands of Chiapas have lost the use of some of their traditional numbers, but they still express this fundamental connection between number and body in remarkably explicit ways, even above 20, as in the following forms:⁵

4	<i>läb-t-a-nup'</i>	all your fingers
5	<i>hun-bu-k'ä'</i>	one hand
10	<i>ka'-bu-k'ä'</i>	two hands
15	<i>hum-buh-ok</i>	one foot
20	<i>hun-tul-winik</i>	one man
100	<i>hum-bu-k'ä' winik</i>	five men

Twenty was written in one of two ways in the hieroglyphic texts, depending it seems on context and the amounts involved. The moon sign (Figure 24.4a) was the

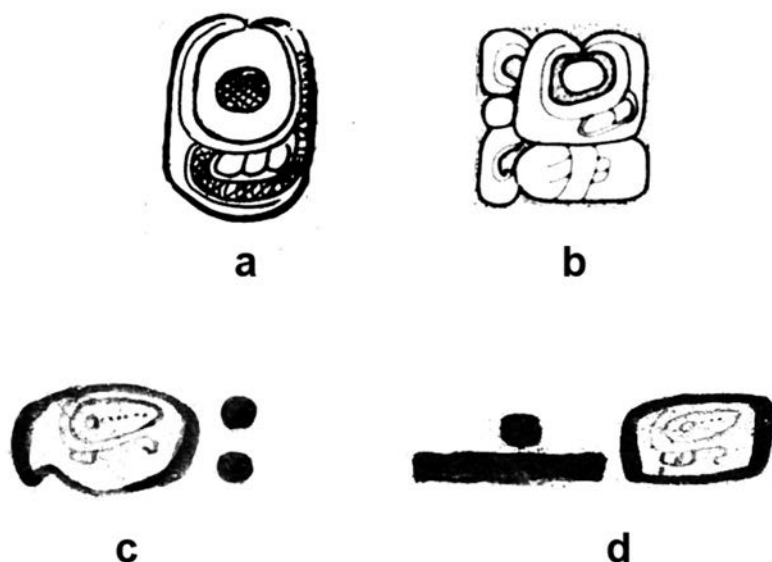


Figure 24.4. The moon sign for 20 (a); “one score” from a tablet at Palenque (b); “22 [days]” from the *Dresden Codex* (c); “26 [days]” from the *Dresden Codex* (d).

most common hieroglyph for 20 or one score, but it was seldom used for multiples of 20.⁶ It remains unclear just how this sign is to be read phonetically, although **WINAK** remains a good possibility in many settings (see Bricker 1986:100–101).

In the counting of objects, we find that the moon can be combined with the number prefix 1 to write “one score” (**1-WINAK?-ki**), possibly used in an inscription from Palenque to describe the number of ceremonial wrappings on effigies of the city’s patron deities (Figure 24.4b). Curiously, in the context of writing tallies of days, a very similar glyph and number combined in reverse order (20-1) must stand for 21 days (20 + 1). All temporal distance numbers between 21 and 39 are written in such a way, such that a bar and dot numeral simply follows the moon sign (Thompson 1950:139) (Figure 24.4c). However, it is interesting that these short-time expressions do not conform to the format of distance numbers known from earlier stone inscriptions. Thus 20 + 2 simply expresses 22, without any written regard of the *winal* time unit. In another confusing but perhaps revealing twist, a scribe of the *Dresden Codex* opted to write distance numbers with the smaller numeral *prefixed* to 20, as in 6 + 20 for 26 (Figure 24.4d). These sorts of distance number expressions are less common, but their presence seems to show that the format for writing numbers was not always subject to rigid practice.

As Lounsbury (1990) has noted, the “additive” pattern of writing numbers in the manner $n + 20$, while widely attested in the hieroglyphic texts, does not conform with the expected “anticipatory” pattern of spoken numerology in Mayan languages. Typically, in spoken practice, numbers above 20 are expressed by means of vigesimal

“overcounting” such that a number between 21 and 39 inclusive is uttered as a number 1 to 19 “within” the second score, as we see here (the specific lexemes for 20 and other numbers vary somewhat by language):

Ch’ol	27	<i>wuk-p’eh I cha’k’al</i>	7 within the second score
Tzotzil	22	<i>cib scha’vinik</i>	2 within the second score

The numeral system we find most common in the ancient texts, whether it’s tallying time units or other things, seems quite different in its near exclusive use of additive structures. Lounsbury (1990) speculated that “the dominance of the additive system in the script suggests that it may have had a special status, something like that of a ‘scientific notation,’ rather than being a representation of ordinary speech.” This may well be true, and it is also possible that this disconnection between written (additive) and spoken (anticipatory) forms has its origin in the remote history of the written number system itself. If, as is widely believed, the Classic Maya adopted aspects of their calendar system from other Mesoamerican cultures to the west, it may well be that written numbers had similar non-Maya beginnings among languages such as those in the Mixe-Zoquean group, which employ additive numerology (Yasugi 1995:100).

When writing numbers for things other than days, the scribes of the *Dresden Codex* opted for one of two methods, depending on the quantities involved. For numbered items above 20 and below 40, we find spellings of numbers that fit within the anticipatory conventions of spoken Yukatek Mayan numerology, as in *bolon-t-u-k’al*, “nine in the (second) score” (= 29) (Lounsbury 1990) (Figure 24.4d).

For amounts above 39 and below 100 (or perhaps even higher), scribes of the *Dresden Codex* used a different notational system, first identified by Bruce Love in his analysis of offering tallies in the late codices (Love 1994:58–59). On the lower sections of pages 43 through 47, known as the Burner pages, we find four distinct images of the rain deity Chahk, each associated with one of the four cardinal directions. Inserted within each scene we find one or two hieroglyphic compounds that display between two and four **WINIK** or **WINAL** logograms, usually accompanied by bar and dot records up to 19 (Figure 24.5). There can be little doubt that these are record numbers, but in a way very different from what previous students of Maya numerology have supposed. If we naturally take each individual **WINIK** to be 20, we might suppose that their groupings in sets of two, three, or four units represent multiples of 20, as in 20, 60, and 80. In frequent combination with bars and dots, we find that the numbers on these Dresden pages represent the following quantities:

south	52	80	= 132
east	80	55	= 135
north	96	–	= 96
west	57	80	= 137

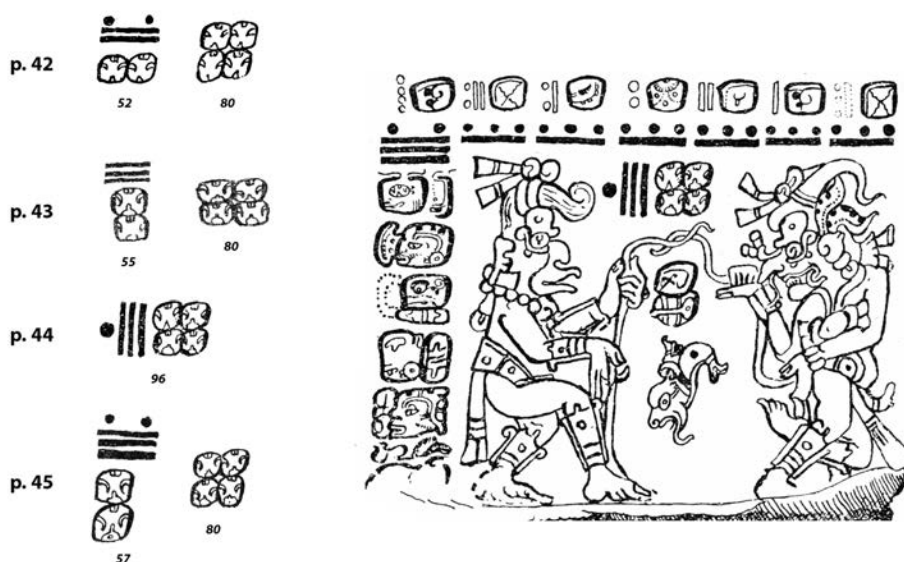


Figure 24.5. Numbers representing visual groupings of 20s from pages 42 to 45 of the *Dresden Codex*. The numbers total 500, probably in reference to food offerings such as turkey and fish.

I suspect that these numbers specify prescribed quantities of food offerings, represented as iguana, fish, and turkey glyphs placed nearby in each scene (see Bricker 1991). Each set would have been associated with one of the four world quarters, moving counterclockwise. For now I think we can analyze them as:

south	132 maize tamale? offerings
east	135 iguana tamale offerings
north	96 turkey (ku-tzu) and fish offerings
west	137 ? offerings

It is interesting that these numbers come out to a round total of 500, although I have no interpretation to offer on its significance.⁷

In the Classic period inscriptions, we find a similar system of notation but perhaps using a less clear distinction between the reckoning of small amounts of days and quantities of things. In two inscriptions from the Late Classic period, we see the **WINIK** sign used to record ruler tallies with surprisingly high numbers. In one instance from the site of Arroyo de Piedra, a ruler is named as the “sixty-fifth in the sequence of the Holy Lords” associated with a local place-name, probably referring to Lake Petexbatun (Figure 24.6). Here the



Figure 24.6. The number 65 (left) in a royal title from stela 2, Arroyo de Piedra, Guatemala (drawing by Stephen Houston).

WINIK sign is not repeated but rather takes two numerical prefixes: a 3 above and a 5 to the left, lending it a close similarity to a common temporal distance number. Here I assume that the 3 marks multiples of **WINIK** (3×20) and that the 5 is a count above this quantity ($3 \times 20 + 5$). Sixty-five rulers is the longest dynastic tally known in Maya “history.” (The excessive length suggests that the tally might include mythical precursors, as we know existed in many Classic period polities.) If it represents the number of rulers in direct succession to one another, both mythical and historical, then we are likely seeing an indication of a local dynastic record going back well over a 1,000 years, well into the Late Preclassic era. (Stela 2 was dedicated in A.D. 731.)

To summarize some basic points up to now, in both Classic inscriptions and codices, the moon variant of 20 (**WINAK?**) was a standard means of recording amounts between 20 and 39. Above 39 it seems that the **WINIK** sign became more standard, perhaps reflecting a distinction in the linguistic usage of two terms for “score.” That is, one term for 20 was evidently the term for “first score,” and another word was used for subsequent vigesimal counts. Interestingly, similar patterns are found in some modern Mayan languages, which also use two terms for 20. The Jakalteek language, for examples, uses *hun k'al* for 20 but also *winax* (cognate to *winik*) for terms between 21 and 40 (Day 1973:57–59). Ixil does the same, with the terms being *k'al* and *winaq* (Ayers 1980:137–189). These different uses of “moon” and **WINIK** are found in counts of both things and elapsed days, although there are subtle distinctions in the format and presentation of such counts. For example, the “stacking” of two, three, or four **WINIK** elements existed only in the codices and was employed exclusively for tallying sacrificial food offerings. By contrast, in the counting of days, the long-standing tradition was to simply indicate multiples of 20 through the use of a number prefix on **WINIK**.

These are subtle differences, but they reflect an important categorical distinction between the counting of things and the reckoning of time. These contexts probably cued different readings and word values for the glyphs. Added to the mix is the apparent fact that the lunar glyph is seldom if ever used to represent higher multiples of 20. As we will see, in the writing of 40, 60, and so on, the moon element was dropped in preference of the sign otherwise known to have **WINIK**, “man” or “person.” We have already seen that the words *winik* and *winaq* are closely related etymologically, but how this glyph relates to the moon element remains unclear. The signs were surely considered distinct in the Classic period, but their possible related values **WINAK** and **WINIK** suggest some looseness in their usage and that overlap was possible.

Another term for 20 is *k'al*, attested in Yukatekan and some other languages. For many years, this meaning has been considered a likely reading for the moon sign, although the direct evidence for this is lacking; if it were polyvalent as a sign for 20, K'AL remains a possibility. We do see the word written in one revealing glyphic context, in an inscription on stela 32 of Naranjo. The text seems to record

a tribute payment to the local Naranjo king and includes the phrase **5-k'a-la** for *jo' k'al*, probably meaning “five score” (Figure 24.7). The preceding glyphs refer to quetzal feathers and jaguar (pelts?), so perhaps “[they are] one hundred” specifies their exact quantity.

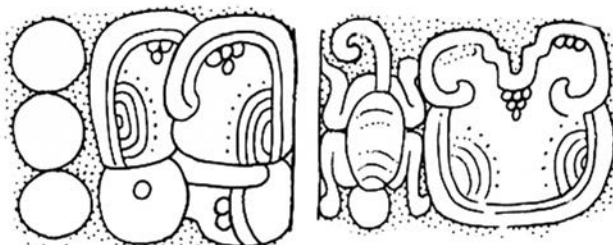
Numbers in Mayan languages do not exist by themselves as abstract entities; they must be grouped with terms that mark in some way what is being counted. Special numeral classifiers play a key role in this expression of counting (Berlin 1968). Typically, classifiers are obligatory morphemes that intercede between a number and its noun, specifying some property or state of the thing being counted (Keller 1955). Only a handful of classifiers occur in ancient Maya texts, by far the most common being *-te'*, derived from the word *te'*, “plant” or “tree” (the sign **TE'** is used to write both the classifier and this noun) (Figure 24.8a). This classifier is usually applied to a variety of inanimate objects, but it can refer on occasion to deities and people. Macri suggests that the glyphs for the period of the Long Count calendar (discussed below) were numeral classifiers as well. (*Pik* would be one of these terms, as the reading for the *bak'tun* glyph [144,000 days]). While this may have been true very early in the history of their usage, by the Classic period, these units or special number terms were clearly treated as counted nouns. In one telling example, we see how the classifier *-te'* appears after a number and before *pik* in the rather grisly place-name Uxte'pik Sinaan Witz (24,000-Scorpion Hill) (Figure 24.8b).



Figure 24.7. “5 score” (5-k'a-la) on stela 32 from Naranjo, Guatemala.



a



b

Figure 24.8. The numeral classifier *-TE'* (a); the place-name 24,000-Scorpion Hill (b) (written as 3 x 8,000), from Tonina monument 150 (drawing by Ian Graham from Graham et al. 2006:84).

TIME AND VALUE

Now we turn to the tallying of larger units of time, which employed a different numeration system than what has been described so far. The Classic Maya Long Count calendar (Figure 24.9) was a place-notation system that presented an accumulated number of days from an established creation date far in the mythological past. Clear indications are that the Maya did not invent this calendar on their own. As we have seen with the 260-day count, the earliest recorded examples of Long Count dates come from well outside the Maya area. There are, for example, several inscriptions carved on monuments of the poorly understood cultures that inhabited the northern region of the Isthmus of Tehuantepec, mainly along the coast. There, used in conjunction with the so-called Isthmian or Epi-Olmec script, the earliest Long Count dates appear in the second century B.C.; the dates were in use up to the fifth century A.D. at sites such as Cerro de las Mesas. It is quite conceivable that

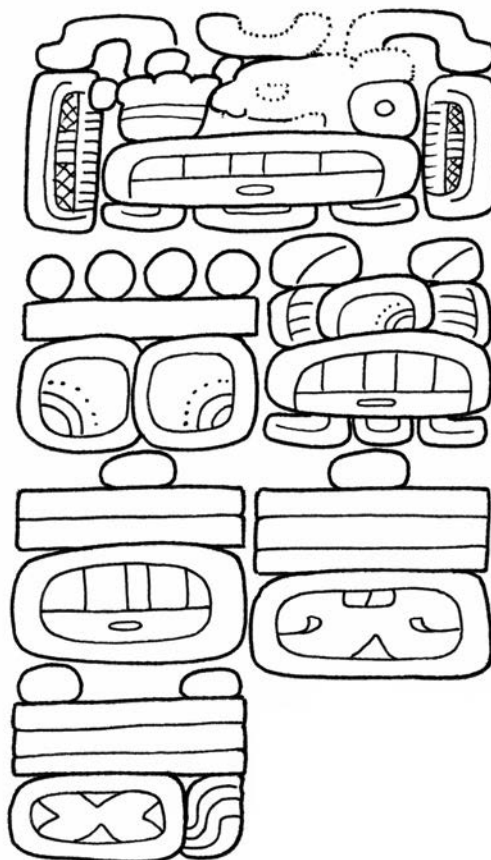


Figure 24.9. A Long Count date from a lintel at Oxkintok, Yucatán, showing the use of the term *pik* for the *bak'tun* period (drawing by the author).

the Long Count owes its origin to the earlier “Olmec” cultures that inhabited this same region during the Early and Middle Formative periods, although no direct evidence exists to support the supposition. Early Maya examples of the Long Count are known from the Guatemalan highlands at the sites of Abaj Takalik and El Baul, but its appearance in the southern lowlands is not documented until the third century A.D., heralding the beginning of the Classic period.

The earliest Long Count date recorded in what might be called the conventional lowland Maya style is found on stela 29 from Tikal, dating to A.D. 292. (Elsewhere in the Maya lowlands we find earlier dates, but these are not contemporary records.) The latest known Long Count date occurs on Tonina’s monument 101, erected in A.D. 909, although even later dates are recorded in the astronomical tables of the *Dresden Codex*. The Long Count was therefore in prevalent use for at least five centuries, and its fundamental structure formed the basis of different sorts of calendrical records in Yucatán up to the time of the conquest.

The familiar Long Count calendar consists of five time units, the smallest being the single day, or *k’in*. Higher periods are composed of ever-increasing units above the *k’in*; the *winal* is equal to 20 days, the *tun* is composed of 18 *winal*, the *k’atun* is composed of 20 *tun*, and the *bak’tun* is equivalent to 20 *k’atun*. In this way five units, presented here in their recorded order, span quantities of time ranging from the single day to about four centuries:

1 *bak’tun* = 20 *k’atun* = 144,000 days

1 *k’atun* = 20 *tun* = 7,200 days

1 *tun* = 18 *winal* = 360 days

1 *winal* = 20 *k’in* = 20 days

1 *k’in* = 1 day

The internal structure of these periods reflects the familiar vigesimal system of counting, except in one place: 18 *winal* (not 20) comprise the individual *tun*. This oddity probably stemmed from a desire to make the *tun* (360 days) approximate the length of a solar year. For this reason, the *tun* is sometimes referred to as a vague year.

The conventional names we use here for the periods are all of Classical Yukatek derivation, but not all are original or even attested in colonial sources. The term *bak’tun*, the largest of the five units (*bak’* usually meaning 400), was developed by early Maya epigraphers, but there is no indication of its ancient or colonial usage. Its hieroglyph is the **PIK** sign, indistinguishable from the glyph we have already seen used to indicate units of 8,000 in the counting of cacao beans. (Eight thousand is the customary meaning of *pik* in Mayan languages, historically speaking.) We will return to this important and revealing overlap momentarily.

All Long Count dates record a single day by using these five periods to specify a certain amount of elapsed time from a given starting point. To do so, each period carries a numerical value, as in the example 9 *bak’tun*, 2 *k’atun*, 11 *tun*, 16 *winal*, 17

k'in. This date, recording a building dedication at Oxkintok, Campeche, conveys a precise amount of time in the following way:

9.2.11.16.17 11 Kaban 15 Pax

9 *bak'tun* = 9 x 144,000 = 1,296,000 days

2 *k'atun* = 2 x 7,200 = 14,400 days

11 *tun* = 11 x 360 = 3,690 days

16 *winal* = 16 x 20 days = 320 days

17 *k'in* = 17 days = 17 days

Total 1,314,427 days

This total number expresses the amount of time elapsed from a firmly set starting point some 5,000 years ago, when all the units of the Long Count would have been effectively set at zero. This is not quite how the Maya wrote that beginning date, however, as we will soon see.

The spans of each period in the Long Count show that it is very different from a straight vigesimal count. A kink exists in the system where 18 (not 20) *winal* compose the next higher period, the *tun*. Only the 360-day *tun* was subjected to this strange violation of the expected numeration. As early scholars recognized, the Long Count represented a modified vigesimal system, tweaked such that one period would approximate a tropical year of 365 days. The *tun* period has therefore been called a vague year, and despite the fact that some early researchers saw the *k'in*, or day, as the fundamental unit of the system (Morley 1915:37), I think there is now general agreement that the *tun* was the basic building block of the Long Count. Closs (1977:18–27) has even described the Long Count system as a “composite count consisting of a vigesimal Tun count and separate counts of uinals and kins.”

BIG NUMBERS

.....

The Long Count expresses elapsed time from a mythical starting point, which, according to the calendar correlation most scholars endorse, fell on August 11, 3114 B.C.⁸ This date was written as: 13.0.0.0.0 4 Ajaw 8 Kumk'u.

The initial 13 value of the *bak'tun* reveals a curious feature of the Long Count, as researchers have long known. Because this is the “zero” base of the five-unit count, why are all numbers not simply set as 0.0.0.0.0? This situation has forced many writers to state that 13 is in some way equivalent to 0, but strictly speaking this is not true. As Thompson (1950:149) long ago noted, “This was not the true starting point of the calendar, since 13 baktuns had already elapsed, for this position of 4 Ahau 8 Cumku is written as the completion of 13 baktuns.” Thompson (1950:149) also curiously stated that “there was no such thing as an initial point of departure for the Maya calendar, but, rather, time was conceived of as without beginning or end, and therefore one could project one’s calculations farther and

We know this because the traditional Long Count calendar, with its five periods, is a small fraction of a far larger Maya vision of time, number, and value. This full system of calendrical reckoning is recorded in examples of what I call the Grand Long Count, found on three monuments at the site of Coba, Mexico, to which we now turn.

13.13.13.13.13.13.13.13.13.13.13.13.13.13.13.13.13
.13.13.13.13.13.0.0.0.0 4 Ajaw 8 Kumk'u. This
extended date is a full form of the more standard
and familiar “base” date cited above.

The *true* base date of this immense system occurred when all these numbers were set at zero, not at 13. Reconstructing this initial point then becomes an issue of large-scale but fairly simple math. If a single *bak'tun* represents 20^2 *tun* (360 day units), then the largest placeholder represented in the Coba dates—the initial period at the top of each—must correspond to 20^{21} *tun*. This astoundingly large number we can express as: 2,097,152,000,000,000,000,000,000 *tun* (vague years).

Indeed, all the units of the Grand Long Count, from the *bak'tun* up to this highest period, are set

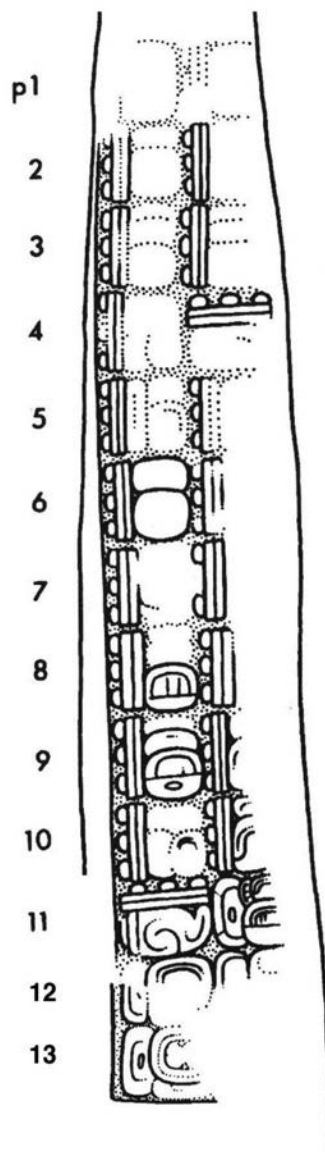


Figure 24.10. Grand Long Count date on stela 5 at Coba, Mexico (drawing by Ian Graham, with slight corrections, from Graham 1997).

at 13. If we compute the totality expressed on the Coba stelae, we arrive at 28,697,869,473,684,210,526,315,789,200 *tun* (vague years), which represents the elapsed time from the absolute zero base date up to the mythical “era” date associated with creation on 4 Ajaw 8 Kumk’u. (Historical time comes a few millennia later.) This many *tun* equal slightly fewer solar years, but the number is still staggering in quantity.

THE TWO COMPUTATIONAL SYSTEMS

.....

We have seen how the Long Count is not a strict vigesimal numeration system, given that the *tun* period of 360 days was composed of 18 periods of 20 days to approximate the solar year. Another aspect of the larger Grand Long Count reaffirms just how separate and different an internal structure it had in relation to more standard numerology. Remember that the count of the *bak’tun* period “began” once it was set at 13 but that it had already progressed before this point from an earlier base that was in fact set at zero. The sequence in Table 24.1 shows how the Maya numbered *bak’tun* before and after the 4 Ajaw 8 Kumk’u date. Here we see how the sequence of *bak’tun* structurally “resets” with the arrival of 13 units—that the count renews and that 1 to 13 *bak’tun* repeat thereafter. With the passing of these 32 periods, the next period above the *bak’tun*, known as a *piktun*, will turn over to its next number.

Table 24.1. The sequence of *Bak’tun* within the current *Piktun*.

...13.0.0.0.0.0	...13.3.0.0.0.0
...13.1.0.0.0.0	...13.4.0.0.0.0
...13.2.0.0.0.0	...13.5.0.0.0.0
...13.3.0.0.0.0	...13.6.0.0.0.0
...13.4.0.0.0.0	...13.7.0.0.0.0
...13.5.0.0.0.0	...13.8.0.0.0.0
...13.6.0.0.0.0	...13.9.0.0.0.0
...13.7.0.0.0.0	...13.10.0.0.0.0
...13.8.0.0.0.0	...13.11.0.0.0.0
...13.9.0.0.0.0	...13.12.0.0.0.0
...13.10.0.0.0.0	...13.13.0.0.0.0
...13.11.0.0.0.0	...13.14.0.0.0.0
...13.12.0.0.0.0	...13.15.0.0.0.0
...13.13.0.0.0.0 4 Ahaw 8 Kumk’u	...13.16.0.0.0.0
...13.1.0.0.0.0	...13.17.0.0.0.0
...13.2.0.0.0.0	...13.18.0.0.0.0
	...13.19.0.0.0.0

Note: The initial 13 of each record is the value of the *piktun* period. The *bak’tun* position is the second number.

One inscription at Palenque, in the Temple of the Inscriptions, records this future turn of the higher period, telling us that this will be the completion of “1 Piktun.” This is a fundamental clue for reconstructing the larger structure of the calendar, for it reveals that the *bak’tun* was not alone in being subject to the same strange resetting from 13 to 1 with a renewed count. If the *bak’tun* and *piktun* were subject to this process, it stands to reason that all the higher periods similarly turn to 1 after 13 and then continue apace. The full *potential* capacity of the Grand Long Count, therefore, encompasses 72,848,437,894,736,842,105,263,157,200 *tun*, or years.

Again, this number does not seem inherently meaningful on the face of it; nor do I think it was much on the minds of calendar priests of ancient Coba. But it does represent a conceptual vision of time, even if it is extrapolated from the important textual clues left to us.

A key point we can gather from this involved discussion of Maya numerology is that the supposed “numbers” of Maya reckoning need not correspond to absolute values. As usage of the term *pik* shows, numbers can instead mark relative positions within different place notation systems. In the Standard Vigesimal count system, as we will call it, the word *pik* stood for the number 8,000 (20^3), whereas in its calendar setting, the same term referred to the third position in an exponential expression of time based on the 360-day year, or *haab*. (*Pik[haab]* = 144,000 days; *winik[?]haab* = 7,200 days; *haab* = 360 days.) What accounts for this seemingly contradictory role of the word? If we take a closer look at the units within each system, an interesting pattern emerges. Here I have marked the stations of *pik* in boldface:

				<i>pik</i>	
Standard Vigesimal	1	<u>20</u>	400	8,000	160,000 . . .
				<i>pik</i>	
Long Count	1	20	<u>360</u>	7,200	144,000 . . .

In the Standard Vigesimal count, *pik* stood for 20^3 , designating the unit that is two positions above 20, the base of the entire system (underlined). In the Long Count, conceived and structured as a count of *tun*, *pik* stood for the period two positions above that basic period (also underlined). Perhaps, then, *pik* in both systems stood for the “second place” above what was considered the basis of each count. In no real way did *pik* express an absolute number value then. A confirmation of this analysis would ideally come by establishing that a sign or glyph associated with 400 in the Standard Vigesimal system overlapped in function with the *k’atun* glyph of the Long Count, but no such 400 glyph—possibly read **BAK’**—is yet known. Before such clarification comes about, at least it seems clear that Maya “number” terms such as *pik*, however they truly functioned, were not invariably tied to absolute quantities.

That there existed multiple systems of counting among the ancient Maya is no great surprise, for throughout history and over many cultures, it is easy to see how calendrical computation tends to be an adaptation of familiar, more general

counting systems. The movements and cycles of the sun and other phenomena on which humans structure their perceptions of time's passing do not always neatly conform to the neat structures of numeration, so out of that mix come the contradictions and messiness typical of human timekeeping. If these systems retain a common vocabulary, as we see in the Maya term *pik*, it seems almost inevitable that contradictions and perhaps different senses of numeral "value" would emerge. In the world of Maya numbers, context is key.

Early Mayanist researchers tended to collapse mathematics and numeration into the realm of calendrics and call it a day (pun intended). Now, as we newly discern the important differences and relationships between counting and timekeeping, we see that the ancient Maya really made use of two separate and complementary systems. Or to put it another way, we are now beginning to see how for the Maya and other Mesoamericans, time was not money.

NOTES

.....

1. As Tozzer wrote in 1941, "We are uncertain about the unit used for 20 and its multiples unless they were recorded in their calendar" (Tozzer 1941:98).

2. Following convention, hieroglyphic signs are transcribed in boldface, with CV syllables in lowercase (**wi**) and word signs, or logograms, in uppercase (**WINIK**).

3. However, we should keep in mind that our evidence comes only from sculpture and painted ceramics and that perishable economic records, now lost, once existed in great numbers.

4. The glyphs on such bundles were incorrectly identified as meaning "bundle" by Schele and Grube (1993). See Stuart (2006) for a more thorough discussion.

5. From Bruce (1968:70), quoted in Yasugi (1995:309).

6. The single dot for 1 may have been inserted into the lunar crescent shape and later incorporated into the logogram.

7. The same number system appears associated with directional offerings in the New Year's pages (25–29) of the *Dresden Codex*. It is also conspicuous in many pages of the *Madrid Codex*, usually in similar association with food offerings of various types (see pages 78–79, 103–106).

8. This is the modified Goodman-Martinez-Thompson correlation (584283 constant). Discussion of the merits and faults of the calendar correlation proposals would be impossible here. Two good but somewhat conflicting overviews are by Kelley (1983) and Lounsbury (1992).

CHAPTER 25

.....

CALCULATIVE OBJECTS:
SUSTAINING SYMBOLIC SYSTEMS IN
THE ANCIENT MEDITERRANEAN

.....

MELISSA A. BAILEY
STANFORD UNIVERSITY

ABSTRACT

.....

This paper explores the implications and limitations of the process of calculation itself in determining value. In the Greco-Roman world, calculation was interwoven with cultural norms, as well as the physical problems of replicating devices and imposing authority. The most important calculating device in relation to value was the coin, but it worked in tandem with measuring devices such as weights and scales, while its spread throughout communities was neither automatic nor uninflected. After an overview of these issues, I concentrate on a case study of the city of Sardis in the seventh century A.D. I show that the use of coins as calculating devices was interwoven with spatial contexts and social rituals and that the validity of the device itself was closely bound up with its role in this continuous system of use. Measuring devices, meanwhile, were more restricted in context, and their replication more problematic. Together, these objects formed an “operational space” in which authority and the physical making and use of devices were in constant tension.

INTRODUCTION

.....

Number value, as a category, presents problems different from any other category in this volume, concerning as it does not particular kinds of things (including places or bodies) but, essentially, systems for organizing things. The difference becomes immediately apparent from the very character of the number papers themselves, which soon become intricately involved in the mechanics of reckoning and

calculation. In a way, analyses of the manipulation of numbers often slide around the concept of value without actually grasping it. As a method of selection or granting priority, numbers are typically meant or assumed to be neutral, purely instrumental, sufficient unto themselves. Moreover, their complexity makes it particularly easy to become involved in the intricacies of their relations with one another, leaving questions of origin or meaning behind.

The nonneutral nature of numbers emerges most clearly when examining the significance accorded to particular numbers from time to time, or how various social meanings become attached to numbers or practices involving them. Numbers also become intertwined with value through processes of ranking, by wealth or social status or perhaps according to other principles (e.g. Guyer 2004:74). In contrast, the process of calculation itself tends to defy such analysis. Practices of calculation are of course culturally specific, but it remains difficult to say how such specificities reflect or interrelate with value. David Graeber's (2001) recent exploration of value within anthropology makes very little use of numbers, for example. This ambiguity is sometimes held to be the key strength and/or danger of the calculation process: it transforms things without claiming that said transformations are founded in any law or belief except the very possibility of assigning numbers to things, of manipulation. Calculation therefore seems to sidestep value by bringing to the fore manipulation (of numbers and things) over meanings and ends, and yet seeming to produce transparent results through this very neutrality. It therefore becomes interesting to see what place such fluidity of value—such rearrangement—has had in given times and places.

In this paper, I examine how a specific culture, the Greco-Roman Mediterranean, created and maintained particular spaces for calculation and thus for the manipulation of value. I take an operational space as an object of analysis. Here, the term "operational space" means a set of organizing parameters enacted through specific instruments, in this case primarily coins and weights. As a focus of analysis, an operational space differs from a market, however defined (it is broader, encompassing measurement in general rather than exchange, free or otherwise), and from an economy (it is much narrower, concerning the tools through which "stuff" is managed rather than the stuff itself). The Roman Empire had many such operational spaces, which cannot all be addressed here. A different yet related space, for example, was that of accounting, in which the primary tools were papyrus or parchment and writing, and the end purpose was the recording of amounts or the synthesizing of information—the control of things, so to speak, rather than their circulation *per se*. Here I am particularly interested instead in mundane, localized operational spaces: the largely nontextual, widely replicated repertoire of small change, weights, balances, steelyards, and the instruments of everyday production and exchange in the city landscape. The operational space I examine was aimed specifically at the circulation of value (what kinds of value will be explored further below). Its tools thus may have had metaphorical resonance with valued things in

general, but most importantly they coincided with approved methods of *knowing*. (They created believable relationships among things.)

I address primarily the issue of establishing and maintaining the *validity* of mundane operational spaces, generally during the Roman Empire and then as visible in the particular case of the city of Sardis in the seventh century A.D. In the Greco-Roman Mediterranean as a whole, the maintaining of such operational spaces had long been a vital communal matter. Greek cities had done something unusual in turning operational spaces into explicitly communal issues with the invention of coinage, and the supervision of weights and measures was a public, institutional concern. Communities and governments of subsequent periods, especially the Roman, displayed a phenomenal power of replicating the instruments of operational spaces—particularly coins—across contexts and geographies. But the very context of empire created new problems for maintaining operational spaces. The existence of empire made the metrological role of specific communities awkward, since the fusion of local and imperial units proved inevitable and yet messily impossible to implement wholesale. As well as replication of the units themselves, replication of the instruments for testing them was problematic. Moreover, technologies of measurement could act both as democratic (as Greek coinage is often seen to be) and imperial (as Roman units are always seen to be), but they were of course both; this is why they are technologies. This opens the question of how such objects could or could not transcend (or create) communities and why communities should use them in the first place.

In the subsequent sections of this paper, I discuss the operational space as a communal phenomenon within the Greco-Roman Mediterranean, and I sketch, necessarily briefly, the complications of maintaining such spaces in the context of empire. I then use the late example of seventh-century Sardis in Asia Minor to demonstrate the workings of one such system in practice, and I argue that the ultimate criteria for the validity of the system was maintaining a method of *knowing* perceived as legitimate; in this case, a deep-seated metrology, closely interwoven with the practices of daily life.

COMMUNITY AND ITS DISCONTENTS: REPLICATION AND VALIDATION

As mentioned above, the invention of coinage in the Greek world in the late seventh century B.C. crystallized a certain kind of operational space and made it explicitly communal. Remember that by operational space, I mean a certain set of instruments; by communal, I do not necessarily mean bounded within a particular geography but rather that the establishment of these instruments/tools became a public matter, upheld by a given group of people with common interests. This was most often a city but could spread beyond the boundaries of a city, as with the

fourth-century B.C. coinage of Athens—still “Athenian” if used elsewhere. The resonances of coinage within Greek cities, and the struggles it provoked, have been explored by, among others, Leslie Kurke (1999), David Schaps (2004), and Sitta von Reden (2003), and the complexities of the process and its meanings are still being investigated (Papadopoulos 2002 and this volume).

Most of these accounts agree that though more or less coin-like practices had characterized societies of the Near East and Mesopotamia for centuries (Thompson 2003), coinage was both new and closely intertwined with the specific demands of the polis. From the perspective of numbers, the most essential thing about coins was that one counted them (Netz 2002), easing the numerical manipulation of value and replicating common habits of numeracy among city dwellers. This remains basically true of all coinage, even if coins were sometimes weighed. Thus the invention of coinage foregrounded not only community in a new way but also the manipulation of numbers, and furthermore tied the two together. That is, the more one trusted in the community’s authority, the more likely one would be to count rather than weigh one’s coins. Weights and measures were linked to coins and also verified by city officials, but their role was somewhat different: weights and measures might be seen primarily as instruments of testing and verification; coins of negotiation—the former preserving the ordering structure/system, and the latter allowing for the swift assigning of numerical values to things and for their disputation or manipulation. Thus this new operational space was communal, explicitly aimed at negotiation and variation, and promiscuous (able to measure anything). The valued things that circulated within the new operational space of coins and city-verified weights were labor, material goods, and collective obligations on a localized level (Aubert 2001:141). Thus the practices surrounding the use of coins and measures were intertwined with a particular kind of identity: a citizen who lived in a certain kind of community, accepted its instruments, and circulated food, goods, land, and labor using these instruments. Throughout subsequent centuries, until at least the Late Antique period (A.D. 300–700), these basic norms held.

In general, the process of dividing things up and manipulating numbers, or creating an operational space through concrete tools, was a public one, devised and implemented through localized material action. Measuring does not surface as a matter for debate or detailed exploration in textual sources, for example, whether Greek or Latin, and no matter the era—the only exception perhaps being Roman treatises on land surveying. However, surveyors saw their work as closely allied to geometry, and they are more given to discussing how to lay out a straight line than, say, the nature of particular *units* of length. Other measuring units, especially the mundane units of weight and capacity in the marketplace, rarely surface as explicit subjects in literary sources, except in essentially etymological investigations into the origins of words for various measures (as in the fourth-century A.D. treatise of Epiphanius on weights and measures found in the scriptures). Actual choice and use of measuring units does not really surface as a textual subject at all; they

are matters for communities to decide, and there seems to be no ideal principle governing their choice. This relative absence of practical or metrological concerns from sophisticated writing was a long-standing gap and has been addressed by scholars such as Asper (2009), who notes the separation between theoretical texts of geometry and the kind of practical problem solving visible in some papyri. The processes of making and verification governing these tools were thus apparently the exclusive concern of residents and/or city officials, working according to norms established through habit or political debate but not through textual treatises or abstract principles of knowledge (as with the modern metric system). It thus follows (though the point may seem an obvious one) that the nature of such systems was closely intertwined with the organization and/or norms of a particular community. As the nature of the community changed, so did practices of maintaining operational spaces.

As is well known, in its expansion, the Roman Empire used the city as a tool for organizing conquered spaces while also supporting earlier forms of Greek urbanization (e.g., Fentress 2000). During the early empire, many cities in the east and elsewhere seem to have been left largely to govern themselves, with their existing institutions intact. Over time, these institutions more closely aligned with Roman standards, just as general cultural practices within cities did. The use of the silver denarius grew in the east, for example, while Greco-Roman buildings such as the gymnasium and the arena spread even to Egypt. In the east, though many cities minted their own bronze coinages, the production centers for these were increasingly centralized and perhaps supervised by imperial officials (Butcher 2004). After the third century, the emperor Diocletian established a single currency system for the entire empire, with parallel political forms establishing a slate of officials to govern cities, more closely tying them to the imperial government. This trend continued with the political and economic policies of subsequent emperors into the Late Antique period, and the sheer numbers of coins and metrological tools continued to climb, so that copper coins of the Late Antique era are more numerous than any other kind previously on sites in the region (e.g., Buttrey 1981:208).

The Roman Empire thus saw the successful creation of concrete worlds of exchange, based on the bringing together of people in particular kinds of communities and the massive replication of concrete units. This process generated spaces for numerical value manipulation within communities—spaces for fluidity, so to speak. But the creation of these spaces gave rise to special problems, especially in the late empire as efforts to fuse the imperial and the local intensified. The problems were mainly of *replication* and *validation*. They might be succinctly expressed with the idea that the less immediate the source of validation, the more fraught the replication. Roman law might have called for the checking and compliance of weights and measures in every city, but irate economic historians and archaeologists know that variation was extremely common (Bang 2008:131–202). This is not just variation from place to place. Among the metrological objects from the Athenian

agora, classical and Hellenistic weights and measures are considerably more consistent and uniform than Roman ones (Lang and Crosby 1964), which implies that in the preimperial city of Athens, validation and replication were much more tightly interwoven than during the early imperial period. Everyone in the Mediterranean might eventually use a Roman measure, but how big was a Roman measure? After the reforms of Diocletian and subsequent emperors, when measures and coinage became ever more centralized, the issue should perhaps have been resolved: the operational space of coins and measures was unquestionably an imperial one. But the problems of replication and validation remained.

VALIDATION AT THE LOCAL LEVEL: THE CASE OF SARDIS

An examination of the media of exchange in the material record of the city of Sardis in Asia Minor demonstrates the points I have been discussing and more thoroughly shows how such an operational system was maintained in the Late Antique period, the seventh century A.D. While Sardis is only one case, it presents a kind of evidence extremely rare elsewhere: large numbers of coins found in the contexts of buildings destroyed by a fire and thus arguably in circulation at the time of destruction. The site thus offers a nearly unique opportunity to discern patterns of use concurrently among a variety of contexts—in other words, throughout a community. Sardis is located near the Tmolus mountain range in Turkey, at the intersection of the Pactolus and Hermes river valleys, leading into the interior of Asia Minor (Crawford 1990:1). Its Late Antique wall enclosed 130 ha, and only a small part of the city, on its western side, has been excavated. The revealed landscape of marble and mosaic, columns and open spaces, is perhaps one of the most familiar types remaining from the Greco-Roman world—a Greek city, a kind of community whose history and shape seem familiar, even if, according to its original excavators, the Late Antique cityscape was in the midst of a slow decline (Crawford 1990:6–7). During the fourth and fifth centuries A.D., Sardis was the capital of the new province of Lydia and reached its greatest extent in area (Hanfmann 1983:148). Residents of Sardis in the fifth through seventh centuries were thus part of a large city and an empire still vast in power and extent. They had close ties to imperial authority (for example, an imperial arms factory was established in Sardis in the Late Antique period), yet their economy in terms of production and exchange was highly localized in other respects (most glass, metal, and pottery was manufactured locally; Crawford 1990:13).

Whatever more explicit forms of organization existed (such as written ones), the evidence available for Sardis privileges the side of this community at its most anonymous, most basic and small scale: small change, simple weights and balances. The objects of measuring and exchange from this period are scattered throughout a street of shops fronting the bath-gymnasium complex, a nearby synagogue, and

several Late Antique housing complexes. A fire destroyed the shops sometime in the seventh century A.D., preserving much of their contents more or less in situ. The synagogue and Late Roman houses were built and occupied throughout roughly the same period—a late fifth or early sixth-century construction date has been suggested for the synagogue, and an occupation period of the fifth through the seventh century for the houses (Greenewalt 1998; Magness 2005). Only one of these three areas may have served explicitly as a setting for commercial exchange (the shops), but all contained coins and/or measuring tools. The most fully explored and published of these areas remain the Byzantine shops. I will concentrate on these and primarily on the thousands of coins found within them, which are detailed in the publication of the shops (Crawford 1990) and in coin catalogs of the excavations as a whole (Bates 1971; Buttrey 1981).

The “shops” consisted of a row of 5 m² rooms fronting Sardis’s enormous bath-gymnasium complex. As with similar buildings throughout the Roman world, the term “shop” here is a loose and primarily architectural one, meaning a row of small rooms fronting a road rather than referring to the specific contents of these rooms, which do not always straightforwardly indicate the selling of merchandise. At Sardis, as often elsewhere, the activities in the small squarish rooms seem to have been artisanal, industrial, residential, or involving the preparation and sale of food but not necessarily the display of large stocks of goods for retail sale alone. Such rooms probably almost always acted as residences as well as places of work or commerce. They are, again as often elsewhere, located near public settings of leisure and luxury (the bath-gymnasium complex) and religious ritual (the synagogue). Shops at Sardis do not represent a particular marketplace or commercial area set off from other aspects of the city and dedicated to commerce alone. They are closely interwoven with other aspects of life, both work and leisure, and they participate in the aesthetic of the city landscape (Figure 25.1).

The excavators attempted to assign more specific functions to the various spaces, even though they classified the row of buildings as “shops” as a whole. They may have exaggerated the extent to which the row implies a thriving industrial/commercial center. Anthea Harris (2004) is right, in her recent review of the evidence, to question the extent to which many of the rooms can be unambiguously called retail shops or production centers. In any case, if an attempt is made to assess the evidence in them, the rooms fall into three broad categories. Several—W13, W11, and W10—were only partially excavated or were left unexcavated, hence their functions remain especially ambiguous. (Starting from the entrance to the bath-gymnasium complex, shops were numbered east and west according to which side of the entrance they were on: W1, W2, E1, E2, etc.) Of the fully excavated shops, a first group had finds strongly suggesting activities and purposes (production, repair, retail, storage) other than solely residential, although it was not always possible to reach definite conclusions. A second group had finds that more definitively suggested their purpose as restaurants (large amounts of bone; structures for seating);

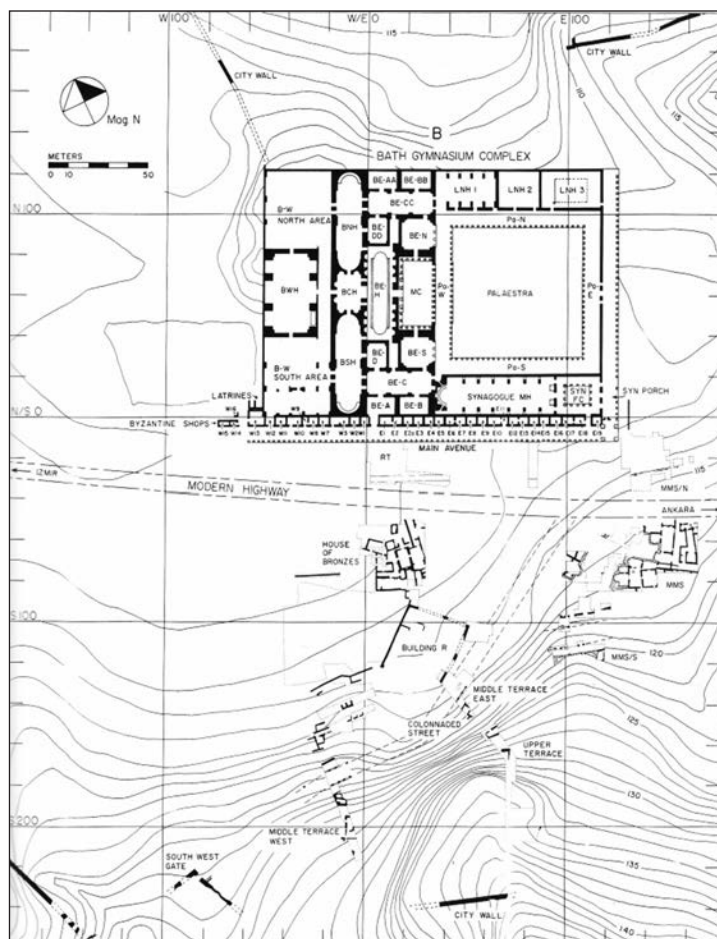


Figure 25.1. Restored plan of the bath-gymnasium complex and synagogue, with excavated areas to the south (from Crawford 1990:figure 4. Reprinted by permission of the publisher from *The Byzantine shops at Sardis* by J.S. Crawford, Archaeological Explorations of Sardis M9, Cambridge, Mass.: Harvard University Press, Copyright © 1990 by the President and Fellows of Harvard College).

because these finds are more distinctive than any others, I consider this a separate category from the first. These shops tended to cluster around the entrance to the bath-gymnasium complex. The third group of shops had finds that indicated nothing beyond the strictly residential—if their occupants were involved in production or trade, they took their tools and goods with them before the fire.

The most abundant kind of instrument in the record at Sardis is a small copper coin, thousands of which were found in the shops alone, but also beneath the synagogue floors. As a group, the coins are distinctive in several ways from coins of other periods. In earlier periods of Greco-Roman history, including the earlier Roman (as at Pompeii), coins were mostly heavy and denominations relatively few. In the Flavian period, for example, the gold *aureus* weighed 7.28 g, the silver *denarius* weighed 3.41 g, and the brass *sestertius* about 28 g. The *quadrans*, the smallest

copper coin, weighed 3.2 g. These coins, especially the *denarius*, were lighter than their Greek counterparts had been, but each coin represented no small amount of cash (Grierson and Mays 1992:10). In the seventh century A.D., at the time of the destruction of the shops at Sardis, denominations of coins were more numerous and many coins were even lighter. (The smallest coins weighed less than 1 g.) There were three gold denominations (the *solidus* at 4.55 g; the *semissis*, its half; and the *tremissis*, its third), though these make no appearance in the shops or in other contexts, and five bronze denominations. Silver denominations were extremely rare. The intervening centuries had seen the debasement and demise of silver coinage and the attempt to establish many denominations containing varying amounts of silver and copper. By the late fourth century, these attempts had been abandoned in favor of gold and copper coins, with only very rare silver issues. The coins themselves had also changed, becoming lighter, more numerous, and less distinct from one another in certain ways. If in the early imperial period, denominations were recognized by distinctive differences in weight and alloy, by the time of the destruction of the shops at Sardis, the bronze coins worked as part of a more complex numerical system and recognizably differed from each other mostly in terms of symbols and size, and perhaps slightly less perceptibly in terms of weight. The official “Byzantine” coinage established by Anastasius in A.D. 498 introduced a copper *follis*, which was worth 40 *nummi* (tiny coins of about 1 g) and was marked with a large M to indicate its value. There was also a half *follis* (K), a *decanummi* (I), a *pentanummi* (E), and a *nummus*. Each decreasing denomination was half the one above it (Figure 25.2).

The Sardis shops didn’t contain only coins of this new system. They contained many coins of the fourth and fifth centuries. In spite of inevitable ambiguities, it seems possible to consider most of the coins from the shops as being in use at the time of the destruction of the buildings. This means that older coins remained in use for long periods, at least since the construction of the shops in the fifth or early sixth century A.D. (Crawford 1990:5–7). Only some kinds of older coins remained in use. For example, very few coins were older than the fourth century. However, this is not the only characteristic worth mentioning; other patterns in the use of coins between the shops also emerge, and they suggest ways in which old coins were incorporated into, as well as the role of small change itself in, communal life.

In general, Roman coins dating between the fourth and seventh centuries A.D. were homogenous and



Figure 25.2. A *follis*, large numbers of which were found in the shops (from Bates 1971:plate 2, number 246. Reprinted by permission of the publisher from *Byzantine coins* by G.E. Bates, Archaeological Explorations of Sardis M1, Cambridge, Mass.: Harvard University Press, Copyright © 1971 by the President and Fellows of Harvard College).

contrasted with the coins of earlier periods: they were smaller and lighter than most coins from earlier centuries, and their imagery was relatively unvaried. The coins in the shops at Sardis, almost all dating to these centuries, were thus alike in important ways in spite of the long period of time from which they originated. The coins at Sardis were also all officially issued coins, according to numismatists, who identified very few copies or imitations. All coins had on the obverse a portrait of an emperor. The reverses varied more. The fourth-century coins had a series of military images or slogans. Coins postdating the A.D. 498 coinage reform of Anastasius differed somewhat in design: all bronze coins after this period had a value mark on the reverse for the first time (M for 40, K for 20, I for 10, and E for 5 *nummi*). Coins thus went from having an identity known through imagery, weight, and size to being most immediately recognizable according to a symbol—one of four possible alphanumeric numerals. This, of course, was far from the Greek city coinages of the past, which had relied on local imagery and symbols and, lacking value marks, may have been quite opaque to outsiders. The system of unvarying value marks and imperial imagery did not mean that the weight and size of coins became irrelevant. They fluctuated within fairly ample parameters (though some of this variation is of course due to corrosion of the coins themselves), but the half *folles* was noticeably smaller than the *folles* at first glance, and so on down the line.¹ The weights of the *folles* found in the shops most commonly fluctuated between 15 and 20 g, and their diameters were around 30 mm (with rare cases as high as 40 mm). The half *folles* weighed from 8 to 13 g and had a diameter most commonly around 20 mm. A *decanummus* was usually 3 to 4 g and around 17 mm; a *pentanummus* 2 g and 13 mm; and a *nummus*, or *minimus*, around 10 mm and 1 g or less—close to the smallest possible Byzantine weight, the *scrupulum* of 1.13 g (Entwhistle 2008). Coins noticeably lighter than most others of their kind usually preserved a similar diameter (for example, number 52 in Bates 1971, a *folles* weighing 10 g but with a diameter of 30 mm at its widest), which suggests that size (and symbol) rather than weight were the features most essential to recognition of a coin and perhaps to its acceptance.

The ease and recognizability of this system was powerful, based on obvious symbols and physical differences, with each coin (until the *nummus*) simply half the coin above it. The fourth- and fifth-century coins were incorporated within this system. For the moment, the precise mechanics of the coins at Sardis are not easy to explore, since the “Roman” coins (up to 498 A.D., after which they are considered Byzantine) were cataloged by a different numismatist than the Byzantine coins and were neither measured nor weighed (Buttrey 1981). Instead, they were listed according to type and classed as AE1–AE4, as is the habit among numismatists with coinage of the fourth century A.D.² Since the names for the bronze denominations of the fourth century are not known and comprehension of the monetary system during this period remains limited in many respects, numismatists classify the bronze coins in one of four groups based on size: AE had diameters more

than 25 mm (up to 32); AE2 weighed around 5.15 g and had a diameter of 22 to 23 mm; AE3 was about 2.58 g and 17 to 18 mm; and AE4 was 1.23 g or less and 13 to 14 mm (Grierson and Mays 1992:41). If we assume that the coins classified as AE1–AE4 in the Sardis report stuck to these basic parameters, they would have been easily assimilated, *especially on the basis of size*, into the same denominational structure as the later coins. (It is thus probable that the coinage reform itself was modeled on historically existing denominations and habits of differentiation. The city bronze denominations of the time of Hadrian had stabilized to about 5 mm difference between denominations, about the same as the differences between AE1–AE4 coins and the *folllis*, half *folllis*, and so on.) At 22 to 23 mm, AE2 coins would have been equivalent to the half *folllis* (though lighter, weighing around 5 g). At 17 to 18 mm, AE3 coins would have been equivalent to the *decanummus*, and at 13 to 14 mm or less, AE4 coins would have been equivalent to the *pentanummus* or *nummus*, depending on the size of the particular coin. Weight was not irrelevant, but it is probable that size took precedence—since weight was more variable and because weight differences of a few grams are less perceptible to the hand than are size differences to the eye. The old coins were thus incorporated into—kept in accordance with—the newer system, but both systems were built on very old habits of differentiation between denominations, based on a 5-mm or so difference in size and weights decreasing by half between denominations.

The system required a lot of coins to be fully concretized, so to speak, to have 40 *nummi* for each *folllis*. The sheer proliferation of coins in the shops (thousands of the smallest could not be identified precisely and thus were not cataloged) demonstrates that such concretization was a priority for users. In other words, inhabitants of the city were used to using large numbers of coins, brought in old coins to keep the numbers of overall coins high, and preferred to manipulate very tiny coins rather than, say, keep running accounts or keep track of very small amounts in their heads. Operational ease with physical coins mattered, as well as what one might call the hyperarticulation of value. By this I mean that numbered amounts could be used on a much smaller scale than ever before.³ Individual transactions thus acquired a more marked character, as transactions of the smallest kind could be articulated with the gesture and physicality of coins; presumably, large numbers of people possessed coins to begin with. In this context, a “shortage” of coinage only partially explains the continuing use of old (not just old but obsolete, within certain parameters) coins. The entire framework of coin using had changed: more coins overall were used, the full concretizing of this system required more coins, and smaller and smaller coins brought tinier and tinier transactions into play. The incorporation of old coins thus filled a potential gap (created by the system itself) but was also a kind of exuberance, an overflowing of media and a drawing in of ever more people and things into a community of circulation.

Yet such articulation occurred primarily in certain contexts, or so the placement of the coins within and between shops suggests. The fault lines are somewhat like

those between saving and spending; another way of expressing this difference is to say that different sets of coins could play different roles in punctuating time. Small and/or old coins marked rapid and continuous transactions—they marked tiny moments that cumulatively were repetitive and identical, a circular kind of time, like the circular repetitive motion of moving around a city itself, and perhaps playing a similar role in the weaving together of anonymous people. Small coins (AE3 and AE4, *pentanummi* and *decanummi*) were most common in the spaces classed as restaurants, and so were old coins. Thus W3, probably a restaurant, had 40 small coins overall, and 34 of these were fourth- and fifth-century coins. W2 had 41 small coins, of which 36 were earlier than the sixth century. Proportions are similar in E1 and E2. The restaurants were, as mentioned before, located around the entrance to the bath-gymnasium complex, and thus were sites of the greatest possible amount of foot traffic, lingering, pedestrian watching, and so on. The small coins found there are characteristic of places where many successive small purchases were made, where the landscape of people and things changed constantly. Here especially, the assimilation of older coins on the basis of size would make sense. Value of the coins would be determined at a glance, without the necessity of specialized tools or verification by experts, because the crowdedness of space and speed of transactions would probably permit nothing else. Instrumentality was primary, as was the assertion of community (sharing food and drink, gathering in a public place, sharing of ephemeral experiences). The places where such instrumentality in coins was primary were also the places where numbers of people, movement of people, competitiveness, and games (thus the manipulation of other kinds of tokens) were highest. Some ambiguous objects found in the restaurant spaces (for example, small clay cone-shaped objects) may have been game pieces (a more plausible explanation than that they were paying/food tokens of some kind, which seems hardly necessary given the quantity of actual money in the shop). Thus the density of small coins increased where the meeting of people was at its most intense, potentially explosive, and perhaps most relentlessly anonymous, and where questions of value were the least acute.

Among the other categories of spaces, the identification of which was less certain to begin with, there were for the most part more small and old coins in the productive spaces and fewer in the primarily residential ones. In some of the “productive” spaces (the term used loosely), these numbers might actually be related to some kind of retail activity. The most promising examples are E10, where large numbers of lock pieces were found, and E12, with enormous amounts of glass. If the occupant of E10 was repairing and/or selling locks and the occupant of E12 was selling glass, perhaps they needed a certain amount of change on hand or received it from their clients. In a more general sense, some productive spaces (E6, E7, E9, E11) had few small coins, and some residential spaces (W7, E16) had large numbers of small coins. It is not necessary to go through all the examples to demonstrate the essential point: there is no clear functional explanation for why some spaces had

more or less small change than others. Instead a different principle seems to be at work: the spaces that contained the smallest coins also contained the most coins overall. Thus, in every case where a shop contained more than 10 small coins, it had more than 20 coins overall, and usually more than 30. (The exception is E17, whose occupant had nine small coins but 34 coins overall and thus clearly preferred to keep larger-denomination coins—and recent coins; the space contained no fourth- or fifth-century coins at all.) In the majority of cases, it seems that people who chose to, or could afford to, had large numbers of coins on hand and kept some of every kind, old and new, small and large.

The spread of coins among the shops at Sardis thus suggests some fault lines and functional differences in the use of different coins, without implying that they were absolute: a clear correlation between small (and old) change and “restaurants”; a possible correlation between more suggestively “retail” shops and small and old change; and, in other spaces, a variation in amounts of coins that did not depend on the function of the space (mostly ambiguous in these instances anyway) but instead correlated with individual preferences or perhaps wealth. Coins that were old, small, or both were most intensely interwoven with small and rapid transactions centered on the ephemeral experiences of food and perhaps gaming. Newer and larger coins were more likely to be saved by residents, but those who kept the most coins in general also kept small and old coins. The fourth- and fifth-century coins were thus incorporated closely into the economic/communal fabric of Sardis. Their similarity in size and weight to official denominations made their use and recognition based on size (and to a certain extent weight) easy. Nuances, however, emerge in the use and perception of old coins; they were most intensely employed in contexts of quick circulation and not in contexts that could be construed as savings. This preference for contexts of rapid circulation is supported by the fact that the larger fourth- and fifth-century denominations (AE and AE2) are less common overall in the shops and much less numerous in any given context (restaurant, productive, or residential) than the smaller AE3 and AE4 coins.

Large numbers of small coins turned up as well in the synagogue contexts, although here the vast majority of them were deliberately deposited beneath the floors. Although the reasons for the practice are unclear, it deserves some extra comment, especially in light of the coins in the shops. The practice of depositing large numbers of coins beneath synagogues remains “poorly understood” (Magness 2001:27). The coins in such deposits are almost always small bronze coins of the fourth and fifth centuries—coins predating the reform of Anastasius and thus having no legal value at the time of deposition, although circulating into the sixth century. Thus it was exactly the type of coin used in restaurants and ephemeral transactions at Sardis that was selected for deposition. While Jodi Magness (2001:33) does not go further than positing some kind of “ritual considerations,” Yoram Kentman has suggested that the coins had a specific meaning connected to *ma’aser sheni* (the second tithe): “Jewish law requires that *ma’aser sheni*, approximately nine percent

of certain crops, be eaten in Jerusalem. It is permissible to transfer (redeem) the value of the crops to a coin . . . Jewish law at this time allowed for the symbolic redemption of large amounts of crops with coins of little value” (Kentman, quoted in Magness 2001:32). The connection of such coins with food in general at Sardis enhances the attractiveness of this explanation, although Kentman gives no reason as to why such foundation deposits gained prominence only in the fifth and sixth centuries. Small change, charity, gaming, and religious ritual on some level shared in this sense of communal eating and drinking.

Copper coins are the most visible measuring tool at Sardis. There is not space to examine other types of instruments in much depth here, but some characteristics can be noted. In the shops, the only other measuring act that left traces in the record was weighing—for the most part weighing with steelyards and thus most likely for the purposes of production or selling (Figure 25.3). Fewer balance scales, such as would have been used to weigh coins, turned up in the shops, but the beam of one such scale, along with three glass weights corresponding to the gold *solidus*, *semissis*, and *tremissis*, was found in E14. In contrast, there is no indication that copper coins were ever tested by being weighed individually. Particular people felt the need to supply themselves with instruments for testing gold coins—a specificity that contrasts with the vast distribution of copper coins in all contexts. Elsewhere at Sardis, a collection of 21 glass weights was found in a large house dating to the same period as the shops, most probably intended for weighing gold coins. The weights were



Figure 25.3. Steelyard with hooks and chains, found in the shops (from Crawford 1990:figure 476; M62.14:4204. Reprinted by permission of the publisher from *The Byzantine shops at Sardis* by J.S. Crawford, Archaeological Explorations of Sardis M9, Cambridge, Mass.: Harvard University Press, Copyright © 1990 by the President and Fellows of Harvard College).

found near an iron lock and lock plate, suggesting that they were kept secured in a box, and the room in which they were found may have had some ecclesiastical purpose. The weights themselves were small disks of greenish-blue glass, stamped with a cruciform monogram. There were many more of them than needed for a single set of weights, so they were perhaps stored for verification or official purposes, or to be supplied to others in the city or, if they belonged to a wealthy owner of the house, to agents or employees. The weights were “of inferior quality” (Fulghum and Heintz 1998:114), with irregular shapes and badly centered stamps and were made of the same type of glass as other locally manufactured objects at Sardis. In other words, whether official or otherwise, they likely represent local efforts. In this case, the city as an entity or wealthy residents of the city on their own initiative supplied the means of testing and verification of gold coins. Here, as at the scale of small change, the metrological system was concretized through the efforts of the local community, but in more particularized ways.

CONCLUSIONS: THE OPERATIONAL SPACE

Operational spaces of measurement and especially coins were integral to the shape of organized communities as they had developed and persisted for centuries in the Mediterranean. The world of small change examined in this paper was closely intertwined with what many scholars see as the original purpose of the invention of coinage: the circulation of material stuff and labor within an intensely localized context of city dwellers. Measuring, whether through instruments or coins, provided a set of organizing parameters according to which people could behave and dispute with one another. These parameters did not always have to correspond to an ultimate reality of either values or materials, however conceived. Instead, to know that, for instance, a loaf of bread was worth *x folles* provided a starting point for working out what half a loaf of bread was worth and so on. The point of establishing a set of parameters with instruments is a kind of potential mapping: you hold a *folles*, you know where you stand in relation to other people (and the coins they have) and a range of commodities (and how much of them you might get), and you have a starting point for an argument (this coin is worth such and such amount). The existence of large quantities of different kinds of coins, as at Sardis, fine-tuned the map, drawing more people and things onto it. The map intersects with reality at the moment you obtain something, or someone’s services, or someone. Hence the set of parameters does not have to correspond to “reality,” because reality emerges only at specific places and times. The point of such a map is orientation (shared by a group of people). As a metaphor, my map is not really like the “inscriptions,” or visualizations of knowledge, described by Bruno Latour (it is not nearly so all-encompassing as the kinds of information systems he describes, which are distinctly—and the distinction is important—modern, and it could never substitute for reality; Latour 1986)

yet neither does it coincide with the “practice” theory of Bourdieu (according to whom all taxonomies are but “misrecognitions” of social forces; Bourdieu 1977:97). A better analogy is an actual map of the same time period, the Madaba mosaic map from a church in Jordan, with its painstaking topographic linking of current small towns and Biblical sites in a glitteringly abstracted landscape of seas and wadis, so precise as to naming, so uncaring of exact spatial representation (Bowersock 2006:1–31) (Figure 25.4, *see color plates*). Coins and measures at Sardis made up this kind of map. All the possibilities were there among a recognizable community, but they were “true” only at certain moments and in certain ways.

Taken together, coins and measures made up the set of organizing parameters; combined they also constituted a continuum of instrumentality. I define “instrumentality” as shorthand for something used to act on something else. Thus something completely “instrumental” acts only on something else. When its validity is questioned, as with a coin or a faulty balance, it must be tested by other instruments. On this continuum, coins could be instrumental themselves above all, and therefore the value of each individual piece was little in question (though there was no reason it could not be in question at some point), *or* coins became the object of testing by other instruments. The same was true of the measuring instruments themselves, and the interrelation of the latter with coins was intimate. Coins, weights, and measures could thus be instruments or not; the question was one of timing and quality. The point is to emphasize the reasons when and why it might be beneficial to stress the instrumentality of something (its currency, its identity as a medium of exchange) and when it might be beneficial to do otherwise (to bring to the fore value as symbol, idea, and concept). As a whole, such a continuum helped maintain the validity of all the instruments, since one kind could come into play to test another as needed, forming a balance between the characteristics of a currency—equality, anonymity, action, and replication—and the reassurances of expertise, privacy, testing, and hierarchies. Instruments for testing were replicated throughout communities as well as, though not as widely as, the coins themselves. Consequently, maintaining a place for doubt and verification helped maintain the operational system itself.

At Sardis, the key to acceptance turned on two more specific points as well: the first, a basic adherence to long-standing metrologies, habits, and forms; and the second, the possibility of making subtle distinctions where needs, desires, and conceptions of time and purpose called for it (using certain kinds of coins for certain purposes). As a whole, this coinage structure depended on deep and strong resonances in form and type across a broad spectrum of objects that were subtly different (copper and gold coins, old and new coins) and thus allowed for diverging purposes. Metrology was established by imperial authority in the seventh century A.D., but it was founded on old habits, and the age of coins mattered less than the basic identity of size and weight. The coins, too, worked partly on the principle of weight, not in the sense that their value corresponded absolutely to some weight standard but in the sense that weight, numbers, and gradations of value were linked

conceptually. In other words, a common method of knowing ran through the practices of assessment and exchange.

These coins highlighted the idea of community in an explicit way, just as coinage in the Greco-Roman world had always done, only now the community was an imperial one. The very point of coinage was to make explicit in its form and iconography this trust in a community and thus to make rejecting it tantamount to rejecting the community. One aspect of the daily exchange within the shops at Sardis is that it reinforced this idea, the communal trust in/sharing of a mutual way of reckoning. Perhaps this resonance helped shape the habits of perceptions and trust governing gold coinage when users switched from copper to gold, just as the fact that gold was *coined* at all reinforced the symbolic integrity of the copper coin. Thus every use of coins at Sardis was an echoing of a community (the empire) that claimed universality and acted as the ultimate base/source of knowledge for numerical manipulations of value. This community was in turn incorporated and replicated through coins and weights. That is, there was no unvarying unit of account behind the system that had no physical incarnation and could thus be manipulated. In the seventh century, imperial authority had an extremely strong presence, governing metrology and imagery of coins, but this authority needs to be understood as one of concrete presence as much as or more than one of all-powerful manipulation. That is, imperial authority (especially at this small-change level) was not one of manipulating money supply or asserting values but of being the most powerful creator, concretizer, and replicator of an underlying metrology. At Sardis, where copies and counterfeits are little in evidence, imperial authority as *physical* source of these instruments also seems to have been important. In many other places (for example, Egypt and Syria), imitations and copies proliferated as communities made up for a lack of supply from the center with coins of their own manufacture that fell into the imperial metrology.

This very metrology was the strongest criterion of validity, and old coins were assimilated to new ones based on an underlying metrology. The same is true of self-manufactured glass weights. Validation ranged along a continuum whereby at the lowest level, small copper coins were vetted and assimilated, and at the highest level (gold), coins were themselves the object of testing with glass weights. On the level of small change, authority/acceptance was entrenched through the passing from hand to hand of physical coins and their intertwining in city streets, bodily eating and drinking, and charity and ritual. The oldest of coins evoking the deepest sense of time (the beginning of the empire at Constantinople) had the most intense relation to these ephemeral acts. The newest coins, most closely linked to the current authority, were tied more to savings for days or weeks, to the future and to a stable foundation. We do not see equipment for the testing of copper coins, but because of the variety (in size and age) in use, such coins underwent a kind of testing in their very entering into circulation: they were incorporated based on their similarity in weight and especially in size to more recent coins. Meanwhile, gold coins more

often underwent explicit verification based on weights, scales, and, if examples from hoards elsewhere are any guide, extensive scratching (Bijovsky 2002).

The coins followed a denominational structure visible in their sizes (larger pieces had higher values). Thus even when coins were “token,” higher values were linked with larger weights—in other words, with the same perceptions/habits of judgment that governed gold, silver, and other commodities valued by weight. Coins were measured/measuring units, units unique in that they had the potential to measure anything. Once created, a measuring unit had a reality as a physical substance that became a part of the world and then persisted in the world. There is something peculiar about this reality of units, and nothing about the use of coins and measures makes sense without it. While initially setting out principles of division and units might have been a matter of faith and authority (and in most cases, there is not really the evidence to say so), once the units existed as made things, only their integrity to themselves mattered to the people using them, because it was only through use and habit that people understood and trusted in them to begin with. Once made, units had a history, a principle; they could be contested. There was nothing behind the measures stronger or more validating than the measures themselves. It is this that the importance of metrology makes clear. Both coins and measures were *made* things—whether well or badly made. As such, they were somewhat in the same class, though not synonymous, with other *made* things in Roman culture, such as honorific statues, that had an understood mode of circulation and a specific place in a repertoire of possible actions. This is probably one reason why coins and weights, like statues, often had images and inscriptions. Furthermore, these concrete units depended for their ultimate authority on something (trust in their basic physical integrity) that escaped slightly any particular political entity—though their replication, safeguarding, and manipulation were vital issues for political entities.

A paradox or tension or power can be seen playing out within the material record of any given settlement, not just Sardis. The material records are full of coins, weights, and balances. The importance of such units for creating the basic structure of daily communal interaction can best be seen from their sheer proliferation, not just in cities but in forts, towns, monasteries, and so on—anyplace a community was explicitly organized. What this kind of operational space did, besides circulation in the obvious sense, was to create a space for strangers (or friends, as the case may be) to interact according to recognizable patterns and to prolong these patterns indefinitely; that is, to create/ensure a future. It was a flexible strategy, “working” as well between two anonymous people on a city street as between a landlord and tenants, soldiers and civilians, and so on. These practices of measuring and counting were abstract in that they were symbolic and went beyond the individual but were concrete in that they were face to face and based on physical replication. They could be appropriated at any given time, whatever the context, anywhere such a space of potential conversions was evoked as an organizing principle, such as the army or taxation. The process was of course not inherently democratic at all. But it created

something fluid and indirect, a deflection (or masking) of potential violence and a gesturing toward the principle of agreement.

The community that the tools of such operational spaces increasingly referenced was the empire with its capital at Constantinople. But the problems of replication and validation remained. Communities made or acquired their own coins, on standards universally (within the empire) valid yet problematically concretized and only verifiable (beyond sight, size, and feel in the hand) for people who had access to instruments for measuring, such as scales and weights. Yet the latter were often manufactured by individuals and not supplied from the “center” or perhaps even the city. Ammianus Marcellinus (Book 27.9.10) tells the story of a responsible prefect of Rome who distributed standard scales and balances among the neighborhoods. The problem had been not deliberate cheating or fraud but the simple fact that people made their own equipment, apparently quite badly.

The gap between source, replication, and community gave rise to an uneasy space in which counterfeiting and copying could merge—in the fifth century, for example, when even imperial coins were adulterated with lead and poorly made. Coins might reference official sources in their imagery without imitating them exactly; that is, without any particular claim to being made by the very authority they referenced. Coins and weights also had an identity as units that “stuck” to their physical form; this could allow debasement to work (for a while), with a range of variation tolerated as long as the basic size and alloy of a unit were recognizably part of the spectrum of accepted units. But at times of particular chaos, such as the fifth century A.D., when bronze coinages became unstable, they seemed to lose their “token” aspect and became assessed by metal content alone, according to the prevailing bronze/gold ratio. From the perspective above, it is clear that this happened because they lost their identity as well-made things and as units.

The emphasis within the Roman Empire on communities of exchange, brought into being through concrete units and physical encounters, resulted in specific problems. The integrity, replication, and use of units had once perhaps been more explicitly interwoven with the government of individual cities, but by the late Roman period, if not before, the situation was much more ambiguous. The imperial government had the greatest claim to authority and by far the greatest power of manufacture and replication. Its units thus predominated, but individual communities still often had to find their own ways of concretizing these units. The making and dissemination of such units was all the more important since replicating instruments for the testing, verifying, and performing of measurements (scales, balances, etc.) was more problematic than replicating units themselves. The Roman government of the Late Antique period, having relied on individual communities for so many aspects of organization, finally came close to making claims of universality for its measures, but their concretization remained both too powerful to ignore and too shadowy to be complete.

At the same time, the investigation of Sardis has shown how constant the process of validation was and how intimate its interweaving in daily life on a local level. Regardless of adherence to imperial standards, ways of incorporating and trusting units in daily life were found. This process is especially visible in the use of small change. It is not enough to say that small change was used in daily purchases; the character of these purchases was heavily skewed toward a rapid cycle dependent above all on eating and drinking, resonating with (if not directly connected to) ritual practices such as the deposition of large numbers of particular kinds of coins beneath the synagogue. Different kinds of small coins were also used for different purposes—spending and saving—though there is no sign that different kinds of people were limited to one purpose or another. The metaphorical resonance of these intensely ephemeral daily practices involving food, drink, and movement about the city—its role in linking high and low scales, in underscoring the validity of all kinds of coins, and in binding all users together in a particular kind of (now empire-wide) instrument-using community—should not be underestimated.

NOTES

.....

1. Thus, although the *folles* might weigh from 15 to 20 g, it is easy to see the difference between this kind of variation and the bronze coins of the ninth century after a gap in copper coin finds of about two centuries at Sardis. The latter still looked like *folles* but weighed only 6 to 8 g—an entirely new coin/system.

2. As Grierson and Mays point out, interest in weighing and measuring fourth- and fifth-century coins is still not great among those reporting excavations or hoards, though it is becoming more common (Grierson and Mays 1992:40).

3. Some city coinages had very tiny coins as well. The coins of the fourth through seventh centuries, however, were not only very small but much more numerous. Finds at Sardis rise to 450 coins per decade from 330 on (Buttrey 1981:208).

CONSOLIDATED BIBLIOGRAPHY

- Abrams, E. M.
1994 *How the Maya built their world: energetics and ancient architecture*. University of Texas Press, Austin.
- Acosta, J. de
1940 [1590] *Historia natural y moral de las Indias*. Fondo de Cultura Económica, Mexico City.
2002 [1590] *Natural and moral history of the Indies*, edited by J. Mangan, translated by F. Lopez-Morillas. Duke University Press, Durham, North Carolina.
- Acuña, F. de
1965 [1586] Relación Fecha por el Corregidor de los Chumbibilcas, Don Francisco de Acuña por mandado de su Ex.a Del Señor don Fernando Torres y Portugal, Visorrey Destos Reynos, para la descripción de los Indios que su Magestad Manda Hacer. In *Relaciones geográficas de Indias-Perú*, vols. 1–2, edited by M. Jiménez de la Espada. Reprinted in *Biblioteca de Autores Españoles* 183:310–325.
- Acuto, F. A.
2005 The materiality of Inka domination: landscape, spectacle, memory, and ancestors. In *Global archaeological theory*, edited by P. P. A. Funari, A. Zarankin, and E. Stovel, 211–236. Kluwer Academic/Plenum, New York.
- Adams, R. McC.
1966 *The evolution of urban society: early Mesopotamia and prehistoric Mexico*. Aldine Publishing Company, Chicago.
2010 Slavery and freedom in the Third Dynasty of Ur: implications of the Garshana archives. *Cuneiform Digital Library Journal* 2010(2).
- Addison, J.
1856 *The works of Joseph Addison: including the whole contents of B. Hurd's edition, with letters and other pieces not found in any previous collection, and Macaulay's essay on his life and works*, edited by G. W. Greene. 6 vols. Putnam, New York.
- Agurto, S.
1987 *Estudios acerca de la construcción, arquitectura, y planeamiento Incas*. Cámara Peruana de la Construcción, Lima.
- Albani, J., et al.
2001 *Der Glanz des Himmels: sakrale Schätze aus byzantinischen Sammlungen und Museen Griechenlands. September 2001–Januar 2002, Frankfurt-am-Main, Dommuseum*. Kapon Editionen, Athens.
- Albornoz, C. de
1967 [1582] Un inédit de Cristóbal de Albrnoz: la instrucción para descubrir todas las guacas del Pirú y sus camayos y haciendas, edited by P. Duviols. *Journal de la Société des Américanistes* 56(1):17–39.
- Alcina Franch, J.
1976 *Arqueología de Chincho*, 1. Ministerio de Asuntos Exteriores, Madrid.
1978 Ingapirca: aquitectura y áreas de asentamiento. *Revista de Antropología Americana* 8:127–146.
- Alcock, S. E.
2002 *Archaeologies of the Greek past: landscape, monuments and memories*. Cambridge University Press, Cambridge.
- Alcock, S. E., T. D'Altroy, K. D. Morrison, and C. M. Sinopoli (editors)
2001 *Empires: perspectives from archaeology and history*. Cambridge University Press, Cambridge.
- Alden, M.
2000 *The prehistoric cemetery: pre-Mycenaean and early Mycenaean graves*. Well-built Mycenae: the Helleno-British excavations within the citadel at Mycenae, 1959–1969. Fasc. 7. Oxbow Books, Oxford.
- Alföldi, A.
1961 Timaios' Bericht über die Anfänge der Geldprägung in Rom. *Mitteilungen des deutschen archäologischen Instituts, Römische Abteilung* 68:64–79.
- Allen, C. J.
1982 Body and soul in Quechua thought. *Journal of Latin American Lore* 8(2):179–186.
1988 *The bold life has: coca and cultural identity in an Andean community*. Smithsonian Institution Press, Washington, D.C.

- Allison, M. J.
 1979 Paleopathology in Peru. *Natural History* 88(2):74–82.
 1984 Paleopathology in Peruvian and Chilean populations. In *Paleopathology at the origins of agriculture*, edited by M. N. Cohen and G. J. Armelagos, 515–529. Academic Press, Orlando.
- Alonso, A. M.
 1994 The politics of space, time and substance: state formation, nationalism and ethnicity. *Annual Review of Anthropology* 23:379–405.
- Althaus, F., and M. Sutcliffe (editors)
 2006 *The road to Byzantium: luxury arts of antiquity*. Fontana, London.
- Alva, W.
 1992 Orfebrería del Formativo. In *Oro del antiguo Perú*, edited by J. A. Lavalle, 17–116. Banco de Crédito del Perú, Lima.
- Alva, W., and C. B. Donnay
 1993 *Royal tombs of Sipán*. Fowler Museum of Culture History, University of California, Los Angeles.
- Amandry, P.
 1977 Statue de taureau en argent. In *Études delphiques*, 273–293. Bulletin de correspondance hellénique supplement 4. École française d'Athènes, Paris.
 1986 Chios and Delphi. In *Chios: a conference at the Homereion in Chios, 1984*, edited by J. Boardman and C. E. Vaphopoulou-Richardson, 205–232. Clarendon Press, Oxford.
 1991 Les fosses de l'aire. In *Guide de Delphes. Le musée*, 191–226. École française d'Athènes, Paris.
- Amit, V.
 2002 Reconceptualizing community. In *Realizing community: concepts, social relationships and sentiments*, edited by V. Amit, 1–20. Routledge, London.
- Anderson, E.
 1993 *Value in ethics and economics*. Harvard University Press, Cambridge, Massachusetts.
- Anheier, H. K., and Y. R. Isar
 2007 *Conflicts and tensions*. Sage, Los Angeles.
- Anonymous
 1965 [1603] Descripción de la villa y Minas de Potosí año 1603. In *Relaciones geográficas de Indias-Perú*, vols. 1–2, edited by M. Jiménez de la Espada. Reprinted in *Biblioteca de autores Españoles* 183:372–385.
 1968 [1594] Relacion de las costumbres antiguas de los naturales del Peru. In *Biblioteca de autores Espanoles*, 151–189. Ediciones Atlas, Madrid.
- Antonović, D.
 2006 *Stone tools from Lepenski Vir*. Djerdapske Sveske 5. Arheološki Institut, Belgrade.
- Appadurai, A.
 1986a Introduction: commodities and the politics of value. In *The social life of things: commodities in cultural perspective*, edited by A. Appadurai, 3–63. Cambridge University Press, Cambridge.
- Appadurai, A. (editor)
 1986b *The social life of things: commodities in cultural perspective*. Cambridge University Press, Cambridge.
- Arafat, K. W.
 2009 Treasure, treasuries and value in Pausanias. *The Classical Quarterly* (n.s.) 59(2):578–592.
- Archivo General del Patrimonio Nacional
 1995 *Inventario del fondo documental del convento de Nuestra Señora de Atocha en el archivo general de Palacio (Madrid)*. Editorial Patrimonio Nacional, Madrid.
- Arkush, E., and C. Stanish
 2005 Interpreting conflict in the ancient Andes: implications for the archaeology of warfare. *Current Anthropology* 46:3–28.
- Armani, E. P.
 1983–1985 Nuove indagini sul “Pallio” bizantino duecentesco di San Lorenzo in Palazzo Bianco a Genova. *Studi di storia delle arte* 5:31–47.
- Arnold, D. Y., and C. A. Hastorf
 2008 *Heads of state: icons, power, and politics in the ancient and modern Andes*. Left Coast Press, Walnut Creek, California.
- Arriaga, J. P. de
 1920 [1621] *La extirpación de la idolatría en el Perú*, vol. 1, edited by C. A. Romero and H. H. Urteaga. Colección de libros y documentos referentes a la historia del Perú, Lima.
 1968 [1621] *The extirpation of idolatry in Peru*, translated and edited by L. C. Keating. University of Kentucky Press, Lexington.

- Arriaza, B.
1995 *Beyond death: the Chinchorro mummies of ancient Chile*. Smithsonian Institution Press, Washington, D.C.
- Ascher, M.
1991 *Ethnomathematics*. Brooks/Cole, Pacific Grove, California.
2002 Reading khipu: labels, structure, and format. In *Narrative threads: accounting and recounting in Andean khipu*, edited by J. Quilter and G. Urton, 87–102. University of Texas Press, Austin.
- Ascher, M., and R. Ascher
1997 *Mathematics of the Incas: code of the quipu*. Dover, New York.
- Ashmore, W., and A. B. Knapp (editors)
1999 *Archaeologies of landscape: contemporary perspectives*, Blackwell, Cambridge, Massachusetts
- Asper, M.
2009 The two cultures of mathematics in ancient Greece. In *The Oxford handbook of the history of mathematics*, edited by E. Robson and J. Stedall, 107–132. Oxford University Press, Oxford.
- Assmann, J.
2005 *Death and salvation in ancient Egypt*, translated by D. Lorton. Cornell University Press, Ithaca.
- Astill, G., and W. Davies
1997 *A Breton landscape*. UCL Press, London.
- Astvaldsson, A.
1995–1996 Las deidades llamadas wak'a en el discurso cultural aymara: resistencia y modernización. *Bulletin de la Société Suisse des Américanistes* 59–60:91–95.
- Aubet, M.
2001 *The Phoenicians and the west*. Cambridge University Press, Cambridge.
- Austin, M. M., and P. Vidal-Naquet
1977 *Economic and social history of ancient Greece: an introduction*. University of California Press, Berkeley.
- Avi-Yonah, M.
1954 The Madaba mosaic map. Israel Exploration Society, Jerusalem.
- Ayers, G. T.
1980 Un bosquejo gramatical del idioma ixil. Unpublished Ph.D. dissertation, University of California, Berkeley.
- Bagley, R. W.
1990a A Shang city in Sichuan Province. *Oriental Art* (November):52
1990b Shang ritual bronzes: casting technique and vessel design. *Archives of Asian Art* 43:6–20.
1999 Shang archaeology. In *The Cambridge history of ancient China: from the origins of civilization to 221 BC*, edited by Michael Loewe and E. L. Shaughnessy, 124–231. Cambridge University Press, Cambridge.
2001 *Ancient Sichuan: treasures from a lost civilization*. Seattle Art Museum and Princeton University Press, Seattle and Princeton.
- Bahn, P. G.
1984 Do not disturb? Archaeology and the rights of the dead. *Oxford Journal of Archaeology* 3:127–139.
1997 Bodies of the bogs. *Archaeology* 50:62–67.
- Bailey, C., trans.
1910 *On the nature of things*. Clarendon Press, Oxford.
- Bailey, D., with S. Mills (editors)
1998 *The archaeology of value: essays on prestige and the processes of valuation*. BAR International Series 730. British Archaeological Reports, Oxford.
- Baines, J. and P. Lacovara
2002 Burial and the dead in ancient Egyptian society. *Journal of Social Archaeology* 2(1):5–36.
- Balmuth, M. S. (editor)
2001 *Hacksilver to coinage: new insights into the monetary history of the Near East and Greece. A collection of eight papers presented at the 99th annual meeting of the Archaeological Institute of America*. Numismatic Studies 24. American Numismatic Society, New York.
- Bandinelli, R. B.
1971 *Rome, the late empire*. Braziller, New York.
- Bang, P.
2008 *The Roman bazaar: a comparative study of trade and markets in a tributary empire*. Cambridge University Press, Cambridge.
- Ban Gu 班固 et al.
1962 *History of the Han (Hanshu, 漢書)*. Zhonghua shuju 中華書局, Beijing.

- Barber, E. J. W.
1999 *The mummies of Ürümchi*. Norton and Co., New York.
- Barker, G. (editor)
1995 *The Biferno Valley survey: the archaeological and geomorphological record*. Leicester University Press, London.
- Barnett, H. G.
1938 The nature of the potlatch. *American Anthropologist* 40:349–358.
- Barrett, C. E.
2009 The perceived value of Minoan and Mycenaean pottery in Egypt. *Journal of Mediterranean Archaeology* 22(2):211–234.
- Barry, F.
2007 Walking on water: cosmic floors in antiquity and the Middle Ages. *Art Bulletin* 89:641–656.
- Bartelink, G. J. M. (editor)
1971 Callinicos *Vie d'Hypatios*. Éditions du Cerf, Paris.
- Barthes, R.
1990 [1967] *The fashion system*, translated by M. Ward and R. Howard. University of California Press, Berkeley.
2005 [1960] “Blue is in fashion this year”: A note on research into signifying units in fashion clothing. In *The language of fashion*, edited by A. Stafford and M. Carter, translated by A. Stafford, 41–58. Berg, Oxford. Originally published in *Revue Française de Sociologie* 1(2):147–162.
2005 [1966] Fashion and the social sciences. In *The language of fashion*, edited by A. Stafford and M. Carter, translated by A. Stafford, 91–97. Berg, Oxford. Originally published in *Exchanges*.
- Basso, K. H.
1996 Wisdom sits in places: notes on a western Apache landscape. In *Senses of place*, edited by S. Feld and K. H. Basso, 53–90. School of American Research Press, Santa Fe, New Mexico.
- Bastien, J. W.
1985 *Mountain of the condor: metaphor and ritual in an Andean ayllu*. Waveland Press, Prospect Heights, Illinois.
1995 The mountain/body metaphor expressed in a Kataan funeral. In *Tombs for the living: Andean mortuary practices*, edited by T. D. Dillehay, 355–378. Dumbarton Oaks Research Library and Collection, Washington, D.C.
- Bataille, G.
1933 The notion of expenditure. In *Visions of excess: selected writings, 1927–1939*, edited and translated by Georges Bataille, 116–129. University of Minnesota Press, Minneapolis.
1967 *La part maudite, precede de la notion de dépense (The accused share: an essay on general economy)*. Editions de Minuit, Paris.
- Bates, G.
1971 *Byzantine coins. Archaeological exploration of Sardis I*. Harvard University Press, Cambridge, Massachusetts.
- Baudrillard, J.
1968 *Le système des objets*. Gallimard, Paris.
1975 *The mirror of production*. Telos Press, St. Louis.
1981 *For a critique of the political economy of the sign*. Telos Press, St. Louis.
- Bauer, B. S.
1992 *The development of the Inca state*. University of Texas Press, Austin.
1996 The legitimization of the Inca state in myth and ritual. *American Anthropologist* 98:327–337.
1997 The original Ceque manuscript. In *Structure, knowledge, and representation in the Andes: studies presented to Reiner Tom Zuidema on the occasion of his 70th birthday*, edited by G. Urton, special issue, *Journal of the Steward Anthropological Society* 2:277–298.
1998 *The sacred landscape of the Inca: the Cusco ceque system*. University of Texas Press, Austin.
2004 *Ancient Cuzco: heartland of the Inka*. University of Texas Press, Austin.
- Bauer, B. S., and R. A. Covey
2002 State development in the Inca heartland (Cuzco, Peru). *American Anthropologist* 10:846–864.
- Bauer, B. S., and D. Dearborn
1995 *Astronomy and empire in the ancient Andes: the cultural origins of Inca sky watching*. University of Texas Press, Austin.
- Bauer, B. S., and C. Stanish
2001 *Ritual and pilgrimage in the ancient Andes: the Islands of the Sun and Moon*. University of Texas Press, Austin.
- Bauer, J., R. K. Englund, and M. Krebernink
1998 *Mesopotamien: Späturuk-Zeit und frühdynastische Zeit*. Universitätsverlag Freiburg Schweiz, Freiburg.
- Baxandall, M.
1980 *The Limewood sculptors of Renaissance Germany*. Yale University Press, New Haven, Connecticut.

- 1988 *Painting and experience in fifteenth-century Italy: a primer in the social history of pictorial style*. 2nd ed. Oxford University Press, Oxford.
- Bazelmans, J.
- 2002 Moralites of dress and the dress of the dead in early medieval Europe. In *Thinking through the body: archaeologies of corporeality*, edited by Y. Hamilakis, M. Pluciennik, and S. Tarlow, 71–84. Kluwer Academic/Plenum Publishers, New York.
- Bell, C.
- 1992 *Ritual theory, ritual practice*. Oxford University Press, Oxford.
 - 1997 *Ritual: perspectives and dimensions*. Oxford University Press, Oxford.
- Bender, B. (editor)
- 1993 *Landscape: politics and perspectives*. Berg, Oxford.
- Bengtsston, L.
- 1998 *Prehistoric stonework in the Peruvian Andes: a case study at Ollantaytambo*. GOTARC series B, no. 10, Ethnologiska studier. Ethnografiska museet, Göteborg.
- Benjamin, W.
- 1968 [1936] The work of art in the age of mechanical reproduction. In *Illuminations*, edited by H. Arendt. Harcourt Brace, New York.
- Benson, E. P., and B. de la Fuente (editors)
- 1996 *Olmec art of ancient Mexico*. National Gallery of Art, Washington, D.C.
- Benton, S.
- 1934–1935a The evolution of the tripod-lebes. *Annual of the British School at Athens* 35:74–130.
 - 1934–1935b Excavations in Ithaca, III: the cave at Polis. *Annual of the British School at Athens* 35:45–73.
- Berleant, A.
- 1964 The sensuous and the sensual in aesthetics. *Journal of Aesthetics and Art Criticism* 23(2):185–192.
- Berthoud, G., and F. Sabelli.
- 1976 *L'ambivalence de la production: logiques communautaires et logiques capitalistes*. Presses Universitaires de France, Paris.
- Bertonio, L.
- 2006 [1612] *Vocabulario de la lengua Aymara*, edited by J. Platzmann. 2 vols. Ediciones El Lector, Arequipa, Peru.
- Betancourt, P. P.
- 1985 *The history of Minoan pottery*. Princeton University Press, Princeton, New Jersey.
- Betanzos, J. de
- 1996 [1557] *Narrative of the Incas*. University of Texas Press, Austin.
- Bevan, A.
- 2007 *Stone vessels and values in the Bronze Age Mediterranean*. Cambridge University Press, Cambridge.
- Bijovsky, G.
- 2002 A hoard of Byzantine solidi from Bet She'an in the Umayyad period. *Revue Numismatique* 6(158):161–227.
- Bitel, L.
- 2009 *Landscape with two saints: how Genovefa of Paris and Brigit of Kildare built Christianity in barbarian Europe*. Oxford University Press, Oxford.
- Blackburn, E. T.
- 1970 *Middle Helladic graves and burial customs with special reference to Lerna in the Argolid*. Unpublished Ph.D. dissertation, University of Cincinnati. University Microfilms, Ann Arbor.
- Bloch, M.
- 1971 *Placing the dead*. Seminar Press, London.
 - 1989 *Ritual, history and power: selected papers in anthropology*. Athlone Press, London.
 - 1995 People into places: Zafimaniry concepts of clarity, in *The anthropology of landscape: perspectives on place and space*, edited by E. Hirsch and M. O'Hanlon, 63–77. Clarendon Press, Oxford.
- Bloch, M., and J. Parry, J.
- 1989 Introduction: money and the morality of exchange. In *Money and the morality of exchange*, edited by J. Parry and M. Bloch, 1–32. Cambridge University Press, Cambridge.
- Blomster, J. P.
- 1998 Context, cult, and early Formative period public ritual in the Mixteca Alta: analysis of a hollow-baby figurine from Etlatongo, Oaxaca. *Ancient Mesoamerica* 9(2):309–326.
 - 2002 What and where is Olmec style? Regional perspectives on hollow figurines in early Formative Mesoamerica. *Ancient Mesoamerica* 13:171–195.

- 2009 Identity, gender, and power: representational juxtapositions in early Formative figurines from Oaxaca, Mexico. In *Mesoamerican figurines: small-scale indices of large-scale social phenomena*, edited by C. T. Halperin, K. A. Faust, R. Taube, and A. Giguët, 119–48. University Press of Florida, Gainesville.
- Blumer, H.
 - 1995 [1969] Fashion: from class differentiation to collective selection. In *Dress and identity*, edited by M. E. Roach-Higgins, J. B. Eicher, and K. K. P. Johnson, 378–392. Fairchild Publications, New York.
- Boas, F.
 - 1897 The social organization and secret societies of the Kwakiutl Indians. *Reports of the U.S. National Museum for 1895*:311–738.
 - 1916 Tshimshian mythology. In *Thirty-first annual report of the Bureau of American Ethnology to the Secretary of the Smithsonian Institution, 1909–1910*, 29–1037. United States Government Printing Office, Washington, D.C.
 - 1966 *Kwakiutl ethnography*, edited by H. Codere. University of Chicago Press, Chicago.
- Bonniol, D., and S. Cassen
 - 2009 Les orthostates de la Table des Marchands et les stèles en orthogneiss à l'entrée de l'estuaire des rivières d'Auray et de Vannes, in *Autour de la table: explorations archéologiques et discours savants sur des architectures néolithiques à Locmariaquer, Morbihan (Table des Marchands et Grand Menhir)*, edited by S. Cassen, 685–734. Presses Universitaires de Nantes, Nantes.
- Bonsall, C., V. Boroneanț, and I. Radovanović (editors)
 - 2008 *The Iron Gates in prehistory: new perspectives*. BAR International Series 1893. Archaeopress, Oxford.
- Bonsall, C., G. Cook, R. Hedges, T. Higham, C. Pickard, and I. Radovanović
 - 2004 Radiocarbon and stable isotope evidence of dietary change from the Mesolithic to the Middle Ages in the Iron Gates: new results from Lepenski Vir. *Radiocarbon* 46 (1):293–300.
- Bonsall, C., I. Radovanović, M. Roksandić, G. Cook, T. Higham, and C. Pickard
 - 2008 Dating burials and architecture at Lepenski Vir. In *The Iron Gates in prehistory. New perspectives*, edited by C. Bonsall, V. Boroneanț, and I. Radovanović, 175–204. BAR International Series 1893. Archaeopress, Oxford.
- Borić, D.
 - 2008 First households and “house societies” in European prehistory. In *Prehistoric Europe: theory and practice*, edited by A. Jones, 109–142. Blackwell, Oxford.
- Borić, D., and V. Dimitrijević
 - 2007 When did the “Neolithic package” reach Lepenski Vir? Radiometric and faunal evidence. *Documenta Praehistorica* 34:31–52.
- Borić, D., and J. Robb
 - 2008 Body theory in archaeology. In *Past bodies: body-centered research in archaeology*, edited by D. Borić and J. Robb, 1–8. Oxbow Books, Oxford.
- Boroneanț, V., C. Bonsall, K. McSweeney, R. Payton, and M. Macklin
 - 1999 A Mesolithic burial area at Schela Cladovei, Romania. In *L'Europe des derniers chasseurs: Épipaléolithique et Mésolithique*, 385–390. Éditions du Comité des Travaux Historiques et Scientifiques, Paris.
- Boteler Mock, S. (editor)
 - 1998 *The sowing and the dawning: termination, dedication, and transformation in the archaeological and ethnographic record of Mesoamerica*. University of New Mexico Press, Albuquerque.
- Bourdieu, P.
 - 1977 *Outline of a theory of practice*. Cambridge University Press, Cambridge.
 - 1984 *Distinction: a social critique of the judgment of taste*. Harvard University Press, Cambridge, Massachusetts
 - 1991 *The logic of practice*. Polity Press, Cambridge.
 - 1997 Marginalia: some additional notes on the gift. In *The logic of the gift: toward an ethic of generosity*, edited by A.D. Schrift, 231–241. Routledge, New York.
- Bourdieu, P., and J.-C. Passeron
 - 1979 [1964] *The inheritors: French students and their relations to culture*. University of Chicago Press, Chicago.
- Bourdieu, P., and L. J. D. Wacquant
 - 1992 *An invitation to reflexive sociology*. Polity Press, Cambridge.
- Bowersock, G.
 - 2006 *Mosaics as history: the Near East from late antiquity to Islam*. Belknap Press of Harvard University Press, Cambridge, Massachusetts.
- Bowser, B.
 - 2004 Prologue: toward an archaeology of place. *Journal of Archaeological Method and Theory* 11(1):1–3.
- Bradeen, D. W.
 - 1964 Athenian casualty lists. *Hesperia* 33:16–62.

- Bradley, R.
 1998 *The significance of monuments: on the shaping of human experience in Neolithic and Bronze Age Europe*. Routledge, London.
 2000 *The archaeology of natural places*. Routledge, London.
- Bray, T. L.
 2003 Inka pottery as culinary equipment: food, feasting, and gender in imperial design. *Latin American Antiquity* 14:3–28.
 2009 An archaeological perspective on the Andean concept of *Camaquen*: thinking through the objects of late pre-Columbian ofrendas and huacas. *Cambridge Archaeological Journal* 19(3):357–366.
- Briard, J., M. Gautier, and G. Leroux
 1995 *Les mégalithes et les tumulus de Saint-Just, Ille-et-Vilaine*. Comité des Travaux Historiques et Scientifiques, Paris.
- Bricker, V. R.
 1986 *A grammar of Mayan hieroglyphs*. Middle American Research Institute, Tulane University, New Orleans.
 1991 Faunal offerings in the Dresden Codex. In *Sixth Palenque roundtable, 1986*, edited by V. Fields, 285–292. University of Oklahoma Press, Norman.
- Broekman, G. P. F., R. J. Demarée, and O.E. Kaper (editors)
 2009 *The Libyan period in Egypt: historical and cultural studies into the 21st–24th Dynasties: proceedings of a conference at Leiden University, 25–27 October 2007*. Peeters, Leiden.
- Brown, A.
 1998 Homeric talents and the ethics of exchange. *Journal of Hellenic Studies* 118:165–172.
- Brown, L. (editor)
 1993 *The new shorter Oxford English dictionary on historical principles*. Clarendon Press, Oxford.
- Brown, P.
 1977 *Relics and social status in the age of Gregory of Tours*. University of Reading, Reading.
 1981 *The cult of the saints: its rise and function in Latin Christianity*. University of Chicago Press, Chicago.
 1982 *Society and the holy in late antiquity*. University of California Press, Berkeley.
- Brubaker, L.
 1997 Memories of Helena: patterns in imperial female patronage in the fourth and fifth centuries. In *Women, men and eunuchs: gender in Byzantium*, edited by L. James, 52–73. Routledge, London.
- Bruce, R.
 1968 *Gramática del lacandón*. Instituto Nacional de Antropología e Historia, Mexico City.
- Brumfiel, E. M.
 1998 Huitzilopchtli's conquest: Aztec ideology in the archaeological record. *Cambridge Archaeological Journal* 8:3–13.
- Brunke, H. O.
 2008 Essen in Sumer: Metrologie, Herstellung und Terminologie nach Zeugnis der Ur III-zeitlichen Wirtschaftsurkunden. Unpublished Ph.D. dissertation, University of Munich.
- Buchan, J.
 2009 Ayatollah Khomeini's funeral. *New Statesman*, March 12, 2009. Electronic document, <http://www.newstatesman.com/asia/2009/03/khomeini-funeral-body-crowd>, accessed May 18, 2010.
- Buckton, D. (editor)
 1984 *The treasures of San Marco, exhibition catalogue*. Olivetti, Milan.
- Buikstra, J. E., and D. H. Ubelaker (editors)
 1994 *Standards for data collection from human skeletal remains: proceedings of a seminar at the Field Museum of Natural History, organized by J. Haas*. Arkansas Archaeological Survey Research Series, vol. 44. Arkansas Archaeological Survey, Fayette.
- Bunzel, Ruth
 1959 *Chichicastenango: a Guatemalan village*. 2nd ed. University of Washington Press, Seattle.
- Burger, R. L.
 1984 *The prehistoric occupation of Chavín de Huántar, Ancash*. University of California Press, Berkeley.
 1988 Unity and heterogeneity in the Chavin Horizon. In *Peruvian prehistory*, edited by R. Keatinge, 99–144. Cambridge University Press, Cambridge.
 1992 *The origins of Andean civilization*. Thames and Hudson, London.
 1993 The Chavin horizon: stylistic chimera or socioeconomic metamorphosis. In *Latin American horizons*, edited by D. Rice, 41–82. *Dumbarton Oaks Research Library and Collection*, Washington, D.C.
 2008 Los señores de los templos. In *Señores de los Reinos de la Luna*, edited by K. Makowski, 13–38. Banco de Crédito, Lima.

- 2010 A first glimpse of the religion and rituals of the Manchay culture. Paper presented at the Annual Meeting of the Institute of Andean Studies, Berkeley.
- Burger, R. L., and R. Gordon
1994 Early central Andean metalworking from Mina Perdida, Peru. *Science* 281:1108–1111.
- Burger, R. L., and H. Lechtman
1996 Chavín. In *Andean art in Dumbarton Oaks*, vol. 1, edited by E. Boone, 45–86. Dumbarton Oaks Research Library and Collection, Washington, D.C.
- Burger, R. L., and K. Makowski
2009 *Arqueología del Período Formativo en la Cuenca Baja de Lurín*. Fondo Editorial PUCP, Lima.
- Burger, R. L., and R. Matos
2002 Atalla: a center on the periphery of the Chavín horizon. *Latin American Antiquity* 13(2):153–177.
- Burger, R. L., and L. Salazar
1985 The early ceremonial center of Huaricoto. In *Early ceremonial architecture in the Andes*, edited by C. B. Donnan, 11–138. Dumbarton Oaks Research Library and Collection, Washington, D.C.
- 1991 The second season of investigation at the Initial Period center of Cardal, Peru. *Journal of Field Archaeology* 18(3):275–296.
- 1994 La organización dual en el ceremonial andino temprano; un repaso comparativo. In *El mundo ceremonial Andino*, edited by L. Millones and Y. Onuki, 97–116. Editorial Horizonte, Lima.
- 2008 The Manchay culture and the coastal inspiration for highland Chavin civilization. In *Chavin art, architecture and culture*, edited by W. Conklin and J. Quilter, 85–105. Cotsen Institute of Archaeology, UCLA, Los Angeles.
- Burger, R. L., and L. Salazar (editors)
2004 *Machu Picchu: unveiling the mystery of the Incas*. Yale University Press, New Haven, Connecticut.
- Burnett, A. P.
1983 *Three Archaic poets: Archilochus, Alcaeus, Sappho*. Harvard University Press, Cambridge, Massachusetts.
- 1985 *The art of Bacchylides*. Harvard University Press, Cambridge, Massachusetts.
- Burton, J.
1989 Repeng and the salt-makers: ecological trade and stone axe production in the Papua New Guinea highlands. *Man* 24(2):255–272.
- Bury, J.B. (editor)
1890 *The Nemean odes of Pindar*. Macmillan and Co., London.
- Butcher, K.
2004 *Coinage in Roman Syria. Northern Syria, 64 BC–AD 253*. Royal Numismatic Society Special Publication 34. Royal Numismatic Society, London.
- Butler, J.
1995 Desire. In *Critical terms for literary study*. 2nd ed. Edited by F. Lentricchia and T. McLaughlin, 369–386. University of Chicago Press, Chicago.
- Buttrey, T. V.
1981 *Greek, Roman, and Islamic coins from Sardis. Archaeological Exploration of Sardis* 7. Harvard University Press, Cambridge, Massachusetts.
- Butz, K.
1980–1983 Landwirtschaft. *Reallexikon der Assyriologie und vorderasiatischen Archäologie* 6:470–486.
- Butz, K., and Schröder, P.
1985 Zu Getreideerträgen in Mesopotamien und dem Mittelmeergebiet. *Baghdader Mitteilungen* 16:165–209.
- Byrne, D.
2008 Counter-mapping in the archaeological landscape. In *Handbook of landscape archaeology*, edited by B. David and J. Thomas, 609–616. Left Coast Press, Walnut Creek, California.
- Cabello Balboa, M.
1951 [1586] *Miscelánea Antártica, una historia del Perú antiguo*, edited by L. E. Valcárcel. Universidad Nacional Mayor de San Marcos, Instituto Etnología, Lima.
- Caillavet, C.
1982 Cacicques de Otavalo en el siglo XVI: Don Alonso Maldonado y su esposa. *Miscelánea Antropológica Ecuatoriana* 2:38–55.
- 1983 Ethno-histoire equatorienne: un testament indien inédit du XVI siècle. *Caravelle* 41:5–23.
- Calame, C.
1977 *Les chœurs de jeunes filles en Grèce archaïque*. 2 vols. Edizioni dell' Ateneo & Bizzarri, Rome.
- 1997 *Choruses of young women: their morphology, religious role, and social functions*, translated by D. Collins and J. Orion. Rowman & Littlefield, Lanham, Maryland.

- Calancha, A. de la
 1974 *Crónica moralizada del orden de San Agustín en el Perú con sucesos ejemplares en esta monarquía*. Universidad Nacional Mayor de San Marcos, Lima.
 1981 [1639] *Corónica moralizada del orden de San Agustín en el Perú*, edited by I. Prado Pastor. Universidad Mayor de San Marcos, Editorial de la Universidad, Lima.
- Callaway, J. S.
 1950 *Sybaris*. Johns Hopkins Press, Baltimore.
- Camphausen, R. C.
 1997 *Return of the tribal: a celebration of body adornment (piercing, tattooing, scarification, body painting)*. Park Street Press, Rochester, Vermont.
- Cantó Mila, N.
 2005 *A sociological theory of value: Georg Simmel's sociological relationism*. Transaction Publishers, New York.
- Carman, J., and A. Harding (editors)
 1999 *Ancient warfare: archaeological perspectives*. Alan Sutton, Stroud.
- Carmichael, P. H.
 1995 Nasca burial patterns: social structure and mortuary ideology. In *Tombs for the living: Andean mortuary practices*, edited by T. D. Dillehay, 161–188. *Dumbarton Oaks Research Library and Collection*, Washington, D.C.
- Carrión Cachot, R.
 1949 *Paracas cultural elements*. Corporación de Turismo, Lima.
- Carson, A.
 1999 *Economy of the unlost: reading Simonides of Keos with Paul Celan*. Princeton University Press, Princeton, New Jersey.
- Carter, T.
 2007 The theatrics of technology: consuming obsidian in the early Cycladic burial area. In *Rethinking craft specialization in complex societies: archaeological analyses of the social meaning of production*, edited by Z. X. Hruby and R. K. Flad, 88–107. *American Anthropological Association*, Arlington, Virginia.
- Casey, E. S.
 2008 Place in landscape archaeology: a Western philosophical prelude. In *Handbook of landscape archaeology*, edited by B. David and J. Thomas, 44–50. *Left Coast Press*, Walnut Creek, California.
- Catling, H. W.
 1964 *Cypriot bronzework in the Mycenaean world*. Clarendon Press, Oxford.
- Cavanagh, W., and C. Mee
 1998 *A private place: death in prehistoric Greece*. *Studies in Mediterranean Archaeology* 125. Paul Åström, Jonsö, Sweden.
- Chacon, R. J., and D. H. Dye (editors)
 2007 *The taking and displaying of human body parts as trophies by Amerindians*. Springer, New York.
- Chalfont, A. Baron
 1987 *Defence of the realm*. Collins, London.
- Chang, K.-c.
 1986 *The archaeology of ancient China*. Yale University Press, New Haven, Connecticut.
 1989 An essay on *cong*. *Orientalism* 20(6):37–43.
- Chapman, J.
 1988 From “space” to “place”: a model of dispersed settlement and Neolithic society. In *Enclosures and defences in the Neolithic of western Europe*, edited by C. Burgess, P. Topping, and D. Mordant, 21–46. *BAR International Series* 403. *British Archaeological Reports*, Oxford.
 1993 Social power in the Iron Gates Mesolithic. In *Cultural transformations and interactions in Eastern Europe*, edited by J. C. Chapman and P. Dolukhanov, 61–106. *Worldwide Archaeology Series* 5. Avebury, Aldershot, UK.
 1994 Destruction of a common heritage: the archaeology of war in Croatia, Bosnia, and Hercegovina. *Antiquity* 68:120–126.
 1997 Places as timemarks: the social construction of landscapes in eastern Hungary. In *Landscapes in Flux*, edited by J. Chapman and P. Dolukhanov, 37–162. *Oxbow Books*, Oxford.
 1998a Objectification, embodiment and the value of places and things. In *The archaeology of value: essays on prestige and the processes of valuation* edited by D. Bailey and S. Mills, 106–130. *BAR International Series* 730. *British Archaeological Reports*, Oxford.
 1998b Objects and places: their value in the past. In *The archaeology of prestige and wealth*, edited by D. W. Bailey, 106–130. *BAR International Series* 730. *British Archaeological Reports*, Oxford.

- 1999 The origins of warfare in the prehistory of central and eastern Europe. In *Ancient warfare. Archaeological perspectives*, edited by J. Carman and A. Harding, 101–142. Alan Sutton, Stroud, UK.
- 2000a *Fragmentation in archaeology: people, places, and broken objects in the prehistory of south-eastern Europe*. Routledge, London.
- 2000b Tension at funerals: social practices and the subversion of community structure in later Hungarian prehistory. In *Agency in archaeology*, edited by M.-A. Dobres and J. E. Robb, 169–195. Routledge, London.
- Chapman, J. and B. Gaydarska
2006 *Parts and wholes: fragmentation in prehistoric context*. Oxbow, Oxford.
- 2009 The fragmentation premise in archaeology. From the Paleolithic to more recent times. In *The fragment: an incomplete history*, edited by W. Tronzo, 131–153. J. Paul Getty Trust, Los Angeles.
- Chapman, J., B. Gaydarska, and K. Hardy
2006 Does enclosure make a difference? A view from the Balkans. In *Enclosing the past: inside and outside in prehistory*, edited by A. Harding, S. Sievers, and N. Venclová, 20–43. Sheffield Archaeological Monographs 15. Equinox, Sheffield, UK.
- Chapman, J., R. Shiel, and Š. Batović
1996 *The changing face of Dalmatia: archaeological and ecological studies in a Mediterranean landscape*. Society of Antiquaries of London Research Report no. 54. Cassell, London.
- Chapman, J., R. Shiel, D. Passmore, and E. Magyari
2003 The Upper Tisza Project: studies in Hungarian landscape archaeology. Electronic document, http://ads.ahds.ac.uk/catalogue/projArch/uppertisza_ba_2003/index.cfm.
- Chapman, R.
1981 The emergence of formal disposal areas and the “problem” of megalithic tombs in prehistoric Europe. In *The archaeology of death*, edited by R. Chapman, I. Kinnes, and K. Randsborg, 71–81. Cambridge University Press, Cambridge.
- Chase, W. T.
1991 *Ancient Chinese bronze art: casting the precious sacred vessel*. China House Gallery, New York.
- Chatfield, M.
2007 From Inca to Spanish colonial: transitions in ceramic technology. Unpublished Ph. D. Dissertation, University of California, Santa Barbara.
- Cheetham, D.
2009 Early Olmec figurines from two regions: style as cultural imperative. In *Mesoamerican figurines: small-scale indices of large-scale social phenomena*, edited by C. T. Halperin, K. A. Faust, R. Taube, and A. Giguet, 149–179. University Press of Florida, Gainesville.
- Chemla, K.
2010 A Chinese canon in mathematics and its two layers of commentaries: reading a collection of texts as shaped by actors. In *Looking at it from Asia: the processes that shaped the sources of history of science*, edited by F. Bretelle-Establat, 169–210. Boston Studies in the Philosophy of Science 265. Springer, Dordrecht.
- Chemla, K., and Guo Shuchun
2004 *Les neuf chapitres. Le classique mathématique de la Chine ancienne et ses commentaires*. Dunod, Paris.
- Chengdu 成都市文物考古研究所
2001 成都市黃忠村遺址1999年度發掘的主要收穫 (Important results from the 1999 excavations at Huangzhongcun in Chengdu). 成都考古發現 (*Archaeological discoveries in Chengdu*) 1999:164–181.
- 2003a 成都市金沙遺址“蘭苑”地點發掘簡報 (Preliminary report on the excavations at the “Lanyuan” locus of the Jinsha site, Chengdu). 成都考古發現 (*Archaeological discoveries in Chengdu*) 2001:1–32.
- 2003b 金沙遺址蜀風花園城二期地點試掘簡報 (Preliminary report on the trial excavations at the second period locus of Shufeng Huayuancheng at the Jinsha site). 成都考古發現 (*Archaeological discoveries in Chengdu*) 2001:33–53.
- 2004a 成都金沙遺址2001年黃忠村幹道規劃道路B線地點試掘簡報 (Preliminary report on the 2001 trial excavations at the B-line road project locus in Huangzhongcun of the Jinsha site in Chengdu). *Chengdu kaogu faxian* 成都考古發現 (*Archaeological discoveries in Chengdu*) 2002:42–61.
- 2004b 成都金沙遺址“置信金沙園一期”地點發掘簡報 (Report on the excavations of the “Zhixin Jinshayuan period 1” locus at the Jinsha site, Chengdu). 成都考古發現 (*Archaeological discoveries in Chengdu*) 2002:1–41.
- 2004c 成都金沙遺址I 區“梅苑”東北部地點發掘一期簡報 (Preliminary report on the Period I excavations of the northeast locus at “Meiyuan” in area I of the Jinsha site, Chengdu). 成都考古發現 (*Archaeological discoveries in Chengdu*) 2002:96–171.
- 2004d 成都金沙遺址萬博地點考古勘探與發掘收穫 (Results from the archaeological prospection and excavations at the Wanbo locus of the Jinsha site in Chengdu). 成都考古發現 (*Archaeological discoveries in Chengdu*) 2002:62–95.
- 2004e 成都金沙遺址一區“梅苑”地點發掘一期簡報 (Preliminary report on the phase I excavation at the “Meiyuan” locus of the Jinsha site in Chengdu). 文物 (*Cultural Relics*) 2004(4):4–65.

- 2005a 2001 年金沙遺址幹道黃忠A線地點發掘簡報 (Preliminary report on the 2001 excavations at the A-line locus of the Huangzhong road project in the Jinsha site). 成都考古發現 (*Archaeological discoveries in Chengdu*) 2003:44–88.
- 2005b 金沙村遺址芙蓉苑南地點發掘簡報 (Preliminary report on the excavations of Furongyuan south locus in the Jinsha site). 成都考古發現 (*Archaeological discoveries in Chengdu*) 2003:1–43.
- 2005c 金沙：再現輝煌的古蜀王都 (*Jinsha: reconstructing the prosperous capital city of the ancient Shu state*). Sichuan chubanshe, Chengdu.
- 2006a *The Jinsha site: a 21st century discovery of Chinese archaeology*. China International Press, Beijing.
- 2006b 成都市金沙遺址“春天花間”地點發掘簡報 (Preliminary report on the excavations at the “Chunyu huajian” locus of the Jinsha site in Chengdu). 成都考古發現 (*Archaeological discoveries in Chengdu*) 2004:217–254.
- 2006c 金沙玉器 (*Jade of the Jinsha Site*). Kexue chubanshe, Beijing.
- 2007 成都市金沙遺址“西城天下”地點發掘 (Excavations at the “Xicheng Tianxia” locus of the Jinsha site, Chengdu City). 成都考古發現 (*Archaeological discoveries in Chengdu*) 2005:244–272.
- Chengdu and Beijing 成都市文物考古研究所 and 北京大學考古文博院
2002 金沙淘珍—成都市金沙村遺址出土文物 (*Panning for treasure at Jinsha—artifacts excavated from the Jinsha village site in Chengdu City*). Wenwu chubanshe, Beijing.
- Chengdu and Pi Xian 成都市文物考古工作隊 and 郫縣博物館
1999 四川郫縣古城遺址調查與試掘 (Survey and trial excavations at Gucheng in Pi County, Sichuan). 文物 (*Cultural relics*) 1999(1):32–42.
- 2001a 四川郫縣古城遺址1997 年發掘簡報 (Preliminary report on the 1997 excavations at the walled site in Pi Xian County, Sichuan). 文物 (*Cultural relics*) 2001(3):52–68.
- 2001b 四川省郫縣古城遺址1998–1999 年發掘收穫 (Results from the 1998–1999 excavations at the walled site in Pi Xian County, Sichuan). 成都考古發現 (*Archaeological discoveries in Chengdu*) 1999:29–39.
- Chew, K.
2006 Virgins and eunuchs: Pulcheria, politics and the death of Emperor Theodosius II. *Historia: Zeitschrift für alte Geschichte* 55(2): 207–227.
- Chippindale, C.
1993 Ambition, deference, discrepancy, consumption: the intellectual background to a post-processualist archaeology. In *Archaeological theory: who sets the agenda?* edited by N. Yoffee and A. Sherratt, 27–36. Cambridge University Press, Cambridge.
- Chrisomalis, S.
2010 *Numerical notation: a comparative history*. Cambridge University Press, Cambridge.
- Chu, A.
2008 *Bandurria. Arena, mar y humedal en el surgimiento de la civilización Andina*. Servicios Gráficos Jackline, Huaura, Peru.
- Chumbicarba, Ysabel
1628 Testamento de Ysabel Chumbicarba natural de Santaorlla” 1628 “Testamentos de Indios” Archivo General de la Nación, Lima.
- Cieza de León, P. de
1553 *Parte primera de la crónica del Perú. Que tracta la demarcacion de sus prouincias: la descripcion dellas. Las fundaciones de las nuevas ciudades. Los ritos y costumbres de los indios. y otras cosas estrañas dignas de ser sabidas. Fecha por Pedros Cieza de Leon vezino de Seuilla*. 1553. Con priuilegio Real.
1971 [1554] *La cronica del Peru*. Ediciones de la Revista Ximenez de Quesada, Bogotá.
- Civil, M.
1964 A hymn to the beer goddess and a drinking song. In *Studies presented to A. Leo Oppenheim, June 7, 1964*, edited by R. D. Biggs and J. A. Brinkman, 67–89. Chicago: Oriental Institute of the University of Chicago.
1994 *The farmer’s instructions: a Sumerian agricultural manual*. AUSA, Barcelona.
- Cixous, H.
1997 Sorties: out and out: attacks/way out/forays. In *The logic of the gift: toward an ethic of generosity*, edited by A.D. Schrifft, 148–173. Routledge, New York.
- Claessen, H. J. M., and P. Skalník (editors)
1978 *The early state*. Mouton Publishers, The Hague.
- Clajot, J.-M.
2008 *Scarification*. Husson, Brussels.
- Clark, J. E.
1990 Olmecas, olmequismo y olmequización en Mesoamérica. *Arqueología* 3: 49–55.
2007 Craft specialization’s penumbra: things, persons, actions, value, and surplus. In *Rethinking craft specialization in archaeological contexts: archaeological analyses of the social meaning of production*, vol. 17, edited by Z. X. Hruby and R. K. Flad, 20–35. American Anthropological Association, Arlington, Virginia.

- Clark, J. E. (editor)
1994 *Los Olmecas en Mesoamérica*. El Equilibrista, Mexico City.
- Clark, J. E., and W. J. Parry
1990 Craft specialization and cultural complexity. *Research in Economic Anthropology* 12:289–346.
- Clark, J. E., and M. E. Pye
2000 The Pacific coast and the Olmec question. In *Olmec art and archaeology in Mesoamerica*, edited by J. E. Clark and M. E. Pye, 217–251. Studies in the History of Art no. 58. National Gallery of Art, Washington, D.C.
- Clark, J. E., and M. E. Pye (editors.)
2000 *Olmec art and archaeology in Mesoamerica*. Studies in the History of Art 58. National Gallery of Art, Washington, D.C.
- Classen, C.
1993 *Inca cosmology and the human body*. University of Utah Press, Salt Lake City.
- Clay, J. S.
1989 *The politics of Olympus: form and meaning in the major Homeric hymns*. Princeton University Press, Princeton, New Jersey.
- Cleal, R. M. J., K. E. Walker, and R. Montague
1995 *Stonehenge in its landscape: twentieth-century excavations*. English Heritage, London.
- Closmadeuc, G. d
1862 Rapport sur les divers objets et particulièrement sur les ossements provenant des fouilles du tumulus du mont Saint-Michel de Carnac. *Bulletin de la Société Polymathique du Morbihan* 1862:18–40.
- Closs, M.
1977 Nature of the Maya chronological count. *American Antiquity* 42(1):18–27.
- Coben, L.
2006 Other Cuzcos: replicated theatres of Inka power. In *Archaeology of performance*, edited by T. Inomata and L. S. Coben, 223–259. Altamira Press, Lanham, Maryland.
- Cobo, B.
1956 [1653] *Historia del nuevo mundo, II*. Biblioteca del Autores Españoles 92. Ediciones Atlas, Madrid.
1964 [1653] *Historia del nuevo mundo*. Biblioteca de Autores Españoles 91–92. Editoriales Atlas, Madrid.
1979 [1653] *History of the Inca Empire*. University of Texas Press, Austin.
1990 [1653] *Inca religion and customs*, translated by Roland Hamilton. University of Texas Press, Austin.
- Cock, G. A.
2002 Inca rescue. *National Geographic* 201(4):79–91.
- Coe, M. D.
1965 *The jaguar's children*. New York: Museum of Primitive Art.
- Coe, M. D., and R. A. Diehl
1980 *In the land of the Olmec*. Vol. 1: *The archaeology of San Lorenzo Tenochtitlán*. University of Texas Press, Austin.
- Coe, W. R.
1959 *Piedras Negras archaeology: artifacts, caches, and burials*. University of Pennsylvania Museum, Philadelphia.
- Collin, Diego
1598 “Testamento de Don Diego Collin en el Panzaleo a cinco dias del mes de Julio de mil quinientos y noventa y ocho años.” Folios 29R–42R, Caja 7 III-22 1657 Archivo Histórico Nacional Quito
- Colson, E.
1997 Places of power and shrines of the land. *Paideuma* 43:47–57.
- Conklin, W. J.
1971 Chavin textiles and the origins of Peruvian weaving. *Textile Museum Journal* 3(2):13–19.
2002 A khipu information string theory. In *Narrative threads: accounting and recounting in Andean khipu*, edited by J. Quilter and G. Urton, 53–86. University of Texas Press, Austin.
- Connerton, P.
1989 *How societies remember*. Cambridge University Press, Cambridge.
- Cook, N. D.
1981 *Demographic collapse, Indian Peru, 1520–1620*. Cambridge University Press, Cambridge.
- Cooney, K. M.
2007 *The cost of death: the social and economic value of ancient Egyptian funerary art in the Ramesside period*. Egyptologische Uitgaven, Leiden, Netherlands.
2008a The functional materialism of death: a case study of funerary material in the Ramesside period. In *Das Heilige und die Ware*, edited by M. Fitzenreiter, 273–299. IBAES VII. Golden House Publications, London.

- 2008b Profit or exploitation? The production of private Ramesside tombs within the west Theban funerary economy. *Journal of Egyptian History* 1:79–115.
 - 2012 Private sector tomb robbery and funerary arts reuse according to west Theban documentation. In *Deir el Medina Studies Conference, June 24–26th, 2009*. University of Helsinki, Helsinki.
- Cooper, K.
- 2004 Empress and Theotokos: gender and patronage in the Christological controversy. *Studies in Church History* 39:38–51.
- Costin, Cathy L.
- 1991 Craft specialization: issues in defining, documenting, and explaining the organization of production. In *Archaeological method and theory*, edited by Michael B. Schiffer, 1–56. University of Arizona Press, Tuscon, AZ.
- Covarrubias, M.
- 1957 *Indian art of Mexico and Central America*. New York: Alfred A. Knopf.
- Covarrubias Orozco, S. de
- 1995 [1611] *Tesoro de la lengua Castellana o Española*, edited by F. Maldonado and M. Camero. 2nd ed. Editorial Castalia, Madrid.
- Covey, R. A.
- 2006a *How the Incas built their heartland: state formation and the innovation of imperial strategies in the sacred valley, Peru*. University of Michigan Press, Ann Arbor.
 - 2006b Intermediate elites in the Inka heartland, A.D. 1000–1500. In *Intermediate elites in pre-Columbian states and empires*, edited by C. M. Elson and R. A. Covey, 112–135. University of Arizona Press, Tucson.
 - 2008 Multiregional perspectives on the archaeology of the Andes during the late Intermediate period (c. A.D. 1000–1400). *Journal of Archaeological Research* 16:287–338.
- Crawford, J. S.
- 1990 *The Byzantine shops at Sardis. Archaeological exploration of Sardis* 9. Harvard University Press, Cambridge, Massachusetts.
- Crawford, M. H.
- 1969 *Roman Republican coin boards*. Royal Numismatic Society, London.
 - 1974 *Roman Republican coinage*. Cambridge University Press, Cambridge.
- Croce, B.
- 1966 [1917] *Teoria e storia della storiografia*. 9th ed. G. Laterza, Bari, Italy.
- Cross, S.
- 2003 Irish Neolithic settlement architecture—a reappraisal. In *Neolithic settlement in Ireland and western Britain*, edited by I. Armit, E. Murphy, E. Nelis, and D. Simpson, 195–202. Oxbow Books, Oxford.
- Crump, T.
- 1990 *The anthropology of numbers*. Cambridge University Press, Cambridge.
- Csordas, T. J.
- 1990 Embodiment as a paradigm for anthropology. *Ethos* 18(1):5–47.
 - 1994 Introduction: the body as representation and being-in-the-world. In *Embodiment and experience: the existential ground of culture and self*, edited by T.J. Csordas, 1–26. Cambridge University Press, Cambridge.
- Cuatín, Cristóbal
- 1592 “Testamento de Cristóbal Cuatín Principal del Pueblo de Tuza” Archivo Histórico del Banco Central del Ecuador, Quito, Ibarra Siglo XVI, 1592.
- Cuba Peña, L. A.
- 2003 *Informe de investigación arqueológico Wat’a-Warokondo*. Instituto Nacional de Cultura, Cuzco.
 - 2004 *Informe de investigación arqueológico Wat’a-Warokondo*. Instituto Nacional de Cultura, Cuzco.
- Cucichimbo, Catalina and Luisa
- 1611 “Autos seguidos por Doña Catalina y Doña Luisa Cucichimbo, indias . . . de Sucus . . . sobre propiedad de unas tierras,” Derecho Indígena, Lejajo 6 Cuaderno 107 Archivo General de la Nación, folios 16r–22v, Lima.
- Cummins, T. B. F.
- 2002 *Toasts with the Inca: Andean abstraction and colonial images on kero vessels*. University of Michigan Press, Ann Arbor.
 - 2008 The felicitous legacy of the Lanzón. In *Chavín, art architecture and culture*, edited by W. J. Conklin and J. Quilter, 279–304. Cotsen Institute of Archaeology, UCLA, Los Angeles.
 - 2012 I saw it with my own eyes: the three illustrated manuscripts of colonial Peru fit for a king. In *Colors between two worlds*, edited by L.A. Waldman, 335–366. Villa i Tatti, Florence.
 - 2013 *Dibujado de mi Mano*: Martín de Murúa as artist. In *The image of Peru: history and art, 1550–1880*. Getty Research Institute, Los Angeles.

- Cummins, T. B. F. and J. M. Ossio
2012 “Muchas veces dude Real Mag/aceptar esta dicha ympresa”: the task of making Martín de Murúa’s *La famosa historia de los Reyes Incas*. Les Presses Universitaires de Rennes, Rennes.
- Cuneo-Vidal, R.
1977 Historia de los Antiguos Cacicazgos del hereditarios sur del Perú. *Obras Completas*: 297–486.
- Cunliffe, R. J.
1977 *A lexicon of Homeric dialect*. Reprinted. University of Oklahoma Press, Norman. Originally published 1924, Blackie and Son Ltd., London.
- Curley, E. M. (editor)
1994 *A Spinoza reader: the ethics and other works*. Princeton University Press, Princeton, New Jersey.
- Cusihuamán, A.
1976 *Diccionario Quechua Cuzco-Collao*. Ministerio de Educación/Instituto de Estudios Peruanos, Lima.
- Cutler, A.
1994 Uses of luxury on the function of consumption and symbolic capital in Byzantine culture. In *Byzance et les images: cycle de conférences organisée au musée du Louvre par le Service Culturel du 5 octobre au 7 décembre 1992*, edited by A. Guillou and J. Durand, 289–327. La Documentation française, Paris.
- Cutler, A., and J. W. Nesbitt
1986 *L’arte Bizantina e il suo publico*. UTET, Torino.
- Cyphers Guillén, A.
1993 Women, rituals, and social dynamics at ancient Chalcatzingo. *Latin American Antiquity* 4(3):209–224.
- Cyphers, A.
2004 *Escultura Olmeca de San Lorenzo Tenochtitlán*. Instituto de Investigaciones Antropológicas, Universidad Nacional Autónoma de México, Mexico City.
- Daggett, R.
1991 Paracas: discovery and controversy. In *Paracas art and architecture: object and context in south coastal Peru*, edited by A. Paul, 35–60. University of Iowa Press, Iowa City.
1994 The Paracas mummy bundles of the great necropolis of Wari Kayan: a history. *Andean Past* 4:53–75.
- Dahl, J.
2006 Review of T. Sharlach, *Provincial taxation*. *Journal of the American Oriental Society* 126:77–88.
- Dakoronia, Ph.
1989 Κρίκοι: Προνομισματικές μορφές γεωμετρικής έποχής. *Archaiologike Ephemeris* 128:115–120.
- Dalton, G.
1977 Aboriginal economies in stateless societies. In *Exchange systems in prehistory*, edited by T. K. Earle and J. E. Ericson, 191–192. Academic Press, New York.
- D’Altroy, T. N.
1987 Transitions in power: centralization of Wanka political organization under Inka rule. *Ethnohistory* 34:78–102.
1992 *Provincial power in the Inka Empire*. Smithsonian Institution Press, Washington, D.C.
2001a The cultural setting. In *Empire and domestic economy*, edited by T. N. D’Altroy and C. A. Hastorf, 27–53. Kluwer Academic, New York.
2001b Politics, resources, and blood in the Inka Empire. In *Empires: perspectives from archaeology and history*, edited by S. E. Alcock, T. N. D’Altroy, K. D. Morrison, and C. M. Sinopoli, 201–226. Cambridge University Press, Cambridge.
2002 *The Incas*. Blackwell Publishing, Malden, Massachusetts.
- D’Altroy, T. N., and T. K. Earle.
1985 Staple finance, wealth finance, and storage in Inka political economy. *Current Anthropology* 26:187–206.
- D’Altroy, T. N., and C. Hastorf (editors)
2001 *Empire and domestic economy*. Kluwer Academic, New York.
- Daressy, G.
1909 *Cervueils des cachettes royales, CG nos. 61001–61044*. Institut français d’archéologie orientale, Cairo.
- Darvill, T.
2009 Beyond Stonehenge: seeking the start of the bluestone trail. In *Megalithic quarrying: sourcing, extracting and manipulating the stones*, edited by C. Scarre, 45–52. Archaeopress, Oxford.
- David, B., and J. Thomas (editors)
2008a *Handbook of landscape archaeology*. Left Coast Press, Walnut Creek, California.
2008b Landscape archaeology: introduction. In *Handbook of landscape archaeology*, edited by B. David and J. Thomas, 27–43. Left Coast Press, Walnut Creek, California.

- Davis, F.
1991 Herbert Blumer and the study of fashion: a reminiscence and a critique. *Symbolic Interaction* 14(1):1–21.
- Davis, W.
1987 Replication and depiction in Paleolithic art. *Representations* 19:111–147.
2004 *The lost Amazon: the photographic journey of Richard Evans Schultes*. Chronicle Books, San Francisco.
- Dawson, L. E.
1979 Painted cloth mummy masks of Ica, Peru. In *The Junius B. Bird pre-Columbian textile conference*, edited by A. P. Rowe, E. P. Benson, and A.-L. Schaffer, 83–104. Textile Museum and Dumbarton Oaks, Washington, D.C.
- Day, C.
1973 *The Jacaltec language*. Indiana University Press, Bloomington.
- Dearborn, D. S. P., M. T. Seddon, and B. S. Bauer
1998 The sanctuary of Titicaca: where the sun returns to earth. *Latin American Antiquity* 9:240–258.
- DeBord, G.
1994 *The society of the spectacle*. Verso, New York.
- de Garis Davies, N.
1925 *The tomb of the two sculptors at Thebes*. Metropolitan Museum of Art, New York.
- de Genouillac, H.
1924 Choix de textes économiques de la collection Pupil. *Babyloniaca* 8:37–40, plates 3–9.
- Dehn, W., P. Kalb, and W. Vortisch
1991 Geologisch-petrographische Untersuchungen an Megalithgräbern Portugals. *Madriider Mitteilungen* 32:1–28.
- Deimel, A.
1916 Die Rangordnung unter den Tempelverwaltern in Lagaš zur Zeit der Könige von Ur. *Mitteilungen der vorderasiatisch-ägyptischen Gesellschaft* 21:226–232.
- Delehay, H. (editor)
1913 Vita S. Danielis Stylitae. *Analecta Bollandiana* 32:121–216.
- DeLeonardis, L.
2000 The body context: interpreting early Nasca decapitated burials. *Latin American Antiquity* 11(4):363–386.
- DeLeonardis, L., and G. Lau
2004 Life, death, and ancestors. In *Andean archaeology*, edited by H. Silverman, 77–115. Blackwell Studies in Global Archaeology. Blackwell Press, Malden, Massachusetts.
- Del Pozo F., C. Arturo
1988 *Guía de antropológica física: Paracas*. Organización de Estados Americanos, Consejo Nacional de Ciencia y Tecnología, Museo Nacional de Antropología y Arqueología, Lima.
- DeMarrais, E.
2001 The architecture and organization of Xauxa settlements. In *Empire and domestic economy*, edited by T. N. D'Altroy and C. A. Hastorf, 115–154. Kluwer Academic, New York.
- DeMello, M.
2007 *Encyclopedia of body adornment*. Greenwood Press, Westport, Connecticut.
- de Polignac, F.
1995 *Cults, territory and the origins of the Greek city-state*. University of Chicago Press, Chicago.
- Devall, B.
2001 The deep, long-range ecology movement. *Ethics and the Environment* 6(1):18–41.
- Devlin, Z.
2007 *Remembering the dead in Anglo-Saxon England: memory theory in archaeology and history*. BAR British Series 446. British Archaeological Reports, Oxford.
- Dewey, J.
1989 [1934] *Art as experience*, edited by J. A. Boydston, et al. (=John Dewey, *the later works, 1925–1953*. Vol. 10 [1934]). Southern Illinois University, Carbondale, Illinois.
- Dietz, S.
1991 *The Argolid at the transition to the Mycenaean age: studies in the chronology and cultural development in the Shaft Grave period*. National Museum of Denmark, Copenhagen.
- Diez de San Miguel, G.
1964 [1567] *Visita becha a la provincia de Chucuito*. Casa de Cultura, Lima.

- Di Fabio, C.
2005 Bisanzio à Genova fra XII e XIV secolo. Documneti e memorie d'arte. In *Genova e l'Europa mediterranea: opere, artisti, committenti, collezionisti*, edited by P. Boccardo and C. Di Fabio, 41–67. Silvana Editoriale, Genoa.
- Dissanayake, E.
1992 *Homo aestheticus: where art comes from and why*. Free Press, New York.
- Dobres, M.-A., and C. R. Hoffman (editors)
1999 *The social dynamics of technology: practice, politics and world views*. Smithsonian Institution, Washington, D.C.
- Dobres, M.-A., and J. E. Robb (editors)
2000 *Agency in archaeology*. Routledge, London.
- Donnan, C. B.
1997 Deer hunting and combat: parallel activities in the Moche world. In *The spirit of ancient Peru*, edited by K. Berrin, 50–59. Fine Arts Museum of San Francisco, San Francisco.
2007 *Moche tombs at Dos Cabezas*. Cotsen Institute of Archaeology, University of California, Los Angeles.
- Donnan, C. B., D. A. Scott, and T. Braken
2008 Moche forms for shaping sheet metal. In *The art and archaeology of the Moche*. S. Bourget and K. L. Jones, eds. University of Texas Press, Austin.
- Dorsey, G.
1901 *Archaeological investigations on the island of La Plata, Ecuador*. Field Columbian Museum Publication 56, Anthropological Series 2 (5). Field Columbian Museum, Chicago.
- Douglas, M.
1990 Foreword: no free gifts. In *The gift: the form and reason for exchange in archaic societies*, by M. Mauss, translated by W. D. Halls, vii–xviii. Norton, New York.
- Douglas, M., and B. Isherwood
1979 *The world of goods: towards an anthropology of consumption*. Allen Lane, London.
1996 [1979] *The world of goods: towards an anthropology of consumption*. Routledge, London.
- Drengson, A., and Y. Inoue (editors)
1995 *The deep ecology movement: an introductory anthology*. North Atlantic Books, Berkeley.
- Drijvers, J. W.
1992 *Helena Augusta: the mother of Constantine the Great and the legend of her finding of the True Cross*. E. J. Brill, Leiden.
- Dumont, L.
1967 *Homo hierarchicus, essai sur le système des castes*. Gallimard, Paris.
1982 On value. *Proceedings of the British Academy* 66:207–241.
1986 *Essays on individualism: modern ideology in anthropological perspective*. University of Chicago Press, Chicago.
- Dunand, F., and R. Lichtenberg
1994 *Mummies: a voyage through eternity*. Harry N. Abrams, New York.
- Dunbabin, T. J.
1948 *The western Greeks: the history of Sicily and south Italy from the foundation of the Greek colonies to 480 B.C.* Oxford University Press, Oxford.
- Duploux, A.
2002 L'aristocratie et la circulation des richesses. Apport de l'histoire économique à la définition des élites grecques. *Revue Belge de Philologie et d'Histoire* 80:5–24.
- Durkheim, E.
1893 *De la division du travail social: étude sur l'organisation des sociétés supérieures*. Alcan, Paris.
1912 *Les formes élémentaires de la vie religieuse*. Alcan, Paris.
- Durkheim, E., and M. Mauss
1963 [1903] De quelques formes primitives de classification: contribution à l'étude des représentations collectives, translated by R. Needham. University of Chicago Press, Chicago. Originally published in *Année sociologique* 6.
- Duviols, P.
1979a La dinastía de los Inca: monarquía o diarquía? *Journal de la Société des Americanistes* 64:67–83.
1979b Un symbolisme de l'occupation, de l'aménagement et de l'exploitation de l'espace. Le monolithe huanca et sa fonction dans les Andes préhispaniques. *L'Homme* 19(2): 7–31.
- Dwyer, E. B.
1971 The early Inca occupation of the Valley of Cuzco, Peru. Unpublished Ph.D. dissertation, University of California, Berkeley.

- Edwards, I. E. S.
1938 *A handbook to the Egyptian mummies and coffins exhibited in the British Museum*. British Museum, London.
- Eiss, P. K., and D. Pedersen
2002 Introduction: values of value. *Cultural Anthropology* 17:283–290.
- Einzig, P.
1948 *Primitive money*. Eyre and Spottiswoode, London.
- Eliade, M.
1964 *Shamanism: arcaic techniques of ecstasy*. Princeton University Press, Princeton, New Jersey.
- Elvin, M.
2004 *The retreat of the elephants: an environmental history of China*. Yale University Press, New Haven, Connecticut.
- Engel, F.
1957 Early sites in the Pisco Valley of Peru: Tambo Colorado. *American Antiquity* 23:34–45.
1966 *Paracas: cien siglos de cultura peruana*. Librería Editorial Juan Mejía Baca, Lima.
1991 *Un desierto en tiempos prebispánicos*. Fondation pour l'Etude des Problemes de Terres Arides, Lima.
- Engel, F. (editor)
1981 *Prehistoric Andean ecology: man, settlement and environment in the Andes, the deep south*. Humanities Press for the Department of Anthropology, Hunter College, City University of New York, New York.
- Englund, R. K.
1990 *Organisation und Verwaltung der Ur III-Fischerei*. BBVO 10. Reimer Verlag, Berlin.
1991 Hard work: where will it get you? Labor management in Ur III Mesopotamia. *Journal of Near Eastern Studies* 50:255–280.
1995 Regulating dairy productivity in the Ur III period. *Orientalia* (n.s.) 64:377–429.
2003 The year: “Nissen returns joyous from a distant island”. *Cuneiform Digital Library Journal* 2003: 1
2009 The smell of the cage. *Cuneiform Digital Library Journal* 2009: 4.
2010 BU! In “*Why should someone who knows something conceal it?*” *Studies in Mesopotamian administrative and epistolary archives in honor of David I. Owen on his 70th birthday*, edited by A. Kleinerman and J. Sasson, 95–114. CDL Press, Bethesda.
2012 Versilberte Arbeit: Äquivalenzenfestsetzung in der Ur-III-Zeit. In *Wissenskultur im Alten Orient. Weltanschauung, Wissenschaften, Techniken, Technologien. Colloquien der Deutschen Orient-Gesellschaft* 4, edited by H. Neumann. Harrassowitz, Wiesbaden.
- Entwhistle, C.
2008 Late Roman and Byzantine weights and weighing equipment. In *The Oxford handbook of Byzantine studies*, edited by E. M. Jeffreys, 1–11. Oxford University Press, Oxford.
- Erbse, H. (editor)
1969–1988 *Scholia Graeca in Homeri Iliadem (Scholia Vetera)*. 7 vols. Walter de Gruyter, Berlin.
- Ericson, J., and T. Earle (editors)
1982 *Contexts for prehistoric exchange*. Academic Press, New York.
- Espinoza, W.
2008 Economía política y domestica del Tahuantinsuyo. In *Economía prehispanica*, edited by L. G. Lumbreras, P. Kaulicke, J. I. Santillana, and W. Espinoza, 315–426. Instituto de Estudios Peruanos, Lima.
- Estete, M. de
1918 [1535] Noticia del Perú. *Boletín de la Sociedad Ecuatoriana de Estudios Históricos Americanos* 1(3):312–335.
- Evangelatou, M.
2003 The purple thread of the flesh: the theological connotations of a narrative iconographic element in Byzantine images of the Annunciation. In *Icon and word: the power of images in Byzantium. Studies presented to Robin Cormack*, edited by A. Eastmond and L. James, 261–279. Ashgate, Burlington, Vermont.
- Evans, A.
1928 *The palace of Minos at Knossos: a comparative account of the successive stages of the early Cretan civilization as illustrated by the discoveries at Knossos*, vol. 2. MacMillan, London.
1930 *The palace of Minos at Knossos: a comparative account of the successive stages of the early Cretan civilization as illustrated by the discoveries at Knossos*, vol. 3. MacMillan, London.
1935 *The palace of Minos at Knossos: a comparative account of the successive stages of the early Cretan civilization as illustrated by the discoveries at Knossos*, vol. 4. MacMillan, London.
- Evans, H. C., and W. D. Wixom (editors)
1997 *The glory of Byzantium: art and culture of the middle Byzantine era, AD 843–1261*. Abrams, New York.
- Evans, J. G.
2005 Memory and ordination: environmental archaeology in the tells. In *(Un)settling the Neolithic*, edited by D. Bailey, A. Whittle, and V. Cummings, 112–125. Oxbow Books, Oxford.

- Evans-Pritchard, E. E.
 - 1940 *The Nuer: the political institutions of a Nilotic people*. Clarendon Press, Oxford.
 - 1951 *Kinship and marriage among the Nuer*. Clarendon Press, Oxford.
- Falcone, C.
 - 1996 Il "Pallio" bizantino di San Lorenzo a Genova: una riconsiderazione. *Arte cristiana* 84:337–352.
- Fanon, F.
 - 1967 *A dying colonialism*. Grove Press, New York City.
- Farrington, I. S., and J. Zapata
 - 2003 Nuevos canones de arquitectura inka: investigaciones en el sitio de Tambokancha-Tumibamba, Jaquijahuana, Cuzco. In *Identidad y transformación en el Tawantinsuyu y en los Andes Coloniales: perspectivas arqueológicas y etnohistóricas, segunda parte*, vol. 7, edited by P. Kaulicke, G. Urton, and I. Farrington, 57–78. Boletín de Arqueología PUCP, Lima.
- Faust, K. A., and C. T. Halperin
 - 2009 Approaching Mesoamerican figurines. In *Mesoamerican figurines: small-scale indices of large-scale social phenomena*, edited by C.T. Halperin, K. A. Faust, R. Taube, and A. Giguet, 1–22. University Press of Florida, Gainesville.
- Feld, S., and K. H. Basso (editors)
 - 1996 *Senses of place*. School of American Research, Santa Fe, New Mexico.
- Feldman, R.
 - 1980 Aspero, Peru: architecture, subsistence economy, and other artifacts of a preceramic maritime chiefdom. Unpublished Ph.D. dissertation, Harvard University, Cambridge, Massachusetts.
 - 1985 Preceramic corporate architecture: evidence for the development of non-egalitarian social systems in Peru. In *Early ceremonial architecture in the Andes*, edited by C. B. Donnan, 71–92. Dumbarton Oaks Research Library and Collection, Washington, D.C.
- Fentress, E.
 - 2000 *Romanization and the city: creation, transformations, and failures*. Journal of Roman Archaeology Supplementary Series 38. Journal of Roman Archaeology, Portsmouth, Rhode Island.
- Ferguson, N.
 - 2001 *The cash nexus: money and power in the modern world, 1700–2000*. Allen Lane, Harmondsworth, UK.
- Ferrari, G.
 - 2008 *Alcman and the cosmos of Sparta*. University of Chicago Press, Chicago.
- Field, D.
 - 2005 Some observations on perception, consolidation and change in a land of stones. In *The Avebury landscape: aspects of the field archaeology of the Marlborough Downs*, edited by G. Brown, D. Field, and D. McOmish, 87–94. Oxbow Books, Oxford.
- Figueira, T. J.
 - 1998 *The power of money: coinage and politics in the Athenian empire*. University of Pennsylvania Press, Philadelphia.
- Finley, M. I.
 - 1970 Aristotle and economic analysis. *Past and Present* 47:3–25.
 - 1973 *The ancient economy*. Chatto and Windus, London.
- Fiskesjö, M.
 - 1990 The disappearance of the elephant and the rhinoceros from ancient China. In *Tobo Gakkai International Conference of Orientalists in Japan 35*, Tokyo.
 - 2001 Rising from blood stained fields: royal hunting and state formation in Shang China. *Bulletin of the Museum of Far Eastern Antiquities* 73:49–191.
- Flad, R. K.
 - 2007 Rethinking specialization in the context of salt production in prehistoric Sichuan. In *Rethinking craft specialization in complex societies: archaeological analyses of the social meaning of production*, edited by Z. X. Hruby and R. K. Flad, 107–128. American Anthropological Association, Arlington, Virginia.
- Flad, R. K. and Z. X. Hruby
 - 2007 "Specialized" production in archaeological contexts: rethinking specialization, the social value of products, and the practice of production. In *Rethinking craft specialization in complex societies: archaeological analyses of the social meaning of production*, edited by Z. X. Hruby and R. K. Flad, 1–19. American Anthropological Association, Arlington, Virginia.
- Fleming, A.
 - 1973 Tombs for the living. *Man* 8:177–193.
 - 1999 Phenomenology and the megaliths of Wales: a dreaming too far? *Oxford Journal of Archaeology* 18:119–125.
 - 2005 Megaliths and post-modernism: the case of Wales. *Antiquity* 29:921–932.

- 2006 Post-processual landscape archaeology: a critique. *Cambridge Archaeological Journal* 16:267–280.
- Follensbie, B. J. A.
 2009 Formative period Gulf coast ceramic figurines: the key to identifying sex, gender, and age groups in Gulf coast Olmec imagery. In *Mesoamerican figurines: small-scale indices of large-scale social phenomena*, edited by C. T. Halperin, K. A. Faust, R. Taube, and A. Giguet, 77–118. University Press of Florida, Gainesville.
- Forde, N. W.
 1964 *The Sumerian DAM-KAR-E-NE of the Third Ur Dynasty*. University Microfilms, Ann Arbor.
- Forstemann, E.
 1906 *Commentary on the Maya manuscript in the Royal Public Library of Dresden*. Papers of the Peabody Museum. Peabody Museum of Archaeology and Ethnology, Cambridge, Massachusetts.
- Foster, R. J.
 1990 Value without equivalence: exchange and replacement within a Melanesian society. *Man* 25:54–69.
- Foucault, M.
 1990 *Histoire de la sexualité*, vol. 1, translated by R. Hurley. Vintage Books, New York.
- Fowler, B.
 2000 *Ice-man: uncovering the life and times of a prehistoric man found in an Alpine glacier*. Random House, New York.
- Frame, M.
 2003–2004 What the women were wearing: a deposit of early Nasca dresses and shawls from Cahuachi, Peru. *Textile Museum Journal* 42–43:13–53.
- Frantz, A.
 1988 *The Athenian Agora*. Vol. 24: late antiquity, A.D. 267–700. American School of Classical Studies at Athens, Princeton, New Jersey.
- Frézier, A. F.
 1717 *A voyage to the south sea and along the coasts of Chili and Peru, in the years 1712, 1713, and 1714*. Jonah Bowyer, London.
- Frings, J., and H. Willinghöfer (editors)
 2010 *Byzance: Pracht und Alltag, Kunst- und Ausstellungshalle der Bundesrepublik Deutschland, Bonn, 26. Februar bis 13. Juni 2010*. Hirmer Verlag, Munich.
- Frontisi-Ducroux, F.
 2000 *Dédale: mythologie de l'artisan en Grèce ancienne*. 2nd ed. Éditions La Découverte, Paris.
- Fulghum, M., and F. Heintz
 1998 A hoard of early Byzantine glass weights from Sardis. *American Journal of Numismatics* (2nd series) 10:105–120.
- Furtwängler, A.
 1890 *Olympia IV. Die Bronze und die übrigen kleineren Funde von Olympia*. Walter de Gruyter, Berlin.
- Furumark, A.
 1972 *Mycenaean pottery I: analysis and classification*. Swedish Institute at Athens, Stockholm.
- Gallou, C.
 2005 *The Mycenaean cult of the dead*. BAR International series 1372. British Archaeological Reports, Archaeopress, Oxford.
- Gansu and Jilin 甘肅省文物考古研究所 and 吉林大學北方考古研究室
 1998 民樂東灰山考古—四壩文化墓地的揭示與研究 (*The archaeology of Donghuisan in Minle—research and interpretation of the Siba culture cemetery*). Kexue chubanshe, Beijing.
- García Moll, R., D. Juárez Cossio, C. Pijoan Aguade, M. E. Salas Cuesta, and M. Salas Cuesta
 1991 *Catálogo de entierros de San Luis Tlatilco, México, Temporada IV*. Serie Antropología Física-Arqueología. Instituto Nacional de Antropología e Historia, Mexico City.
- García Moll, R. and M. Salas Cuesta
 1998 *Tlatilco: de mujeres bonitas, hombres y dioses*. Círculo de Arte, Mexico City.
- García Soto, R.
 1996 Excavación de emergencia en el sitio arqueológico de Cabeza Larga, Paracas. Unpublished manuscript in possession of the author.
- Garcilaso de la Vega, I.
 1965 [1609] Los comentarios reales de los Incas. In *Obras completas*, edited by C. Sáez de Santa María. Biblioteca de Autores Españoles 132–135. Ediciones Atlas, Madrid.
 1966 [1609] *Royal commentaries of the Incas*. University of Texas Press, Austin.
 1990 [1609] *Comentarios reales de los Incas*. Editorial Porrúa, Mexico City.

- Gasché, R.
1997 Heliocentric exchange. In *The logic of the gift: toward an ethic of generosity*, edited by A.D. Schrift, 100-117. Routledge, New York.
- Gasparini, G., and L. Margolies
1980 *Inca architecture*. University of Indiana Press, Bloomington.
- Geary, P. J.
1978 *Furta sacra: thefts of relics in the central middle ages*. Princeton University Press, Princeton.
1986 Sacred commodities: the circulation of medieval relics. In *The social life of things: commodities in cultural perspective*, edited by A. Appadurai, 169-191. Cambridge University Press, Cambridge.
- Geertz, C.
1973 *The interpretation of cultures*. Basic Books, New York.
- Gelb, I. J.
1965 The ancient Mesopotamian ration system. *Journal of Near Eastern Studies* 24:230-243.
- Gell, A.
1992 The technology of enchantment and the enchantment of technology. In *Anthropology, art and aesthetics*, edited by J. Coote and A. Shelton, 40-67. Oxford University Press, Oxford.
1993 *Wrapping in images: tattooing in Polynesia*. Oxford University Press, Oxford.
1995 On Coote's "marvels of everyday vision." In *Too many meanings: a critique of the anthropology of aesthetics*, edited by J. F. Weiner, special issue, *Social Analysis* 38:18-31.
1998 *Art and agency: an anthropological theory*. Clarendon Press, Oxford.
- Gemici, K.
2008 Karl Polanyi and the antinomies of embeddedness. *Socio-Economic Review* 6: 5-33.
- Gernet, L.
1982 [1948] La notion mythique de la valeur. In *Anthropologie de la Grèce antique*, 121-179. Flammarion, Paris. Originally published in *Journal de psychologie* 41:415-462.
- Gibaja Oviedo, A. M.
1982 La ocupación neoinca del valle de Urubamba. In *Arqueología de Cuzco*, edited by I. Oberto, 81-93. INC, Cuzco.
1984 Requencia cultural de Ollantaytambo. In *Current archaeological projects in the central Andes*, edited by A. E. Kendall, 225-246. BAR International Series 210. British Archaeological Reports, Oxford.
- Giddens, A.
1979 *Central problems in social theory: action, structure and contradiction in social analysis*. Macmillan, London.
- Gillespie, S. D.
1987 Distributional analysis of Chalcatzingo figurines. In *Ancient Chalcatzingo*, edited by D. C. Grove, 264-270. University of Texas Press, Austin.
- Gillings, M.
2007 The Ecsegfalva landscape: affordance and inhabitation. In *The Early Neolithic on the great Hungarian Plain: investigations of the Körös culture site of Ecsegfalva 23, County Békés.*, edited by A. Whittle, 31-46. Varia Archaeologia Hungarica 21. Institute of Archaeology, Budapest
- Gimbutas, M.
1982 *The goddesses and gods of old Europe*. University of California Press, Berkeley.
- Glave, L. M.
1989 *Trajinantes caminos indígenas en la sociedad colonial siglos XVI/XVII*. Instituto de Apoyo Agrario, Lima.
- Goetze, A.
1948 Umma texts concerning reed mats. *Journal of Cuneiform Studies* 2:165-202.
- Godelier, M.
1977 The concept of "social and economic formation:" the Inca example. In *Perspectives in Marxist anthropology*, edited by M. Godelier, 63-69. Cambridge University Press, Cambridge.
1999 *The enigma of the gift*. University of Chicago Press, Chicago.
- Goldsworthy, A.
2000 *Roman warfare*. Cassell, London.
- Gombrich, E. H.
1985 [1963] Meditations on a hobby horse or the roots of artistic form. In *Meditations on a hobby horse and other essays on the theory of art*. 4th ed. Phaidon Press, Oxford.
- Gomi (Ozaki), T.
1980 On dairy productivity at Ur in the Late Ur III period. *Journal of the Economic and Social History of the Orient* 23:1-42.

- 1984 On the critical economic situation at Ur early in the reign of Ibbisin. *Journal of Cuneiform Studies* 36:211–242.
- Gonzales Corrales, J. A.
 - 1984 La arquitectura y cerámica Killke del Cuzco. In *Current archaeological projects in the central Andes: some approaches and results. Proceedings of the 44th International Congress of Americanists*, edited by A. E. Kendall, 189–204. BAR International Series 210. British Archaeological Reports, Oxford.
- González Holguín, D. de
 - 1952 [1608] *Vocabulario de la lengua general de todo el Perú llamada lengua Qquichua o del Inca*. Universidad Nacional Mayor de San Marcos, Lima.
 - 1989 [1608] *Vocabulario de la lengua general de Todo Perú llamada Qquichua o del Inca*. Universidad de San Marcos, Lima.
- Gorini, G.
 - 1996 Coinage. In *The western Greeks*, edited by G. Pugliese Carratelli, 223–232. Thames and Hudson, London.
- Gosden, C.
 - 2005 What do objects want? *Journal of Archaeological Method and Theory* 12(3):193–211.
- Gosden, C., and Y. Marshall
 - 1999 The cultural biography of objects. *World Archaeology* 31(2):169–178.
- Gose, P.
 - 1996 The past is a lower moiety: diarchy, history, and divine kingship in the Inka Empire. *History and Anthropology* 9(4):383–414.
 - 2000 The state as a chosen woman: brideservice and the feeding of tributaries in the Inka Empire. *American Anthropologist* 102:84–97.
- Gould, R. A.
 - 1966 The wealth quest among the Tolowa Indians of northwestern California. *Proceedings of the American Philosophical Society* 110(1):67–89.
- Graeber, D.
 - 2001 *Toward an anthropological theory of value: the false coin of our own dreams*. Palgrave, New York.
- Graham, D. C.
 - 1933–34 A preliminary report of the Hanchou excavation. *Journal of the West China Border Research Society* 6:114–131.
- Graham, I.
 - 1997 *Corpus of Maya hieroglyphic inscriptions*. Vol. 8, part 1: *Coba*. Peabody Museum of Archaeology and Ethnology, Cambridge, Massachusetts.
- Graham, I., L. Henderson, P. Mathews, and D. Stuart
 - 2006 *Corpus of Maya hieroglyphic inscriptions*. Vol. 9, part 2: *Tonina*. Peabody Museum of Archaeology and Ethnology, Cambridge, Massachusetts.
- Grajetzki, W.
 - 2003 *Burial customs in ancient Egypt: life in death for rich and poor*. Duckworth Egyptology, London.
- Granet, M.
 - 1968 [1934] *La pensée chinoise. L'évolution de l'humanité*. Albin Michel, Paris.
- Granovetter, M.
 - 1985 Economic action and social structure: the problem of embeddedness. *American Journal of Sociology* 91:481–510.
- Greco, E.
 - 1990 Serdaioi. *A.I.O.N. Annali di archeologia e storia antica. Dipartimento di studi del mondo classico e del mediterraneo antico* 12:39–57.
- Green, C. P.
 - 1997 The provenance of rocks used in the construction of Stonehenge. In *Science and Stonehenge*, edited by B. Cunliffe and C. Renfrew, 257–270. Oxford University Press, Oxford.
- Green, S. W., and S. M. Perlman
 - 1985 Frontiers, boundaries, and open social systems. In *The archaeology of frontiers and boundaries*, edited by S. W. Green and S. M. Perlman, 3–13. Academic Press, London.
- Greenewalt, C. H.
 - 1998 The Sardinia campaigns of 1994 and 1995. *American Journal of Archaeology* 102(3):469–505.
- Gregory, C. A.
 - 1980 Gifts to men and gifts to gods: gift exchange and capital accumulation in contemporary Papua. *Man* (n.s.) 15(4):626–652.
 - 1982 *Gifts and commodities*. Academic Press, New York.

- 1998 *Savage money: the anthropology and politics of commodity exchange*. Harwood Publishers, Amsterdam.
- Gregory, D.
 - 1994 *Geographical imaginations*. Blackwell, Oxford.
- Grieder, T., A. Bueno Mendoza, C. E. Smith Jr., and R. Malina
 - 1988 *La Galgada, Peru: a preceramic culture in transition*. University of Texas Press, Austin.
- Grierson, P., and M. Mays
 - 1992 *Catalogue of late Roman coins in the Dumbarton Oaks Collection and in the Whittemore Collection: from Arcadius and Honorius to the accession of Anastasius*. Dumbarton Oaks Research Library and Collection, Washington, D.C.
- Grove, D. C.
 - 1989 Olmec: what's in a name? In *Regional perspectives on the Olmec*, edited by R. J. Sharer and D. C. Grove, 8–14. Cambridge University Press, New York.
- Grueber, H. A.
 - 1910 *Coins of the Roman Republic in the British Museum*. British Museum, London.
- Guaman, I
 - 1614 Testamento de Ines Guaman, viuda del Pueblo de San Bartolomé de Guacho, 1614, “Testamentos de Indios” Archivo General de la Nación, Lima.
- Guaman Poma de Ayala, F.
 - 1615 *El primer nueva corónica y buen gobierno* in København, Det Kongelige Bibliotek, GKS 2232 4º.
 - 1936 [1615] *Nueva corónica y buen gobierno*. Institut de Ethnologie, Paris.
 - 1980 [1615] *El primer nueva corónica y buen gobierno*, edited by J. Murra and R. Adorno, translated by J. Urioste. México Siglo XXI, Mexico City.
 - 1987 [1615–1616] *Nueva crónica y buen gobierno (tomo A)*. Edición de J. V. Murra, Rolena Adorno y J. L. Urioste. Crónicas de América, no. 29. Historia 16. Madrid.
- Guarza, M.
 - 1608 Archivo General de la Nación, Lima, Testamentos de Indoios, 1608, “Testamento de María Guarza yndia natural de Santiago del Cercado, 23 de Mayo,” no fol. Archivo General de la Nación, Lima.
- Guchte, M. J. D. van de
 - 1990 Carving the world: Inca monumental sculpture and landscape. Unpublished Ph.D. dissertation, University of Illinois, Urbana-Champaign.
- Guevara, F. de,
 - 1788 [1560] *Comentarios de la pintura que escribió don Felipe de Guevara, Gentil-hombre de boca del Señor Emperador Carlos Quinto Rey de España. Se publican por primera vez con un discurso preliminar y algunas notas de Don Antonio Ponz, quien ofrece su trabajo al excelentísimo Conde de Florida Blanca. Protector de las nobles artes*. Don Geronimo Ortega, Hijos de Ibarra y Compañía, Madrid.
- Gulyás, S., A. Tóth, and P. Sümegi
 - 2007 The zooarchaeological analysis of freshwater bivalve shells and their relevance regarding the life of a Neolithic community. In *The Early Neolithic on the great Hungarian Plain. Investigations of the Körös culture site of Ecsegfalva 23, County Békés.*, edited by A. Whittle, 395–412. Varia Archaeologia Hungarica 21. Institute of Archaeology, Budapest.
- Guo Shuchun 郭書春
 - 1984 Analysis of the concept of *lǚ* and its uses in *The Nine Chapters on Mathematical Procedures* and Liu Hui's commentary 《九章算術》和劉徽注中之率概念及其應用試析 (*Jiū zhāng suān shù hé Liú Huì zhū zhōng zī lǚ gāinián jī qí yīngyòng shìxī*). *Journal for the history of science and technology* 科技史集刊 (*Kejishi Jikan*) 11:21–36.
- Guthrie, S. E.
 - 1993 *Faces in the clouds: a new theory of religion*. Oxford University Press, New York.
- Guyer, J.
 - 2004 *Marginal gains: monetary transactions in Atlantic Africa*. University of Chicago Press, Chicago.
- Gwinnett, A. J., and L. Gorelick
 - 1989 *A functional analysis of beads from Sipán*. Manuscript on file in the Moche Archive, University of California, Los Angeles.
- Habinek, T. N.
 - 2005 *The world of Roman song: from ritualized speech to social order*. Johns Hopkins University Press, Baltimore.
- Haeberlin, E. J.
 - 1910 *Aes Grave. Das Schwergeld Roms und Mittelitaliens*. Joseph Baer, Frankfurt am Main.
- Halbwachs, M.
 - 1941 *La topographie légendaire des évangiles en terre sainte: étude de mémoire collective*. Alcan, Paris.

- 1992 *On collective memory*, translated by L. A. Coser. University of Chicago Press, Chicago.
- Halstead, P.
 - 1995 Late Bronze Age grain and Linear B ideograms *65, *120, and *121. *Annual of the British School at Athens* 90:229–234.
- Hamilakis, Y., M. Pluciennik, and S. Tarlow (editors)
 - 2002a Introduction: thinking through the body. In *Thinking through the body: archaeologies of corporeality*, edited by Y. Hamilakis, M. Pluciennik, and S. Tarlow, 1–21. Kluwer Academic/Plenum Publishers, New York.
 - 2002b *Thinking through the body: archaeologies of corporeality*. Kluwer Academic/Plenum Publishers, New York.
- Hanfmann, G.
 - 1983 *Sardis from prehistoric to Roman times: results of the archaeological exploration of Sardis, 1958–1979*. Harvard University Press, Cambridge, Massachusetts.
- Hansen, P. A. (editor)
 - 1983–1989 *Carmina epigraphica graeca*. 2 vols. Walter de Gruyter, Berlin.
- Harris, A.
 - 2004 The early Byzantine retail economy and the shops of Sardis. In *Secular buildings and the archaeology of everyday life in the Byzantine Empire*, edited by K. Dark, 82–122. Oxbow Books, Oxford.
- Harsanyi, J. C.
 - 1974 An equilibrium point interpretation of stable sets. *Management Science* 20:1472–1495.
- Harsanyi, J. C., and R. Selten
 - 1988 *A general theory of equilibrium selection in games*. MIT Press, Cambridge, Massachusetts.
- Hastorf, C.
 - 1993 *Agriculture and the onset of political inequality before the Inka*. Cambridge University Press, Cambridge.
- Häusler, A.
 - 1990 Die ältesten Befestigungslagen im Südwesten des europäischen Teiles der UdSSR. *Jahresschrift für Mitteldeutsche Vorgeschichte* 73:87–92.
- Haviland, J. B.
 - 1981 *Sk'op Sotz'leb: el Tzotzil del San Lorenzo Zinacantan*. UNAM, Mexico City.
- Hayashi, M.
 - 1990 On the Chinese Neolithic jade Tsung/Cong. *Artibus Asiae* 50(1–2):5–22.
- Head, B. V.
 - 1911 *Historia numorum: a manual of Greek numismatics*. 2nd ed. Clarendon Press, Oxford.
- Heckel, W.
 - 2009 Alexander's conquest of Asia. In *Alexander the Great: a new history*, edited by W. Heckel and L.A. Tritttle, 26–52. Blackwell, Malden, Massachusetts.
- Heffernan, K.
 - 1996 *Limatambo: archaeology, history and the regional societies of Inca Cusco*. BAR International Series 644. British Archaeological Reports, Oxford.
- Heinmann, F.
 - 1987 [1945] *Nomos und Physis: Herkunft und Bedeutung einer Antithese im griechischen Denken des 5. Jahrhunderts*. Wissenschaftliche Buchgesellschaft, Darmstadt. First published by Schweizerische Beiträge zur Altertumswissenschaft I, Basel.
- Heinzelmann, M.
 - 1979 *Translationsberichte und andere Quellen des Reliquienkultes*. Typologie des sources du moyen âge occidental 33. Brepols, Turnhout.
- Helmer, M.
 - 1978 Notas sobre usos y costumbres en Potosí. *Collectanea Instituti Anthropos Amerikanistische Studien* 20:231–238.
- Helms, M. W.
 - 1988 *Ulysses' sail: an ethnographic odyssey of power, knowledge, and geographical distance*. Princeton University Press, Princeton, New Jersey.
 - 1993 *Craft and the kingly ideal: art, trade and power*. University of Texas Press, Austin.
- Heyerdahl, T., D. Sandweiss, and A. Narvaez
 - 1995 *Pyramids of Tucume*. Thames and Hudson, London.
- Herington, C. J.
 - 1985 *Poetry into drama: early tragedy and the Greek poetic tradition*. University of California Press, Berkeley
- Hertz, R.
 - 1960 [1907] *Death and the right hand*, translated by R. Needham and C. Needham. Free Press, New York. Originally published in *Année Sociologique* 10:48–137.

- Heubeck, A., S. West, and J. B. Hainsworth
1988 *A commentary on Homer's Odyssey*. Vol. 1: *Introduction and Books I–VIII*. Clarendon Press, Oxford.
- Hickey, D.
1993 *The invisible dragon. Four essays on beauty*. Art issues Press, Los Angeles.
- Higgins, R.
1981 *Minoan and Mycenaean art*. Thames and Hudson, London.
- Higgs, E. S. (editor)
1975 *Palaeoeconomy: papers in economic prehistory*. Cambridge University Press, Cambridge.
- Hilsdale, C.
2010 The imperial image at the end of exile: the Byzantine embroidered silk in Genoa and the treaty of Nymphaion (1261). *Dumbarton Oaks Papers* 64:151–199.
- Hirsch, E.
1995 Landscape: between place and space. In *The anthropology of landscape: perspectives on place and space*, edited by E. Hirsch and M. O'Hanlon, 1–30. Clarendon Press, Oxford.
- Hirsch, E., and M. O'Hanlon (editors)
1995 *The anthropology of landscape: perspective on place and space*. Clarendon Press, Oxford.
- Hodder, I.
1982a The identification and interpretation of ranking in prehistory: a contextual perspective. In *Ranking, resource and exchange*, edited by C. Renfrew and S. Shennan, 150–154. Cambridge University Press, Cambridge.
1982b Theoretical archaeology: a reactionary view. In *Symbolic and structural archaeology*, edited by I. Hodder, 1–18. Cambridge University Press, Cambridge.
- Hoff, M.
1989 Civil disobedience and unrest in Augustan Athens. *Hesperia* 59:267–276.
1997 *Laceratae Athenae*: Sulla's siege of Athens in 87/6 B.C. and its aftermath. In *The Romanization of Athens*, edited by M. Hoff and S. Rotroff, 185–200. Oxbow, Oxford.
- Hogarth, D. G.
1908 *Excavations at Ephesus: the Archaic Artemisia*. British Museum, London.
- Hollowell, J. L.
1987 Precision cutting and fitting of stone in prehistoric Andean walls. Unpublished research report 2832-84. Submitted to the National Geographic Society, Washington, D.C.
- Hoppin, J. C.
1919 *A handbook of Attic red-figured vases*, vol. 2. Harvard University Press, Cambridge, Massachusetts.
- Horden, P., and N. Purcell
2000 *The corrupting sea: a study of Mediterranean history*. Blackwell Publishers, Oxford.
- Horna, K.
1903 Die Epigramme des Theodoros Balsamon. *Wiener Studien* 25:165–217.
- Hoskins, J.
1998 *Biographical objects: how things tell the stories of peoples' lives*. Routledge, New York.
- Houston, S. D., and T. Cummins
2004 Body, presence, and space in Andean and Mesoamerican rulership. In *Palaces of the ancient New World*, edited by S. T. Evans and J. Pillsbury, 359–398. Dumbarton Oaks Research Library and Collection, Washington, D.C.
- Houston, S. D., and Z. Nelson
2001 *A thematic bibliography of ancient Maya writing*. Research Press at Brigham Young University, Provo, Utah.
- Houston, S. D., D. Stuart, and K. Taube
2006 *The memory of bones: body, being, and experience among the Classic Maya*. University of Texas Press, Austin.
- Howard-Malverde, R.
1990 *The speaking of history: "Willapaakushayki" or Quechua ways of telling the past*. Institute of Latin American Studies Research Papers no. 21. University of London, London.
- Howgego, C. J.
1990 Why did ancient states strike coins? *Numismatic Chronicle* 150:1–25.
1995 *Ancient history from coins*. Routledge, London.
- Hrozný, B.
1913 *Das Getreide im alten Babylonien I. Sitzungsberichte d. Kaiserlichen Akademie der Wissenschaften Wien, Philosophisch-historische Klasse* 173/1. Akademie der Wissenschaften, Vienna.

- Hruby, Z. X.
 2007 Ritualized chipped-stone production at Piedras Negras, Guatemala. In *Rethinking craft specialization in complex societies: archaeological analyses of the social meaning of production*, edited by Z. X. Hruby and R. K. Flad, 68–87. American Anthropological Association, Arlington, Virginia.
- Hubert, H., and M. Mauss
 1964 [1899] *Essai sur la nature et la fonction du sacrifice*, translated by W. D. Halls. Routledge, London. Originally published in *Année Sociologique* 2:29–138.
- Hulsewé, A. F. P.
 1985 *Remnants of Ch'in law* (Sinica Leidensia) Brill, Leiden.
 1993a Han shu 漢書. In *Early Chinese texts: a bibliographical guide*, edited by M. Loewe, 129–136. Society for the Study of Early China and the Institute of East Asian Studies, University of California, Berkeley.
 1993b Shih chi 史記. In *Early Chinese texts: a bibliographical guide*, edited by M. Loewe, 405–414. Society for the Study of Early China and the Institute of East Asian Studies, University of California, Berkeley.
- Hume, D.
 1778 *A treatise on human nature*, edited by L. A. Selby-Bigge, 2nd ed., with text revised and notes by P. H. Nidditch. Clarendon Press, Oxford.
- Hung, W.
 1995 *Monumentality in early Chinese art and architecture*. Stanford University Press, Stanford, California.
- Hunt, R.
 1865 *Popular romances of the west of England*. J. C. Hotten, London.
- Hurford, J. R.
 1975 *The linguistic theory of numerals*. Cambridge University Press, Cambridge.
 1987 *Language and number*. Basil Blackwell, Oxford.
- Hurwit, J. M.
 2004 *The Acropolis in the age of Pericles*. Cambridge University Press, Cambridge.
- Hutcheson, F.
 2004 [1725–1726] *An inquiry into the original of our ideas of beauty and virtue in two treatises*, edited by W. Leidhold. Liberty Fund, Indianapolis.
- Hyslop, J.
 1990 *Inka settlement planning*. University of Texas Press, Austin.
- Ikram, S., and A. Dodson
 1998 *The mummy in ancient Egypt: equipping the dead for eternity*. Thames and Hudson, London.
- Ingold, T.
 1993 The temporality of the landscape. *World Archaeology* 25:152–174.
 2000 *The perception of the environment: essays in livelihood, dwelling and skill*. London: Routledge.
- Inomata, T.
 2001 The power and ideology of artistic creation: elite craft specialists in Classic Maya society. *Current Anthropology* 42(2):321–350.
- Insoll, T.
 2006 Shrine franchising and the Neolithic in the British Isles: some observations based upon the Tallensi, northern Ghana. *Cambridge Archaeological Journal* 16:223–238.
- Irigaray, L.
 1997 Women on the market. In *The logic of the gift: toward an ethic of generosity*, edited by A.D. Schrifft, 174–189. Routledge, New York.
- Isbell, W. H.
 1997 *Mummies and mortuary monuments: a postprocessual history of central Andean social organization*. University of Texas Press, Austin.
- Isla Cuadrado, J.
 2009 From hunters to regional lords: funerary practices in Palpa, Peru. In *New technologies for archaeology: multidisciplinary investigations in Palpa and Nasca, Peru*, edited by M. Reindel and G. A. Wagner, 119–139. Springer-Verlag, Berlin.
- Isla Cuadrado, J., M. Reindel, and J. C. de la Torre
 2003 Juaranga: un sitio Paracas en el valle de Palpa, costa sur del Perú. *Beiträge zur Allgemeinen und Vergleichenden Archäologie* 23:227–274.
- Ivanov, I.
 1982 The Varna Chalcolithic necropolis. In *The first civilisation in Europe and the oldest gold in the world—Varna, Bulgaria*. Exhibition Catalog, Isetan Museum of Art, Tokyo. Nippon Television Cultural Network Cultural Society, Tokyo.

- Ixer, R. A., and P. Turner
2006 A detailed re-examination of the petrography of the Altar Stone and other non-sarsen sandstones from Stonehenge as a guide to their provenance. *Wiltshire Archaeological and Natural History Magazine* 99:1–9.
- Ixer, R. A. and R. E. Bevins
2010 The petrography, affinity and provenance of lithics from the Cursus Field, Stonehenge. *Wiltshire Archaeological and Natural History Magazine* 103, 1–15.
- Jackes, M., M. Roksandić, M., and C. Meiklejohn
2008 Demography of the Djerdap Mesolithic-Neolithic transition. In *The Iron Gates in prehistory: new perspectives*, edited by C. Bonsall, V. Boroneanț, and I. Radovanović, 77–88. BAR International Series 1893. Archaeopress, Oxford.
- Jackson, J. B.
1984 *Discovering the vernacular landscape*. Yale University Press, New Haven, Connecticut.
- Jacoby, D.
1991–1992 Silk in western Byzantium before the Fourth Crusade. *Byzantische Zeitschrift* 84–85:452–500
2004 Silk economics and cross-cultural artistic interaction: Byzantium, the Muslim world and the Christian West. *Dumbarton Oaks Papers* 58:197–240.
- Jacquemin, A.
1999 *Offrandes monumentales à Delphes*. École française d'Athènes, Paris.
- James, W.
2003 *The ceremonial animal: a new portrait of anthropology*. Oxford University Press, Oxford.
- Janusek, J.
2003 Changing face of Tiwanaku residential life: state and local identity in an Andean city. In *Tiwanaku and its hinterland: archaeology and paleoecology of an Andean civilization*, vol. 2, edited by A. L. Kolata, 264–295. Smithsonian Institution Press, Washington, D.C.
- Jeffery, L.H.
1990 *The local scripts of Archaic Greece: a study of the origin of the Greek alphabet and its development from the eighth to the fifth century B.C.* Revised ed., with a supplement by A.W. Johnston. Clarendon Press, Oxford.
- Jesuit, A.
1968 [1594] Relacion de las costumbres antiguas de los naturales del Peru. In *Biblioteca de autores Espanoles*, 151–189. Ediciones Atlas, Madrid.
- Jiang Yuxiang 江玉祥
1993 廣漢三星堆遺址出土的象牙 (The elephant tusks unearthed at the Sanxingdui site in Guanghan). In 三星堆與巴蜀文化 (*Sanxingdui and Ba Shu culture*), edited by Zhao Dianzeng 趙殿增 et al., 198–204. Ba Shu shushe, Chengdu.
- Jiang Zhanghua 江章華, Wang Yi 王毅, Jiang Cheng 蔣成, Zhang Qing 張擎, Sichuan Daxue Lishixi Kaogu Jiaoyanshi 四川大學歷史系考古教研室, and Zaodaotian (Wasada) Daxue Changjiang Liuyu Wenhua Yanjiusuo 早稻田大學長江流域文化研究所
2000 成都平原早期城址及其考古學文化初論 (Preliminary discussion of the early town wall remains in the Chengdu plain and their archaeological cultures). In 寶墩遺址：新津寶墩遺址發掘和研究 (*The Baodun site: excavations and research on the Baodun site in Xinjing*), edited by Chengdu, 99–121. Chengdu Shi Wenwu Kaogu Yanjiusuo, Chengdu.
- Ji Hongbing, C. Li, and J. Wen
1997 Source of ore-forming material and metallogenic age of the Zheboshan gold deposit, western Sichuan Province, China. *Chinese Science Bulletin* 43(8):684–690.
- Jochim, M. A.
1976 *Hunter-gatherer subsistence and settlement: a predictive model*. Academic Press, New York.
- Johnson, M.
2002 *Behind the castle gate: from medieval to Renaissance*. Routledge, London.
- Johnston, A.
1990 *The coinage of Metapontum III*. American Numismatic Society, New York.
- Johnstone, P.
1976 The Byzantine “Pallio” in the Palazzo Bianco at Genoa. *Gazette des Beaux-Arts* 87:99–108.
- Jonaitis, A. (editor)
1991 *Chieftly feasts: the enduring Kwakiutl potlatch*. University of Washington Press, Seattle.
- Jones, A.
2007 *Memory and material culture*. Cambridge University Press, Cambridge.
2008 How the dead live: mortuary practices, memory and the ancestors in Neolithic and Early Bronze Age Britain and Ireland. In *Prehistoric Britain*, edited by J. Pollard, 177–201. Blackwell, Oxford.

- Joyce, R.
 2000 *Gender and power in prehispanic Mesoamerica*. University of Texas Press, Austin.
 2005 Archaeology of the body. *Annual Review of Anthropology* 34:139–158.
- Julien, C.
 1988 How Inca decimal administration worked. *Ethnohistory* 35:257–279.
 1993 Finding a fit: archaeology and ethnohistory of the Incas. In *Provincial Inca: archaeological and ethnohistorical assessment of the impact of the Inca state*, edited by M. Malpass, 177–233. University of Iowa Press, Iowa City.
 2000 *Reading Inca history*. University of Iowa Press, Iowa City.
 2004 Las tumbas de Sacsahuaman y el estilo Cuzco-Inca. *Ñawpa Pacha* 25–27:1–125.
- Kahn, C. H.
 1966 Sensation and consciousness in Aristotle's psychology. *Archiv für Begriffsgeschichte* 48(1):43–81.
- Kalavrezou, I.
 1997 Luxury objects. In *The glory of Byzantium*, edited by H. Evans and W.D. Wixom, 219–223. The Metropolitan Museum of Art, New York.
- Kalavrezou, I. (editor)
 2003 *Byzantine women and their world*. Yale University Press, New Haven, Connecticut.
- Kalb, P.
 1996 Megalith-building, stone transport and territorial markers: evidence from the Vale de Rodrigo, Évora, south Portugal. *Antiquity* 70:683–685.
 2002 Vale de Rodrigo—Megalithforschungen in Portugal. *Bericht der Römisch-Germanischen Kommission* 83:315–345.
- Kallet-Marx, L.
 1993 *Money, expense, and naval power in Thucydides' history 1–5.24*. University of California Press, Berkeley.
- Kant, I.
 2007 [1790] *Kritik der Urteilskraft (Critique of Judgment)*, translated by J. C. Meredith. Oxford University Press, Oxford.
- Kaplan, M.
 1999 De la dépouille à la relique: formation du culte des saints à Byzance du V^e au XII^e siècle. In *Les reliques: objets, cultes, symbols*, edited by E. Bozóky and A.-M. Helvétius, 19–38. Brepols, Turnhout.
- Karlgren, B.
 1964 Elephant and rhinoceros in ancient north China. In *Festkrift tillägnad Carl Kempe 80 År: 1884–1964*, edited by B. Lyberg, S. Ulfspärre, and B. Gyllensvärd, 633–639. Almqvist & Wiksell, Upsalla.
- Karo, G.
 1930–1933 *Die Schachtgräber von Mykenai*. F. Brückman A. G., Munich.
- Karpik, L.
 2010 *Valuing the unique: the economics of singularities*. Princeton University Press, Princeton, New Jersey.
- Karsten, R.
 1935 *The head-hunters of western Amazonas: the life and culture of the Jibaro Indians of eastern Ecuador and Peru*. Commentationes Humanarum Litterarum 7(1). Societas Scientiarum Fennica, Helsinki.
- Kassel, R.
 1983 Dialog mit Statuen. *Zeitschrift für Papyrologie und Epigraphik* 51:1–12.
- Kaufman, T.
 1971 *Tzeltal phonology and morphology*. University of California Publications in Linguistics 61. University of California Press, Berkeley.
- Kaulicke, P., L. Fehren-Schmitz, M. Kolp-Godoy, P. Landa, O. Loyola, M. Palma, E. Tomasto, C. Vergel, and B. Vogt
 2009 Implicancias de un área funeraria del período formativo tardío en el Departamento de Ica. *Boletín de Arqueología PUCP* 13:289–322.
- Keane, W.
 2003 Self-interpretation, agency, and the objects of anthropology: reflections on a genealogy. *Comparative studies in Society and History* 45:222–248.
- Keegan, J.
 1993 *A history of warfare*. Knopf, New York.
- Keeley, L.
 1996 *Warfare before civilization*. Oxford University Press, Oxford.
- Keesling, C. M.
 2003 *The votive statues of the Athenian Acropolis*. Cambridge University Press, Cambridge.

- Keller, K. C.
 - 1955 The Chontal (Mayan) numeral system. *International Journal of American Linguistics* 21:258–275.
- Kelly, D. H.
 - 1983 The Maya calendar correlation problem. In *Civilization in the ancient Americas: essays in honor of Gordon R. Willey*, edited by R. Levanthal and A. Kolata, 157–208. University of New Mexico Press, Albuquerque.
- Kendall, A. E.
 - 1984 Archaeological investigations of late Intermediate period and late Horizon period at Cusichaca, Peru. In *Current archaeological projects in the central Andes*, edited by A. Kendall, 247–290. BAR International Series 210. British Archaeological Reports, Oxford.
 - 1985 *Aspects of Inca architecture: description, function, and chronology, parts 1 and 2*. BAR International Series 242. British Archaeological Reports, Oxford.
 - 1994 *Proyecto arqueológico Cusichaca, Cusco: investigaciones arqueológicas y de rehabilitación agrícola, tomo I*. Southern Peru Copper Corporation, Lima.
 - 1996 An archaeological perspective for late Intermediate period Inca development. *Journal of the Steward Anthropological Society* 24:121–156.
- Kendall, A. E., R. Early, and B. Sillar
 - 1992 Report on archaeological field season investigating early Inca architecture at Juchuy Coscco (Q'aqya Qhawana) and Warq'ana, Province of Calca, Department of Cuzco, Peru. In *Ancient America: contributions to New World archaeology*, edited by N. J. Saunders, 189–256. Oxbow Books, Oxford.
- Kennett, L.
 - 1995 *Marching through Georgia: the story of soldiers and civilians during Sherman's campaign*. Harper Collins Publishers, New York.
- Keynes, J. M.
 - 1930 *A treatise on money*. Harcourt, Brace and Co., New York.
- Kilian-Dirlmeier, I.
 - 1986 Beobachtungen zu den Schachtgräbern von Mykenai und zu den Schmuckbeigaben mykenischer Männergräber. Untersuchung zur Sozialstruktur in Späthelladischer Zeit. *Jahrbuch des Römisch-Germanischen Zentralmuseums* 33:159–198.
 - 1997 *Das mittelbronzezeitliche Schachtgrab von Ägina. Alt-Ägina Band IV, 3* (Kataloge Vor- und Frühgeschichtlicher Altertümer, Bd 27). Philip von Zabern, Mainz.
- Killen, J. T.
 - 2004 Wheat, barley, flour, olives, and figs in the Linear B tablets. In *Food, cuisine and society in prehistoric Greece*, edited by P. Halstead and J. C. Barrett, 155–173. Sheffield Studies in Aegean Archaeology 5. Oxbow Books, Oxford.
- Kim, H. S.
 - 2001 Archaic coinage as evidence for the use of money. In *Money and its uses in the ancient Greek world*, edited by A. Meadows and K. Shipton, 7–21. Oxford University Press, Oxford.
- Kirk, G. S., and J. E. Raven
 - 1983 *The Presocratic philosophers: a critical history with a selection of texts*. 2nd ed. Cambridge University Press, Cambridge.
- Kitchen, K. A.
 - 1986 *The Third Intermediate period in Egypt*. 2nd ed. Aris and Phillips, Warminster.
- Kluckhohn, C. K. M.
 - 1951a A comparative study of values in five cultures. In *Navaho veterans, a study in changing values*. Papers of the Peabody Museum of American Archaeology and Ethnology 41, no. 1. Harvard University Press, Cambridge, Massachusetts.
 - 1951b Values and value-orientation in the theory of action: an exploration in definitions and classification. In *Towards a general theory of action*, edited by T. Parsons and E. Shils, 388–433. Harvard University Press, Cambridge, Massachusetts.
 - 1956 Towards a comparison of value-emphases in different cultures. In *The state of the social sciences: papers presented at the 25th anniversary of the Social Sciences Research Building, the University of Chicago, November 10–12, 1955*, edited by L. White, 116–132. University of Chicago Press, Chicago.
 - 1961 The study of values. In *Values in America*, edited by D. Barrett, 17–45. University of Notre Dame Press, South Bend, Indiana.
- Knapp, G. F.
 - 1905 *Staatliche Theorie des Geldes*. Duncker and Humblot, Leipzig.
- Kohler, T. A., and G. J. Gummerman
 - 2000 *Dynamics in human and primate societies: agent-based modeling of social and spatial processes*. Oxford University Press, New York.

- Kolata, A. L.
 1996 Principles of authority in the native Andean state. In *Structure, knowledge, and representation in the Andes*, edited by G. Urton. *Journal of the Steward Anthropological Society* 24:61–84.
- Kopytoff, I.
 1986 The cultural biography of things: commoditization as process. In *The social life of things: commodities in cultural perspectives*, edited by Arjun Appadurai, 64–91. Cambridge University Press, Cambridge.
- Kosiba, S.
 2010 Becoming Inka: the transformation of political place and practice during Inka state formation (Cusco, Perú). Unpublished Ph.D. dissertation, University of Chicago, Chicago.
- Koslova, N.
 2008 Bezeichnungen der Arbeitskräfte in Umma der Ur III-Zeit. In *The growth of the early state in Mesopotamia: studies in Ur III administration*, edited by S. Garfinkle and J. C. Johnson, 149–206. CSIC, Madrid.
- Kosman, L. A.
 1975 Perceiving that we perceive: *On the Soul* III, 2. *Philosophical Review* 84:499–519.
- Kötting, B.
 1965 *Der frühchristliche Reliquienkult und die Bestattung im Kirchengebäude*. Opladen, Westdeutscher Verlag, Köln.
- Kousser, R.
 2009 Destruction and memory on the Athenian Acropolis. *Art Bulletin* 91:263–282.
- Kowalzig, B.
 2004 Changing choral worlds: song-dance and society in Athens and beyond. In *Music and the muses: the culture of mousike in the Classical Athenian city*, edited by P. Murray and P. Wilson, 39–65. Oxford University Press, Oxford.
 2005 Mapping out *communitas*: performances of *theōria* in their sacred and political context. In *Pilgrimage in Greco-Roman and early Christian antiquity: seeing the gods*, edited by J. Elsner and I. Rutherford, 41–72. Oxford University Press, Oxford.
 2007 *Singing for the gods: performances of myth and ritual in Archaic and Classical Greece*. Oxford University Press, Oxford.
- Kraay, C. M.
 1976 *Archaic and Classical Greek coins*. University of California Press, Berkeley.
 1977 The Asyt hoard: some comments on chronology. *Numismatic Chronicle* (7th series) 17:189–198.
- Kraay, C. M., and M. Hirmer
 1966 *Greek coins*. Abrams, New York.
- Kraus, F. R.
 1966 *Staatliche Viehhaltung im altbabylonischen Lande Larsa*. Noord-Hollandsche, Amsterdam.
- Kristeller, P. O.
 1990 [1951–1952] The modern system of the arts. In *Renaissance thought and the arts: collected essays*. Expanded ed. Princeton University Press, Princeton, New Jersey. First published in the *Journal of the History of Ideas* 12:496–527; *Journal of the History of Ideas* 13:17–46, 163–227.
- Kroeber, A. L.
 1919 On the principle of order in civilization as exemplified by changes of fashion. *American Anthropologist* (n.s.) 21(3):235–263.
 1944 *Peruvian archaeology in 1942*. Viking Fund Publications in Anthropology 4. Viking Fund, New York.
 1957 *Style and civilizations*. Cornell University Press, Ithaca.
- Kroeber, A. L., and W. D. Strong
 1924 The Uhle pottery collections from Ica. *University of California Publications in American Archaeology and Ethnology* 21(3):96–133.
- Kroll, J. H.
 1998 Silver in Solon's laws. In *Studies in Greek numismatics in memory of Martin Jessop Price*, edited by R. Ashton and S. Hurter, 225–232. Spink, London.
 2008 Early Iron Age balance weights at Lefkandi, Euboea. *Oxford Journal of Archaeology* 27:37–48.
- Krusch, B. (editor)
 1888 Baudonivia, *de vita Sanctae Radegundis liber II*. MGH SSRM II, Hannover.
- Kurht, A.
 2001 The Achaemenid Persian Empire (c. 550–c. 330 BCE): continuities, adaptations, transformations. In *Empires*, edited by S. E. Alcock, T. N. D'Altroy, K. D. Morrison, and C. M. Sinopoli, 93–123. Cambridge University Press, Cambridge.

- Kurke, L.
 1999 *Coins, bodies, games and gold: the politics of meaning in Archaic Greece*. Princeton University Press, Princeton, New Jersey.
 2005 Choral lyric as “ritualization”: poetic sacrifice and poetic *ego* in Pindar’s Sixth Paian. *Classical Antiquity* 24:81–130.
 2007 Visualizing the choral: poetry, performance, and elite negotiation in fifth-century Thebes. In *Visualizing the tragic: drama, myth, and ritual in Greek art and literature*, edited by C. Kraus et al., 63–101. Oxford University Press, Oxford.
 2012 Imagining chorality: wonder, Plato’s puppets, and moving statues. In *The city dancing: performance and culture in Plato’s Laws*, edited by A.-E. Peponi. Cambridge University Press, Cambridge.
- Lacy, A. D.
 1967 *Greek pottery in the Bronze Age*. Methuen, London.
- La Lone, D. E.
 1978 The Inca as a nonmarket economy: supply on command versus supply and demand. In *Contexts for pre-historic exchange*, edited by J. E. Ericson and T. E. Earle, 291–316. Academic Press, New York.
- Lang, M., and M. Crosby
 1964 *The Athenian Agora*. Vol. 10: *Weights, measures, and tokens*. American School of Classical Studies, Athens.
- Lareau, A., and E. B. Weininger
 2003 Cultural capital in educational research: a critical assessment. *Theory and Society* 32(5–6):567–606.
- Larsson, L.
 1998 Rock, stone and mentality: stones that unite, stones that subjugate—a megalithic tomb in the Vale de Rodrigo, southern Portugal. *KVHAA Konferenser* 40:137–155.
 2001 Decorated façade? A stone with carvings from the megalithic tomb Vale de Rodrigo, monument 2, Alentejo, southern Portugal. *Journal of Iberian Archaeology* 3:35–46.
- László, A.
 1993 Le sud-est de la Transylvanie dans le néolithique tardif et le chalcolithique. Nouvelles données et considérations. In *The fourth millennium B.C.*, edited by P. Georgieva, 62–76. NBU Press, Sofia.
- Latour, B.
 1986 Visualization and cognition: thinking with eyes and hands. *Knowledge and Society* 6:1–40.
 1987 *Science in action: how to follow scientists and engineers through society*. Harvard University Press, Cambridge, Massachusetts.
- Latour, B., and S. Woolgar
 1979 *Laboratory life: the construction of scientific facts*. Sage Publications, Los Angeles.
- Lattimore, R. (translator)
 1951 *The Iliad of Homer*. University of Chicago Press, Chicago.
- Laum, B.
 1924 *Heiliges Geld. Eine historische Untersuchung über den sakralen Ursprung des Geldes*. Verlag von J. C. B. Mohr (Paul Siebeck), Tübingen.
- Lavallée, D.
 1973 Structura y organización del habitat en los Andes centrales durante el período Intermedio Tardío. *Revista del Museo Nacional* 39:91–116.
- Layton, R.
 1986 *Uluru: an Aboriginal history of Ayers Rock*. Australian Institute of Aboriginal Studies, Canberra.
 1995 Relating to the country in the western desert. In *The anthropology of landscape: perspectives on place and space*, edited by E. Hirsch and M. O’Hanlon, 210–231. Clarendon Press, Oxford.
- Layton, R., and P. J. Ucko
 1999 Introduction: gazing on the landscape and encountering the environment. In *The archaeology and anthropology of landscape*, edited by P. J. Ucko and R. Layton, 1–20. Routledge, London.
- Lazzari, M.
 2008 Topographies of values: ethical issues in landscape archaeology. In *Handbook of landscape archaeology*, edited by B. David and J. Thomas, 644–653. Left Coast Press, Walnut Creek, California.
- Lechtman, H.
 1980 The central Andes: metallurgy without iron. In *The coming of the age of iron*, edited by T. Wertime and J. Muhly, 267–334. Yale University Press, New Haven, Connecticut.
 1984a Analysis of a gold-silver alloy object (appendix F). In *The prehistoric occupation of Chavín de Huántar, Peru*, by R. L. Burger, 272–276. University of California Press, Berkeley.
 1984b Andean value systems and the development of prehistoric metallurgy. *Technology and Culture* 25 (1):1–36.
 1984c Pre-Columbian surface metallurgy. *Scientific American* 250(6):56–63.

- 1996 The Andean world. In *Andean art at Dumbarton Oaks*, edited by E. H. Boone, 15–32. Dumbarton Oaks Research Library and Collection, Washington, D.C.
- 2007 The Inca and Andean metallurgical tradition. In *Variations in the expression of Inka power*, edited by R. Burger, C. Morris, and R. Matos Mendieta, 313–355. Dumbarton Oaks Research Library and Collection, Washington, D.C.
- Lechtman, H., A. Erlij, and E. Barry Jr.
 - 1982 New perspectives on Moche metallurgy: techniques of gilding copper at Loma Negra, northern Peru. *American Antiquity* 47(1):3–30.
- Lefebvre, H.
 - 1991 *The production of space*, translated by D. Nicholson-Smith. Blackwell, Oxford.
- Le Goff, J.
 - 1980 *Time, work and culture in the Middle Ages*. University of Chicago Press, Chicago.
- Lemonnier, P. (editor)
 - 1993 *Technologies of choice: transformation in material cultures since the Neolithic*. Routledge, London.
- Le Rider, G.
 - 2001 *La naissance de la monnaie: pratiques monétaires de l'Orient ancien*. Presses Universitaires de France, Paris.
- Le Roux, C.-T., Y. Lecerf, and M. Gautier
 - 1989 Les mégalithes de Saint-Just (Ille-et-Vilaine) et la fouille des alignements du Moulin de Cojou. *Revue Archéologique de l'Ouest* 6:5–29.
- Lesure, R. G.
 - 1997 Figurines and social identities in early sedentary societies of coastal Chiapas, Mexico, 1550–800 B.C. In *Women in prehistory: North America and Mesoamerica*, edited by C. Claassen and R. A. Joyce, 225–248. University of Pennsylvania Press, Philadelphia.
 - 1999a On the genesis of value in early hierarchical societies. In *Material symbols: culture and economy in prehistory*, edited by J. E. Robb, 23–55. Center for Archaeological Investigations, Southern Illinois University, Carbondale.
 - 1999b Platform architecture and activity patterns in an early Mesoamerican village in Chiapas, Mexico. *Journal of Field Archaeology* 26(4):391–406.
 - 2005 Linking theory and evidence in an archaeology of human agency: iconography, style, and theories of embodiment. *Journal of Archaeological Method and Theory* 12(3):237–255.
 - 2011 *Interpreting ancient figurines: context, comparison, and prehistoric art*. Cambridge University Press, New York.
- Lévêque, P., and P. Vidal-Naquet
 - 1964 *Clisthène l'Athénien. Essai sur la représentation de l'espace et du temps dans la pensée politique grecque de la fin du VI^e siècle à la mort de Platon*. Le Belles Lettres, Paris.
- Levillier, R.
 - 1940 *Don Francisco de Toledo, Supremo Organizador del Perú, Su Vida, Su Obra (1515–1582). Tomo II: Sus informaciones sobre los incas (1570–1572)*. Espasa-Calpe, Buenos Aires.
- LeVine, T. Y. (editor)
 - 1992 *Inka storage systems*. University of Oklahoma Press, Norman.
- Lévi-Strauss, C.
 - 1949 *Les structures élémentaires de la parenté*. Presses Universitaires de France, Paris.
- Levy, H. S.
 - 1966 *Chinese footbinding: the history of a curious erotic custom*. W. Rawls, New York.
- Lewis, C. I.
 - 1947 *An analysis of knowledge and valuation*. Open Court, La Salle, Illinois.
- Li Boqian 李伯謙
 - 1996 從對三星堆青銅器年代的不同認識談到如何正確理解和運用“文化滯後”理論 (Discussing “cultural lag” theory based on different perspectives on the chronology of the Sanxingdui bronzes). In 四川考古報告集 (*Archaeological reports from Sichuan*), edited by Sichuan, 64–69. Wenwu chubanshe, Beijing.
- Li Shaoming 李紹明, Lin Xiang 林向, and Zhao Dianzeng 趙殿增
 - 1993 三星堆與巴蜀文化 (*Sanxingdui and Ba/Shu culture*). Ba Shu chubanshe, Chengdu.
- Li Shuicheng 李水城
 - 2005 西北與中原早期冶銅業的區域特徵及交互作用 (The characteristics of and interaction between early bronze production in the northwest and Central Plains). 考古學報 (*Acta archaeologica sinica*) 2005(3):239–278.
- Li Xueqin 李學勤
 - 1997 三星堆與蜀國古史傳說 (Sanxingdui and ancient legends of the Shu state). In 走出疑古時代 (*Departing the era of doubting antiquity*), 204–213. Liaoning daxue chubanshe, Shenyang.

- Li, Yung-ti
 2007 Co-craft and multicraft: section-mold casting and the organization of craft production at the Shang capital of Anyang. In *Craft production in complex societies: multicraft and producer perspectives*, edited by I. Shimada, 184–223. University of Utah Press, Salt Lake City.
- 2003 On the function of cowries in Shang and western Zhou China. *Journal of East Asian Archaeology* 5(1–4):1–26.
- Liddell, H. G., R. Scott, and H.S. Jones
 1968 *A Greek-English lexicon*. 9th ed. Clarendon Press, Oxford.
- Liddell, H. G., R. Scott, H. S. Jones, and R. McKenzie
 1983 *A Greek-English lexicon*. Clarendon Press, Oxford.
- Lifschitz, F.
 2002 The martyr, the tomb, and the matron: constructing the (masculine) “past” as a female power base. In *Ritual, memory, historiography*, edited by G. Althoff, J. Fried, and P. J. Geary, 311–341. Cambridge University Press, Cambridge.
- Lillios, K. T.
 1999 Objects of memory: the ethnography and archaeology of heirlooms. *Journal of Archaeological Method and Theory* 6(3):235–262.
- Linduff, K. M., Han Rubin, and Sun Shuyun
 2000 *The beginnings of metallurgy in ancient China*. Edwin Mellen Press, Lewiston, New York.
- Lippard, B.
 1984 Mongols and Byzantium, 1243–1341. Unpublished Ph.D. dissertation, University of Indiana, Bloomington.
- Liu Li
 2003 “The products of minds as well as of hands.” Production of prestige goods in the Neolithic and early state periods of China. *Asian Perspectives* 42(1):1–40.
- Livingston, P.
 2004 C. I. Lewis and the outlines of aesthetic experience. *British Journal of Aesthetics* 44(4):378–392.
- Locke, L. L.
 1923 *The ancient quipu or Peruvian knot record*. American Museum of Natural History, New York.
- Loewe, M.
 1961 The measurement of grain during the Han period. *T'oung Pao* 1–2:64–95.
- Long, A. A., and D. N. Sedley
 1987 *The Hellenistic philosophers*. 2 vols. Cambridge University Press, Cambridge.
- Lonsdale, S. H.
 1993 *Dance and ritual play in Greek religion*. Johns Hopkins University Press, Baltimore.
- 1995 *Homeric Hymn to Apollo*: prototype and paradigm of choral performance. *Arion* (3rd series) 3(1):25–40.
- Lopez, R. S.
 1945 Silk industry in the Byzantine Empire. *Speculum* 20(1):1–42.
- Loraux, N.
 1981 *L'invention d'Athènes: histoire de l'oraison funèbre dans la “cité classique”*. Mouton, Éditions de l'École des Hautes Études en Sciences Sociales, Paris.
- Lothrop, S.
 1941 Gold ornaments of Chavin style from Chongoyape, Peru. *American Antiquity* 6(3):250–261.
- 1951 Gold artifacts from Chavin. *American Antiquity* 16(3):226–240.
- Loudon, J.
 1977 On body products. In *The anthropology of the body*, edited by J. Blacking, 161–178. Academic Press, London.
- Lounsbury, F. G.
 1978 Maya numeration, computation, and calendrical astronomy. In *Dictionary of scientific biography*, vol. 15, sup. 1, edited by C. C. Gillespie, 759–818. Charles Scribner and Sons, New York.
- 1990 Some aspects of Mayan numeral syntax pertinent to the opening date of Stela 8 of Copan. In *Circumpacific: Festschrift für Thomas S. Barthel*. Vol. 1: *Mittel-und Südamerika*, 289–301. Verlag Peter Lang, Bern.
- 1992 A derivation of the Mayan-to-Julian calendar correlation from the Dresden Codex Venus chronology. In *The sky in Mayan literature*, edited by A. F. Aveni, 184–206. Oxford University Press, New York.
- Love, B.
 1994 *The Paris Codex: handbook for a Maya priest*. University of Texas Press, Austin.
- Low, S. M., and D. Lawrence-Zúñiga, D. (editors)
 2003 *The anthropology of space and place: locating culture*. Blackwell, Cambridge, Massachusetts.
- Lowe, E. D.
 1993 Quantitative analysis of fashion change: a critical review. *Home Economics Research Journal* 21(3):280–306.

- Lowe, G. W.
 1994 Comunidades de Chiapas relacionadas con los olmecas. In *Los Olmecas en Mesoamérica*, edited by J. E. Clark, 113–127. El Equilibrista, Mexico City.
- Lubar, S., and W. D. Kingery (editors)
 1993 *History from things: essays on material culture*. Smithsonian Institution, Washington, D.C.
- Lumbreras, G.
 1970 *Los templos de Chavín*. Corporación Peruana de Santa, Lima.
- Lumbreras, L. G.
 2001 Uhle y los asentamientos de Chíncha en el siglo XVI. *Revista del Museo Nacional* 49:13–87.
- Lunt, S. W.
 1987 Inca and pre-Inca pottery: pottery from Cusichaca, Department of Cuzco, Peru. Unpublished Ph.D. dissertation, Institute of Archaeology, University of London.
- Luraghi, N.
 1996 Partage du sol et occupation du territoire dans les colonies grecques d'Occident au VIII^e siècle. In *Les moyens d'expression du pouvoir dans les sociétés anciennes*, edited by M. Broze, 213–219. Peeters, Leuven.
- Lydon, J.
 2008 Contested landscapes—rights to history, rights to place: who controls archaeological places? In *Handbook of landscape archaeology*, edited by B. David and J. Thomas, 654–660. Left Coast Press, Walnut Creek, California.
- Lynch, F.
 1975 Excavations at Carreg Samson megalithic tomb, Mathry, Pembrokeshire. *Archaeologia Cambrensis* 124:15–35.
- Lyon, P. J.
 1995 Death in the Andes. In *Tombs for the living: Andean mortuary practices*, edited by T. D. Dillehay, 379–390. Dumbarton Oaks, Washington, D.C.
- Maass, M.
 1978 *Die geometrischen Dreifüsse von Olympia (Olympische Forschungen X)*. Walter de Gruyter, Berlin.
 1981 Die geometrischen Dreifüsse von Olympia. *Antike Kunst* 24:6–20.
- MacCormack, S.
 1984 From the Sun of the Incas to the Virgin of Copacabana. *Representations* 8:30–60.
 1991 *Religion in the Andes: vision and imagination in early colonial Peru*. Princeton University Press, Princeton, New Jersey.
- MacGoul, L. S. B.
 1988 *Dioscorus of Aphroditto: his work and his world*. University of California Press, Berkeley.
- MacLachlan, B.
 1993 *The age of grace: Charis in early Greek poetry*. Princeton University Press, Princeton, New Jersey.
- Macri, M.
 2000 Numeral classifiers and counted nouns in the Classic Maya inscriptions. *Written Language and Literacy* 3(1):13–36.
- Maddoli, G., ed.
 1982 *Temesa e il suo territorio. Atti del colloquio di Perugia e Trevi, 30–31 maggio 1981*. Istituto per la storia e l'archeologia della Magna Grecia, Taranto.
- Maeda, T.
 1994 Bal-ensí in Drehem texts. *Acta Sumerologica* 16:115–164.
 1995 Ša-bal-a in Umma tablets. *Acta Sumerologica* 17:145–174.
- Maekawa, K.
 1974 Agricultural production in ancient Sumer. *Zinbun* 13:1–60.
 1986 The agricultural texts of Ur III Lagash of the British Museum. *Zinbun* 21:91–157, plates i–xii.
 1987 The management of domain land in Ur III Umma: a study of BM 110116. *Zinbun* 22:25–82.
 1990 Cultivation methods in the Ur III period. *Bulletin of Sumerian Agriculture* 5:115–145.
 1992 The shape and orientation of the domain units in the “round tablets” of Ur III Girsu: a critical review of Liverani, *The shape of Neo-Sumerian fields*. *Acta Sumerologica* 14:147–186.
 1999 The “temples” and the “temple personnel” of Ur III Girsu-Lagash. In *Priests and officials in the ancient Near East*, edited by K. Watanabe, 61–102. Universitätsverlag, Heidelberg.
- Magness, J.
 2001 The question of the synagogue: the problem of typology. In *Judaism and late antiquity*, part 3, edited by A. J. Avery-Peck and J. Neusner, 1–48. Leiden, Brill.
 2005 The date of the Sardis synagogue in light of the numismatic evidence. *American Journal of Archaeology* 109(3):443–475.

- Maier, A.
1930 *Kants Qualitätskategorien*. Pan-Verlag, Berlin.
- Major, J. S.
1993 *Heaven and earth in early Han thought. Chapters three, four and five of the Huainanzi*. SUNY Series in Chinese Philosophy and Culture. State University of New York Press, Albany.
- Makkay, J.
2000 *An early war grave from Esztergályborváti*. J. Makkay, Budapest.
- Maldonado, Alonso
1609 "Testamento de Don Alonso Maldonado Primero Año 1609." *Cacicagos Libro 34* (1726). Archivo Nacional de Historia, Quito.
- Malinowski, B.
1922 *Argonauts of the western Pacific: an account of native enterprise and adventure in the archipelagoes of Melanesian New Guinea*. George Routledge & Sons, London.
- Malkin, I.
1987 *Religion and colonization in ancient Greece*. E. J. Brill, Leiden.
1994 *Myth and territory in the Spartan Mediterranean*. Cambridge University Press, Cambridge.
1998 *The returns of Odysseus: colonization and ethnicity*. University of California Press, Berkeley.
- Mangan, J.
2005 *Trading roles: gender, ethnicity, and the urban economy in colonial Potosí*. Duke University Press, Durham, North Carolina.
- Mango, C.
1958 *The Homilies of Photius Patriarch of Constantinople*. Harvard University Press, Cambridge.
1972 *The art of the Byzantine Empire 312–1453: sources and documents*. Prentice-Hall, Englewood Cliffs, New Jersey.
- Mango, M. M.
1992 The monetary value of silver revetments and objects belonging to churches, A.D. 300–700. In *Ecclesiastical silver plate in sixth-century Byzantium: papers of the symposium held May 16–18, 1986, at the Walters Art Gallery, Baltimore and Dumbarton Oaks, Washington, D.C.*, edited by S. A. Boyd and M. M. Mango, 123–136. Dumbarton Oaks, Washington, D.C.
- Mann, M.
1986 *The sources of social power*. Vol. 1: *From the beginnings to AD 1789*. Cambridge University Press, Cambridge.
- Marcus, J.
1998 *Women's ritual in Formative Oaxaca: figurine-making, divination, death, and the ancestors*. Prehistory and Human Ecology of the Valley of Oaxaca 11. University of Michigan Museum of Anthropology, Ann Arbor.
- Markham, C.
1977 [1910] *The Incas of Peru*. ABC, Lima.
- Marshall, Y., and A. Maas
1997 Dashing dishes. *World Archaeology* 28:275–290.
- Martin, T. R.
1985 *Sovereignty and coinage in Classical Greece*. Princeton University Press, Princeton, New Jersey.
- Martínez Cerceda, J. L.
1995 *Autoridades en los Andes: los atributos del señor*. PUCP Fondo Editorial, Lima.
- Marx, K.
1906 [1867] *Capital: a critique of political economy*, translated from the third German edition by S. Moore and E. Aveling, edited by F. Engels, revised and amplified according to the fourth German edition by E. Untermann. B. A. Cerf and D. S. Klopfer, New York.
1951 [1852] *The eighteenth Brumaire of Louis Bonaparte*. In *Selected works*, vol. 1, by K. Marx and F. Engels, 243–344. Foreign Languages Publishing House, Moscow.
1970 [1867] *Capital*, vol. 1. Lawrence and Wishart, London.
- Massey, D.
1994 *Space, place and gender*. Polity Press, Cambridge.
- Massey, S. A.
1986 *Sociopolitical change in the upper Ica Valley, BC 400 to 400 AD: regional states on the south coast of Peru*. Unpublished Ph.D. dissertation, University of California, Los Angeles. University Microfilms, Ann Arbor.
- Mateiciucová, I., and J. Małecka-Kukawka
2007 Worked stone: obsidian and flint. In *The Early Neolithic on the great Hungarian Plain. Investigations of the Körös culture site of Ecsegfalva 23, County Békés*, edited by A. Whittle, 677–726. *Varia Archaeologia Hungarica* 21. Institute of Archaeology, Budapest.

- Mather, C.
2003 Shrines and the domestication of landscape. *Journal of Anthropological Research* 59:23–45.
- Mathewson, R. D.
1986 *The treasure of the Atocha*. Pisces Books, New York.
- Matsumoto, Y., and Y. Caverio Palomino
2011 Una aproximación cronológica del centro ceremonial de Campanayuq Rumi, Ayacucho. *Boletín de Arqueología PUCP* 13:323–345.
- Mauss, M.
1979 [1935] The notion of body technique. In *Sociology and psychology: essays by Marcel Mauss*, translated by B. Brewster, 95–123. Routledge and Kegan Paul, London.
1990 [1925] Essai sur le don. Forme et raison de l'échange dans les sociétés archaïques, translated by W. D. Halls. Norton, New York. Originally published in *Année sociologique* 1 (2nd series):30–186.
- Mayeski, M. A., and J. Crawford
2000 Reclaiming an ancient story: Baudovinia's life of St. Radegund (circa 525–587). In *Women saints in world religions*, edited by A. Sharma, 71–106. State University of New York Press, Albany.
- Maynard Smith, J.
1982 *Evolution and the theory of games*. Cambridge University Press, Cambridge.
- Maynard Smith, J., and G. R. Price
1973 The logic of animal conflict. *Nature* 246:15–18.
- Mayor, A.
2010 *The poison king: the life and legend of Mitbradates, Rome's deadliest enemy*. Princeton University Press, Princeton, New Jersey.
- McClanan, A.
2002 *Representations of early Byzantine empresses: image and empire*. Palgrave Macmillan, New York.
- McCormick, M.
2001 *Origins of the European economy: communications and commerce AD 300–900*. Cambridge University Press, Cambridge.
- McCulloh, J.
1976 The cult of relics in the letters and dialogues of Pope Gregory the Great: a lexicographical study. *Traditio* 32:145–184.
- McEwan, G. F.
2006 *The Incas: new perspectives*. ABC Clío, Santa Barbara, California.
- McEwan, G. F., M. Chatfield, and A. Gibaja Oviedo
2002 The archaeology of Inca origins: excavations at Chokepukio, Cuzco, Peru. In *Andean archaeology I: variations of sociopolitical organization*, edited by W. Isbell and H. Silverman, 287–302. Kluwer Academic, New York.
2008 Arquitectura monumental en al Cuzco del Periodo Intermedio Tardío: evidencias de continuidades en la reciprocidad ritual y el manejo de administrativo entre los horizontes Medio y Tardío. *Boletín de Arqueología PUCP* 9:257–280.
- McEwan, G. F., A. Gibaja Oviedo, and M. Chatfield
1995 Archaeology of the Chokepukio site: an investigation of the origin of the Inca civilization in the valley of Cuzco, Peru. A report of the 1994 field season. *Tawantinsuyu* 1:11–17.
2002 The archaeology of Inca origins: excavations at Chokepukio, Cuzco, Peru. In *Andean archaeology I: variations in sociopolitical organization*, edited by W. H. Isbell and H. Silverman, 287–302. Kluwer Academic/Plenum Publishers, New York.
- McInerney, J.
2010 *The cattle of the sun: cows and culture in the world of the ancient Greeks*. Princeton University Press, Princeton, New Jersey.
- McMullen, D.
1988 *State and scholars in T'ang China*. Cambridge studies in Chinese history, literature, and institutions. Cambridge University Press, Cambridge.
- McNeil, C. (editor)
2006 *Chocolate in Mesoamerica: a cultural history of cacao*. University Press of Florida, Gainesville.
- Mee, C.B. and W.G. Cavanagh.
1984. Mycenaean tombs as evidence for social and political organisation. *Oxford Journal of Archaeology* 3(3): 45–64.

- Meggett, M. J.
1977 *Blood is their argument: warfare among the Mae Enga tribesmen of the New Guinea Highlands*. Mayfield, Palo Alto, California.
- Meikle, S.
1995 *Aristotle's economic thought*. Clarendon Press, Oxford.
- Menger, C.
1950 [1871] *Grundsätze der Volkswirtschaftslehre (Principles of economics)*, translated and edited by J. Dingwall and B. F. Hoselitz. Free Press, Glencoe, Illinois.
- Mens, E.
2008 Refitting megaliths in western France. *Antiquity* 82:25–36.
- Menzel, D.
1959 The Inca occupation of the south coast of Peru. *Southwestern Journal of Anthropology* 15: 125–142.
- Meredith, J. C. (translator)
1952 *The critique of judgement*. Clarendon Press, Oxford.
- Mertens-Horn, M., and L. Viola
1990 Archaische Tondächer westgriechischer Typologie in Delphi und Olympia. *Hesperia* 59:235–248.
- Meskel, L.
1996 The somatization of archaeology: institutions, discourses, corporeality. *Norwegian Archaeological Review* 29(1):1–16.
1999 Archaeologies of life and death. *American Journal of Archaeology* 103:181–199.
- Meskel, L. (editor)
2009 *Cosmopolitan archaeologies*. Duke University Press, Durham, North Carolina.
- Meskel, L. M., and R. A Joyce
2003 *Embodied lives: figuring ancient Maya and Egyptian experience*. Routledge, London.
- Michailidou, A.
2010 Measuring by weight in the Late Bronze Age Aegean: the people behind the measuring tools. In *The archaeology of measurement: comprehending heaven, earth and time in ancient societies*, edited by I. Morley and C. Renfrew, 71–87. Cambridge University Press, Cambridge.
- Michelet, J.
2001 *Trésors de Byzance: manuscrits grecs de la Bibliothèque Nationale de France*. Bibliothèque Nationale, Paris.
- Middleton, A., and I. Freestone
1995 The mineralogy and occurrence of jade. In *Chinese jade: from the Neolithic to the Qing*, edited by J. Rawson, 413–423. British Museum Press, London.
- Milka, E.
2010 Burials upon the ruins of abandoned houses in the MH Argolid. In *MESOHELLADIKÁ: the Greek mainland in the Middle Bronze Age*, edited by A. Philippa-Touchais, G. Touchais, S. Voutsaki, and J. Wright, 347–355. Bulletin de Correspondance Hellénique Supplement. De Boccard, Paris.
2012 An analysis of mortuary practices in MH Lerna. Unpublished chapter of Ph.D. dissertation in preparation. University of Groningen.
- Mill, J. S.
1874 *Essays on some unsettled questions of political economy*. 2nd ed. Longmans, Green, Reader, and Dyer, London.
- Millar, F.
1969 P. Herennius Dexippus: the Greek world and the third-century invasions. *Journal of Roman Studies* 59:12–29.
- Miller, A. M.
1986 *From Delos to Delphi: a literary study of the Homeric Hymn to Apollo*. Mnemosyne Supplement 93. E. J. Brill, Leiden.
- Miller, D.
1985 *Artefacts as categories*. Cambridge University Press, Cambridge.
- Miller, E. (editor)
1883 Poésies inédites de Théodore Prodrome. *Annuaire de l'Association pour l'encouragement des études grecques en France* 17:18–64.
- Miller, H. M.-L.
2007 *Archaeological approaches to technology*. Academic Press, Boston.
- Miller, J.
1986 *Measures of wisdom: the cosmic dance in Classical and Christian antiquity*. University of Toronto Press, Toronto.
- Miller, J.-A.
1988 Extimité. *Prose Studies* 3:121–131.

- Millon, R.
1955 When money grew on trees: a study of cacao in ancient Mesoamerica. Unpublished Ph.D. dissertation, Columbia University, New York.
- Mills, K.
1997 *Idolatry and its enemies: colonial Andean religion and extirpation, 1640–1750*. Princeton University Press, Princeton, New Jersey.
- Mitchell, T.
1988 *Colonising Egypt*. Cambridge University Press, Cambridge.
- Molina, C. de
1989 [1575] *Relación de las fabulas i ritos se los Ingas*, edited by H. Urbano and P. Duviols. *Cronicas de America* 48. Historia, Madrid.
- Monaco, S. F.
1985–1986 Parametri e qualificatori nei testi economici della terza dinastia di Ur. I. Parametri qualificatori numerici. *Oriens Antiquus* 24:17–44; II. Qualificatori non numerici. *Oriens Antiquus* 25:1–20.
- Monaghan, J.
1998 Dedication: ritual or production? In *The sowing and the dawning: termination, dedication, and transformation in the archaeological and ethnographic record of Mesoamerica*, edited by S. Boteler Mock, 47–52. University of New Mexico Press, Albuquerque.
- Montell, G.
1929 *Dress and ornaments in ancient Peru*. Elanders Boktryckeri Aktiebolag, Göteborg.
- Montet, J. P. M.
1951 *La nécropole royale de Tanis II: les constructions et le tombeau de Psousennès à Tanis. Fouilles de Tanis*. J. P. M. Montet, Paris.
- Morgan, E. V.
1965 *A history of money*. Penguin Books, Harmondsworth, UK.
- Morley, I.
2010 Conceptualising quantification before settlement: activities and issues underlying the conception and use of measurement. In *The archaeology of measurement: comprehending heaven, earth and time in ancient societies*, edited by I. Morley and C. Renfrew, 7–18. Cambridge University Press, Cambridge.
- Morley, S.
1915 *An introduction to the study of the Mayan hieroglyphs*. Bureau of American Ethnology Bulletin 57. Government Printing Office, Washington, D.C.
- Morley, I., and C. Renfrew (editors)
2010 *The archaeology of measurement: comprehending heaven, earth and time in ancient society*. Cambridge University Press, Cambridge.
- Morris, C.
1967 Storage in Tawantinsuyu. Unpublished Ph.D. dissertation. University of Chicago, Chicago.
1982 The infrastructure of Inka control in the Peruvian central highlands. In *The Inca and Aztec states 1400–1800: anthropology and history*, edited by G. A. Collier, R. I. Rosaldo, and J. D. Wirth, 153–171. Academic Press, New York.
1985 From principles of ecological complementarity to the organization and administration of Tawantinsuyu. In *Andean ecology and civilization: an interdisciplinary perspective on Andean ecological complementarity*, edited by S. Masuda, I. Shimada, and C. Morris, 477–490. University of Tokyo Press, Tokyo.
1992 The technology of highland Inka storage. In *Inka storage systems*, edited by T. Y. LeVine, 237–258. University of Oklahoma Press, Norman.
1993 Value, investment and mobilization in the Inca economy. In *The politics of production and consumption*, edited by J. Henderson and P. Netherly, 34–55. Cornell University Press, Ithaca.
- Morris, C., and R. A. Covey
2003 La plaza central de Huánuco Pampa: espacio y transformación. *Boletín de Arqueología PUCP* 7:133–149.
- Morris, C., and J. I. Santillana
2007 The Inka transformation of the Chíncha capital. In *Variations in the expression of Inka power*, edited by R. L. Burger, C. Morris, and R. Matos Mendieta, 135–164. *Dumbarton Oaks*, Washington, D.C.
- Morris, C., and D. Thompson
1985 *Huánuco Pampa: an Inca city and its hinterland*. Thames and Hudson, London.
- Morris, C., and A. von Hagen
1993 *The Inka Empire and its Andean origins*. Abbeville Press, New York.
2011 *The Incas*. Thames and Hudson, New York.

- Morris, I.
 1996 The strong principle of equality and the Archaic origins of Greek democracy. In *Demokratia: a conversation on democracies, ancient and modern*, edited by J. Ober and C. Hedrick, 19–48. Princeton University Press, Princeton, New Jersey.
 1997 Periodization and the heroes: inventing a Dark Age. In *Inventing ancient culture: historicism, periodization, and the ancient world*, edited by M. Golden and P. Toohey, 96–131. Routledge, New York.
- Moseley, M. E.
 1975 *The maritime foundations of Andean civilization*. Cummings Publishing Company, Menlo Park, California.
- Mukařovský, J.
 1970 [1936] *Aesthetic function, norm and value as social facts*, translated by M. E. Suino. University of Michigan, Ann Arbor.
- Mullen, W.
 1982 *Choreia: Pindar and dance*. Princeton University Press, Princeton, New Jersey.
- Munn, N. D.
 1983 Gawan kula: spatiotemporal control and the symbolism of influence. In *The kula: new perspectives on Massim exchange*, edited by E. Leach and J. Leach, 277–308. Cambridge University Press, Cambridge.
 1986 *The fame of Gawa: a symbolic study of value transformation in a Massim society*. Cambridge University Press, Cambridge.
- Murra, J. V.
 1962 Cloth and its functions in the Inca state. *American Anthropologist* 64:710–728.
 1975 Las etno-categorías de un khipu estatal. In *Formaciones económicas y políticas en el mundo Andino*, 243–254. Instituto de Estudios Peruanos, Lima.
 1980 [1956] *The economic organization of the Inka state*. JAI Press, Greenwich, Connecticut.
 1982 The Mit'a obligations of ethnic groups to the Inka state. In *The Inka and Aztec states 1400–1800: anthropology and history*, edited by G. A. Collier, R. I. Rosaldo, and J. D. Wirth, 237–262. Academic Press, New York.
 1989 Cloth and its function in the Inka state. In *Cloth and human experience*, edited by A. B. Weiner and J. Schneider, 275–302. Smithsonian Institution Press, Washington. D.C.
- Murúa, Fr. M. De
 1590–1600 *Historia del origen y genealogía real de los Reyes Incas del Perú*. Sean Galvin Collection.
- Museo de Arqueología y Antropología Universidad Nacional Mayor de San Marcos
 2009 Disección de fardos funerarios pertenecientes a la caverna V-Paracas. *Cuaderno de Investigación del Archivo Tello* 7:121–190.
- Muthesius, A.
 1993 The Byzantine silk industry: Lopez and beyond. *Journal of Medieval History* 19:1–67.
- Myerson, R. B.
 1991 *Game theory: analysis and conflict*. Harvard University Press, Cambridge, Massachusetts.
- Mylonas, G.
 1972 *O tafikos kyklos B ton Mykinon*. Library of the Athens Archaeological Society 73. Athens Archaeological Society, Athens.
- Naerebout, F. G.
 1997 *Attractive performances. Ancient Greek dance: three preliminary studies*. J. C. Gieben, Amsterdam.
- Nagy, G.
 1990 *Pindar's Homer: the lyric possession of an epic past*. Johns Hopkins University Press, Baltimore.
- Nair, S. E.
 2003 Of remembrance and forgetting: the architecture of Chinchero, Peru, from Thupa Inka to the Spanish occupation. Unpublished Ph.D. dissertation, University of California, Berkeley.
- Nash, J.
 1950 Equilibrium points in n-person games. *Proceedings of the National Academy of Sciences of the United States of America* 36(1):48–49.
- Neer, R. T.
 1995 The lion's eye: imitation and uncertainty in Attic red-figure. *Representations* 51:118–153.
 2002 *Style and politics in Athenian vase-painting: the craft of democracy, ca. 530–460 BCE*. Cambridge University Press, Cambridge.
 2010 *The emergence of the Classical style in Greek sculpture*. University of Chicago Press, Chicago.
- Nehamas, A.
 2004 Art, interpretation and the rest of life. *Proceedings and Addresses of the American Philosophical Association* 78(2):25–42.

- Netz, R.
2002 Counter culture: towards a history of Greek numeracy. *History of Science* 40:321–352.
- Neumann, H.
1979 Handel und Händler in der Zeit der III. Dynastie von Ur. *Altorientalische Forschungen* 6:15–67.
- Newman, B. B.
1947 The first man was an artist. *Tiger's Eye* 1(1):57–60.
- Niederberger, C.
1976 *Zohapilco: cinco milenios de ocupación humana en un sitio lacustre de la Cuenca de México*. Instituto Nacional de Antropología e Historia, Mexico City.
1987 *Paleopaysages et archeologie pre-urbaine du Bassin de Mexico*. 2 vols. Collection Etudes Mésoaméricaines 11. Centre d'Etudes Mexicaines et Centraméricaines, Mexico City.
2000 Ranked societies, iconographic complexity, and economic wealth in the basin of Mexico toward 1200 B.C. In *Olmec art and archaeology in Mesoamerica*, edited by John E. Clark and Mary E. Pye, pp. 169–191. National Gallery of Art, Studies in the History of Art, vol. 58, Washington, D.C.
- Niles, S. A.
1980 Pumamarca: a late intermediate site near Ollantaytambo. *Ñawpa Pacha* 18:49–62.
1987 *Callacaca: style and status in an Inca community*. University of Iowa Press, Iowa City.
1993 The provinces in the heartland: stylistic variation and architectural innovation near Inca Cuzco. In *Provincial Inca: archaeological and ethnohistorical assessment of the impact of the Inca state*, edited by M. A. Malpass, 145–176. University of Iowa Press, Iowa City.
1999 *The shape of Inca history: narrative and architecture in an Andean Empire*. University of Iowa Press, Iowa City.
- Nissen, H. J., P. Damerow, and R. K. Englund
1993 *Archaic bookkeeping: writing and techniques of economic administration in the ancient Near East*. University of Chicago Press, Chicago.
- Niwinski, A.
1988 *Twenty-first Dynasty coffins from Thebes: chronological and typological studies*. Philip von Zabern, Mainz am Rhein.
- Noe, S. P.
1927 *The coinage of Metapontum I*. American Numismatic Society, New York.
1931 *The coinage of Metapontum II*. American Numismatic Society, New York.
- Nora, P.
2001–2006 *Rethinking France: les lieux de mémoire*, translated by M. Trouille. University of Chicago Press, Chicago.
- Nordquist, G. C.
1979 Dead society: a study in the intramural cemetery at Lerna. Unpublished M.A. dissertation, University of Southampton.
- Nunn, V.
1986 The encheirion as adjunct to the icon in the middle Byzantine period. *Byzantine and Modern Greek Studies* 10:73–102.
- Ogburn, D.
2005 Dynamic display, propaganda, and the reinforcement of provincial power in the Inca Empire. *Archaeological Papers of the American Anthropological Association* 14:225–239.
- Ogundiran, A.
2002 Of small things remembered: beads, cowries and cultural translations of the Atlantic experience in Yorubaland. *International Journal of African Historical Studies* 35 (2–3):427–457.
- Oikonomides, N.
1986 Silk trade and production in Byzantium from the sixth to the ninth century: the seals of the Kommerkiarioi. *Dumbarton Oaks Papers* 40:33–53.
- Oliver, G. J. (editor)
2000 *The epigraphy of death: studies in the history and society of Greece and Rome*. Liverpool University Press, Liverpool.
- Ollman, B.
1976 *Alienation: Marx's conception of man in capitalist society*. Cambridge University Press, Cambridge.
- Ó Nualláin, S.
1972 A Neolithic house at Ballyglass near Ballycastle, Co. Mayo. *Journal of the Royal Society of Antiquaries of Ireland* 102:49–57.
- Onuki, Y.
1997 Ocho tumbas especiales de Kuntur Wasi. *Boletín de Arqueología PUCP* 1:79–114.

- Onuki, Y., and Y. Kato
1993 *Las excavaciones en Kuntur Wasi, Perú: la primera etapa 1988–1990*. University of Tokyo, Tokyo.
- Oost, S. I.
1968 *Galla Placidia Augusta: a biographical essay*. University of Chicago Press, Chicago.
- Osborne, R.
1996 *Greece in the making, 1200–479 B.C.* Routledge, London.
1998 Early Greek colonization? The nature of Greek settlement in the West. In *Archaic Greece: new approaches and new evidence*, edited by N. Fisher and H. van Wees, 251–69. Duckworth, London.
2010 The art of signing in ancient Greece. In *The art of art history in Graeco-Roman antiquity*, edited by V. Platt and M. Squire, special issue *Arethusa*:231–251.
- Osgood, R., and S. Monks
2000 *Bronze Age warfare*. Sutton, Stroud, UK.
- Owens, B. M.
1999 Unruly readings: neofetishes, paradoxical singularities, and the violence of authentic value. *Ethnos* 64(2):249–262.
- Pachacuti Yamqui, J.
1927 *Relación de antigüedades deste reyno del Pirú*. Colección de Libros y Documentos Referentes a la Historia del Peru 9. San Marti, Lima.
- Pagden, A.
1981 *The fall of natural man*. Cambridge University Press, Cambridge.
- Page, D. L.
1981 *Further Greek epigrams: epigrams before A.D. 50 from the Greek anthology and other sources, not included in Hellenistic epigrams or The Garland of Philip*. Cambridge University Press, Cambridge.
- Palmer, R.
1992 Wheat and barley in Mycenaean society. In *Mykenaiika: actes du IXe colloque international sur les textes mycéniens et égéens par le Centre de l'Antiquité Grecque et Romaine de la Fondation Hellénique des Recherches Scientifiques et l'École française d'Athènes (Athènes, 2–6 octobre 1990)*, edited by J.-P. Oliver, 475–497. Bulletin de Correspondance Hellénique Supplément 25. De Boccard, Paris.
2008 Wheat and barley in Mycenaean society fifteen years later. In *Colloquium romonum: atti del XII colloquio internazionale di micenologia, Roma, 20–25 febbraio 2006*, vol. 2, edited by A. Sacconi, M. del Freo, L. Godart, and M. Negri, 621–640. Fabrizio Serra, Pisa.
- Papadopoulos, J. K.
2002 Minting identity: coinage, ideology and the economics of colonization in Akhaian Magna Graecia. *Cambridge Journal of Archaeology* 12:21–55.
2005 *The Early Iron Age cemetery at Torone*. Cotsen Institute of Archaeology, Los Angeles.
- Papalexandrou, N.
2005 *The visual poetics of power: warriors, youths, and tripods in early Greece*, Lexington Books, Lanham, Maryland.
2008 Boiotian tripods: the tenacity of a Panhellenic symbol in a regional context. *Hesperia* 77:251–282.
- Pardo, L.
1953 Los vestidos del Inca y de la Ccoya. *Revista del Museo e Instituto Arqueológico (Cuzco)* 15:3–55.
- Paredes, M.
2003 Practicas funeraria incaicas en Sacsayhuaman: enterramientos ceremoniales y complejo funerario. In *Identidad y transformacion en el Tawantinsuyu y en los Andea coloniales: perspectivas arqueologicas y etnohistoricas, segunda parte*, vol. 7, edited by P. Kaulicke, G. Urton, and I. Farrington, 79–112. Boletín de Arqueología PUCP, Lima.
- Pareto, V.
1971 [1906] *Manuel of political economy*, translated by A. S. Swier, edited by A. S. Swier and A. N. Page. A. M. Kelley, New York.
- Paribeni, A.
1999 Il pallio di San Lorenzo a Genova. In *L'arte di Bisanzio e l'Italia al tempo dei Paleologi 1261–1453*, edited by A. Iacobini and M. Della Valle, 229–252. Argos, Rome.
- Parker Pearson, M.
1984 Social change, ideology and the archaeological record. In *Marxist perspectives in archaeology*, edited by M. Spriggs, 59–71. Cambridge University Press, Cambridge.
1998 Performance as valuation: early Bronze Age burial as theatrical complexity. In *The archaeology of value: essays on prestige and the process of valuation*, edited by D. W. Bailey, 32–41. BAR International series 730. British Archaeological Reports, Oxford.

- Parker Pearson, M., A. Chamberlain, M. Jay, P. Marshall, J. Pollard, C. Richards, J. Thomas, C. Tilley, and K. Welham
 2009 Who was buried at Stonehenge? *Antiquity* 83:23–39.
- Parry, J., and M. Bloch (editors)
 1989 *Money and the morality of exchange*. Cambridge University Press, Cambridge.
- Pärssinen, M.
 1992 *Tarwantsuyu: the Inca state and its political organization*. Studia Historica 43. Societas Historica Finlandiae, Helsinki.
- Pasztoy, E.
 2005 *Thinking with things: towards a new vision of art*. University of Texas Press, Austin.
- Patterson, T.
 1985 Exploitation and class formation in the Inca state. *Culture* 5:35–42.
- Paul, A.
 1990 *Paracas ritual attire: symbols of authority in ancient Peru*. University of Oklahoma Press, Norman.
 1991a Paracas: an ancient cultural tradition on the south coast of Peru. In *Paracas art and architecture: object and context in south coastal Peru*, edited by A. Paul, 1–34. University of Iowa Press, Iowa City.
 1991b Paracas necropolis bundle 89: a description and discussion of its contents. In *Paracas art and architecture: object and context in south coastal Peru*, edited by A. Paul, pp. 172–221. University of Iowa Press, Iowa City.
- Peet, T. E.
 1930 *The great tomb-robberies of the Twentieth Egyptian Dynasty, being a critical study with translations and commentaries of the papyri in which they are recorded*. 2 vols. Clarendon Press, Oxford.
- Peng Hao 彭浩
 2001 *Zhangjiasban banjian «Suanshushu» zbusbi* 張家山漢簡《算數書》注釋 (*Commentary on the Book of mathematical procedures, a writing on bamboo strips dating from the Han and discovered at Zhangjiasban*). Science Press (Kexue chubanshe), Beijing.
- Peponi, A.-E.
 2004 A theatrical space: Homeric Hymn to Apollo (ll.146–206). In *Thymeli: Festschrift in honor of N. Chourmouziadis* (in Greek), edited by D. I. Jakob and E. Papazoglou, 303–322. Panepistemiakes Ekdoseis, Iraklion, Crete.
 2007 Sparta's prima ballerina: *Choreia* in Alcman's second *Partheneion*. *Classical Quarterly* 57(2):351–362.
 2009 *Choreia* and aesthetics in the *Homeric Hymn to Apollo*: the performance of the Delian maidens (lines 156–64). *Classical Antiquity* 28:39–70.
- Peponi, A.-E. (editor)
 2012 *The city dancing: performance and culture in Plato's Laws*. Cambridge University Press, Cambridge.
- Persky, J.
 1995 The ethology of Homo Economicus. *Journal of Economic Perspectives* 9(2):221–231.
- Peters, A. H.
 1991 Ecology and society in embroidered images from the Paracas necropolis. In *Paracas art and architecture: object and context in south coastal Peru*, edited by A. Paul, 240–314. University of Iowa Press, Iowa City.
- Petersen, G. C.
 2010 *Mining and metallurgy in ancient Peru*, translated by W. Brooks. Geological Society of America, Boulder, Colorado.
- Pezzia Assereto, A.
 1968 *Ica y el Perú precolombino: arqueología de la provincia de Ica, tomo I*. Ojeda, Ica, Peru.
 1969 *Guía del mapa arqueológico-pictográfico del Departamento de Ica*. Italperu, Lima.
 1972 *Arqueología del Departamento de Ica: panorama prehistórico*. Museo Regional de Ica, Ica, Peru.
- Pfeijffer, I.
 1999 *Three Aeginetan odes of Pindar: a commentary on Nemean V, Nemean III, and Pythian VIII*. Mnemosyne Supplement 197. E. J. Brill, Leiden.
- Pinhasi, R.
 2003 A new model for the spread of the first farmers in Europe. *Documenta Praehistorica* 30:1–48.
- Pitts-Taylor, V.
 2003 *In the flesh: the cultural politics of body modification*. Palgrave Macmillan, New York.
- Pizarro, P.
 1917 [1571] *Relación del descubrimiento y conquista de los reinos de Perú*, edited by C. A. Romero and H. H. Urteaga. Colección de libros y documentos referentes a la historia del Perú. Pontifica Universidad Católica del Perú, Fondo Editorial, Lima.
 1978 [1571] *Relación del descubrimiento y conquista del Perú*, edited by G. Lohmann Villena. Pontifica Universidad Católica del Perú, Fondo Editorial, Lima.

- Platt, T.
1976 *Especjos y maíz: Temas de la estructura simbólica andina*. Centro de Investigación y Promoción del Campesinado, La Paz.
- Polanyi, K.
1944 *The great transformation*. Rinehart, New York.
1957 The economy as instituted process. In *Trade and market in early empires*, edited by K. Polanyi, A. M. Arensberg and H. W. Pearson, 243–246. Free Press, New York.
1971 *Primitive, archaic, and modern economies: essays of Karl Polanyi*, edited by G. Dalton. Beacon Press, Boston.
2001 [1944] *The great transformation: the political and economic origins of our time*. Beacon Press, Boston.
- Polanyi, K., C. Arensburg, and H. Pearson (editors)
1957 *Trade and market in the early empires*. Free Press, Glencoe, Illinois.
- Pollitt, J. J.
1999 [1972] *Art and experience in Classical Greece*. Cambridge University Press, Cambridge.
- Polo de Ondegardo, J. d.
1916 [1571] *Informaciones acerca de la religión y Gobierno de los Incas*. Colección de Libros y Documentos Referentes a la Historia del Perú 4. Sanmartí y Ca, Lima.
- Porteous, D.
1995 Domicide: the destruction of home. In *The home: words, interpretations, meanings and environments*, edited by D. Benjamin and D. Stea, 151–161. Avebury, Aldershot, UK.
- Porter, J. I.
2005 Love of life: Lucretius to Freud. In *Erotikon: essays on Eros, ancient and modern*, edited by S. Bartsch and T. Bartscherer, 113–141. University of Chicago Press, Chicago.
2007 Lucretius and the sublime. In *The Cambridge companion to Lucretius*, edited by S. Gillespie and P. Hardie, 167–184. Cambridge University Press, Cambridge.
2009a Is art modern? Kristeller's "Modern system of the arts" reconsidered. *British Journal of Aesthetics* 49:1–24.
2009b Nietzsche and the impossibility of nihilism. In *Nietzsche, nihilism, and the philosophy of the future*, edited by J. A. Metzger, 143–157. Continuum, London.
- Powell, M. A.
1977 Sumerian merchants and the problem of profit. *Iraq* 39:23–29.
1979 Ancient Mesopotamian weight metrology. In *Studies in honor of Tom B. Jones*, edited by M. A. Powell and R. H. Sack, 71–109. Neukirchener Verlag, Kevelaer, Neukirchen-Vluyn, Germany.
- Powell, M.A. (editor)
1987 *Labor in the ancient Near East*. American Oriental Society, New Haven, Connecticut.
- Power, T.
2011 Cyberchorus: Pindar's *Kēlēdones* and the aura of the artificial. In *Archaic and Classical choral song: performance, politics and dissemination*, edited by L. Athanassaki and E. Bowie, 53–99. Walter de Gruyter, Berlin.
- Prall, D. W.
1929 *Aesthetic judgment*. Thomas Y. Crowell Company, New York.
- Prent, M.
2002 Glories of the past in the past: ritual activities at palatial ruins in EIA Crete. In *Archaeologies of memory*, edited by R. Van Dyke and S. E. Alcock, 81–103. Blackwell, Oxford.
- Presta, A. M., and C. Julien
2008 Polo Ondegardo (ca. 1520–1575). In *Guide to documentary sources for Andean studies 1530–1900*, vol. 3, edited by J. Pillsbury, 529–535. University of Oklahoma Press, Norman.
- Preucel, R., and A. Bauer
2001 Archaeological pragmatics. *Norwegian Archaeological Review* 34:85–96.
- Price, M. J.
1983 Thoughts on the beginnings of coinage. In *Numismatic method presented to Philip Grierson*, edited by C. N. L. Brooke, B. H. I. H. Stewart, J. G. Pollard, and T. R. Volk, 1–10. Cambridge University Press, Cambridge.
- Prier, R. A.
1989 *Thauma Idesthai: the phenomenology of sight and appearance in Archaic Greek*. Florida State University Press, Tallahassee.
- Protzen, J.-P.
1993 *Inca architecture and construction at Ollantaytambo*. Oxford University Press, New York.
2000 Inca architecture. In *The Inca world: the development of Precolumbian Peru, A.D. 1000–1534*, edited by L. Minelli, 193–217. University of Oklahoma Press, Norman.

- Proulx, D. A.
 1989 Nasca trophy heads: victims of warfare or ritual sacrifice? In *Cultures in conflict: current archaeological perspectives*, edited by D. C. Tkaczuk and B. C. Vivian, 73–85. University of Calgary Archaeological Association, Calgary.
 2001 Ritual uses of trophy heads in ancient Nasca society. In *Ritual sacrifice in ancient Peru*, edited by E. P. Benson and A. G. Cook, 119–136. University of Texas Press, Austin.
 2006 *A sourcebook of Nasca ceramic iconography: reading a culture through its art*. University of Iowa Press, Iowa City.
- Purcell, N.
 1997 Review of *The archaeology of Greek colonization*, edited by G. R. Tsatsikhaladze and F. de Angelis. *Antiquity* 71:500–502.
- Purves, A. C.
 2010 *Space and time in ancient Greek narrative*. Cambridge University Press, Cambridge.
- Qaddumi, G. H.
 1996 *The book of gifts and rarities*. Harvard Middle Eastern Monographs 29. Harvard University Press, Cambridge, Massachusetts.
- Quiggin A. H.
 1949 *A survey of primitive money*. Methuen, London.
- Quilter, J.
 1989 *Life and death at Paloma: society and mortuary practices in a preceramic Peruvian village*. University of Iowa Press, Iowa City.
 1991 Late preceramic Peru. *Journal of World Archaeology* 5(4):387–438.
- Rackham, O.
 1990 Ancient landscapes. In *The Greek city from Homer to Alexander*, edited by O. Murray and S. Price, 85–111. Clarendon Press, Oxford.
- Raczky, P., L. Domboróczki, and Zs. Hajdú
 2007 The site of Polgár-Csőszhalom and its cultural and chronological connections with the Lengyel culture. In *The Lengyel, Polgár and related cultures in the Middle/Late Neolithic in central Europe*, edited by J. K. Kozłowski and P. Raczky, 49–70. PAN Kraków and ELTE, Budapest.
- Radovanović, I.
 1996 *The Iron Gates Mesolithic*. International Monographs in Prehistory Archaeological Series 11. Prehistory Press, Ann Arbor.
 2006 Further notes on Mesolithic-Neolithic contacts in the Iron Gates region and the central Balkans. *Documenta Praehistorica* 33:107–124.
- Rahmstorf, L.
 2010 The concept of weighing during the Bronze Age in the Aegean, the Near East and Europe. In *The archaeology of measurement: comprehending heaven, earth and time in ancient societies*, edited by I. Morley and C. Renfrew, 88–105. Cambridge University Press, Cambridge.
- Rainbird, P.
 2002 Marking the body, marking the land. Body as history, land as history: tattooing and engraving in Oceania. In *Thinking through the body: archaeologies of corporeality*, edited by Y. Hamilakis, M. Pluciennik, and S. Tarlow, 233–247. Kluwer Academic/Plenum Publishers, New York.
- Ramírez, S. E.
 2005 *To feed and be fed: the cosmological bases of authority and identity in the Andes*. Stanford University Press, Stanford, California.
- Rappaport, R.
 1968 *Pigs for the ancestors*. Yale University Press, New Haven, Connecticut.
- Rasche, W.
 1910 *De Anthologiae Graecae epigrammatis quae colloquii formam habent*. Unpublished Ph.D. dissertation, University of Münster, Münster.
- Rautman, A. E., and L. E. Talalay
 2000 Introduction: diverse approaches to the study of gender in archaeology. In *Reading the body: representations and remains in the archaeological record*, edited by A. E. Rautman, 1–12. University of Pennsylvania Press, Philadelphia.
- Redfield, J.
 1975 *Nature and culture in the Iliad: the tragedy of Hector*. University of Chicago Press, Chicago.
- Reeves, N.
 1990 *Valley of the Kings: the decline of a royal necropolis*. Kegan Paul International, London.

- Reid, J. J., M. B. Schiffer, and W. L. Rathje
1975 Behavioral archaeology: four strategies. *American Anthropologist* 77(4):864–869.
- Reid, T.
1983 [1846] *The works of Thomas Reid: now fully collected, with selections from his unpublished letters*, edited by W. S. Hamilton. G. Olms, Hildesheim, Germany. Originally published by Maclachlan, Stewart, and Co., Edinburgh.
- Reinhard, J.
1985a Chavín and Tiahuanacu: a new look at two Andean ceremonial centers. *National Geographic Research* 1(3):395–422.
1985b Sacred mountains: an ethnoarchaeological study of high Andean ruins. In *Mountain Research and Development* 5(4):299–327.
- Reinhard, J., and M. C. Ceruti
2000 *Investigaciones arqueológicas en el Volcán Llullaillaco*. Ediciones Universidad Católica de Salta, Salta, Argentina.
- Reiss, J. W., and M. Alphons Stübel
1880–1887 *The necropolis of Ancón in Peru*, translated by A. H. Keane. A. Ascher, Berlin.
- Renfrew, C.
1976 Megaliths, territories and populations. In *Acculturation and continuity in Atlantic Europe*, edited by S. J. De Laet, 198–220. De Tempel, Brugge.
1986 Varna and the emergence of wealth in prehistoric Europe. In *The social life of things: commodities in cultural perspective*, edited by A. Appadurai, 141–168. Cambridge University Press Cambridge.
2000 *Loot, legitimacy and ownership: the ethical crisis in archaeology*. Duckworth, London.
2003 *Figuring it out: what are we? Where do we come from? The parallel visions of artists and archaeologists*. Thames and Hudson, London.
2007 *Prehistory: the making of the human mind*. Weidenfeld and Nicolson, London.
2009 Neuroscience, evolution and the sapient paradox: the factuality of value and of the sacred. In *The sapient mind, archaeology meets neuroscience*, edited by C. Renfrew, C. Frith, and L. Malafouris, 165–176. Oxford University Press, Oxford.
- Renfrew, C., and Morley, I.
2010 Measure: towards the construction of our world. In *The archaeology of measurement: comprehending heaven, earth and time in ancient societies*, edited by I. Morley and C. Renfrew, 1–6. Cambridge University Press, Cambridge.
- Restall, M., L. Sousa, and K. Terraciano (editors)
2005 *Mesoamerican voices: native-language writing from colonial Mexico, Oaxaca, Yucatan and Guatemala*. Cambridge University Press, Cambridge.
- Reyna Robles, R. M.
1971 Las figurillas preclásicas. Unpublished thesis, Escuela Nacional de Antropología e Historia, Mexico City.
- Ricardo, D.
1817 *On the principles of political economy and taxation*. John Murray, London.
1823 Absolute value and exchange value. Unfinished draft manuscript. In *The works and correspondence of David Ricardo*. Vol. 4: *Pamphlets and papers, 1815–1823*, edited by P. Sraffa and M. H. Dobb. Cambridge University Press, Cambridge.
- Richards, C.
2004 Labouring with monuments: constructing the dolmen at Carreg Samson, south-west Wales. In *The Neolithic of the Irish Sea: materiality and traditions of practice*, edited by V. Cummings and C. Fowler, 72–80. Oxbow Books, Oxford.
- Richards, R.
2005 Evolutionary naturalism and the logical structure of valuation: the other side of error theory. *Cosmos and History: The Journal of Natural and Social Philosophy* 1(2):270–294.
- Richardson, J., and A. L. Kroeber
1940 Three centuries of women's dress fashions: a quantitative analysis. *Anthropological Records* 5(2):111–153.
- Rick, J.
2006 Chavín de Huántar: evidence for an evolved shamanism. In *Mesas and cosmologies in the central Andes*, edited by D. Sharon, 101–112. San Diego Museum Papers 44. San Diego Museum, San Diego.
2008 Context, construction, and ritual in the development of authority at Chavín de Huántar. In *Chavín art, architecture and culture*, edited by W. Conklin and J. Quilter, 3–34. Cotsen Institute of Archaeology, UCLA, Los Angeles.
- Ridgeway, W.
1892 *The origin of metallic currency and weight standards*. Cambridge University Press, Cambridge.

- Riegl, A.
1982 [1903] Der moderne Denkmalkultus, sein Wesen, seine Entsehung. Reissued in A. Riegl, *Gesammelte Aufsätze*. Vienna 1929 (English translation by K.W. Forster and D. Ghirardo: The modern cult of monuments: its character and its origin. *Oppositions* 25 [1982]: 21–51.)
- Rissman, P.
1988 Public displays and private values: a guide to buried wealth in Harappan archaeology. *World Archaeology* 20(2):209–228.
- Ritner, R. K.
2009 *The Libyan anarchy: inscriptions from Egypt's Third Intermediate period*. Writings from the Ancient World. Society of Biblical Literature, Atlanta.
- Rivera, M.
1995 The preceramic Chinchorro mummy complex of northern Chile: context, style, and purpose. In *Tombs for the living: Andean mortuary practices*, edited by T. D. Dillehay, 43–78. Dumbarton Oaks Research Library and Collections, Washington, D.C.
- Rivera Dorado, M.
1971a La cerámica killke y la arqueología de Cuzco (Perú). *Revista Española Antropología Americana* 6:85–124.
1971b Diseños decorativos en la cerámica killke. *Revista del Museo Nacional* 37:106–115.
1973 Aspectos tipológicos de la cerámica Cuzqueña del período Intermedio Tardío. In *Atti del 40 congresso internazionale degli Americanisti 1*, 353–362. Tilgher, Rome.
- Robb, J. E.
1997 Intentional tooth removal in Neolithic Italian women. *Antiquity* 71:659–669.
- Robb, J. E. (editor)
1999 *Material symbols: culture and economy in prehistory*. Center for Archaeological Investigations, Southern Illinois University, Carbondale.
- Robinson, D.
1989 The language and significance of place in Latin America. In *The power of place; bringing together geographical and social imaginations*, edited by J. A. Agnew and J. S. Duncan, 157–184. Unwin Hyman, Boston.
- Robson, E.
2008 *Mathematics in ancient Iraq: a social history*. Princeton University Press, Princeton, New Jersey.
- Robson, E., and J. Stedall
2009 *The Oxford handbook of the history of mathematics*. Oxford University Press, Oxford.
- Rodman, M. C.
1992 Empowering place: multilocality and multivocality. *American Anthropologist* 94:640–656.
- Roksandić, M.
2000 Between foragers and farmers in the Iron Gates Gorge: physical anthropology perspective Djerdap population in transition from Mesolithic to Neolithic. *Documenta Praehistorica* 27:1–100.
- Rolley, C.
1977 *Fouilles de Delphes*. Vol 3: *Les trépeids à cuve clouée*. École française d'Athènes, Paris.
- Rosaldo, R.
1980 *Ilongot beadhunting, 1883–1974: a study in history and society*. University Press, Stanford, California.
- Rosman, A., and P. G. Rubel
1972 The potlatch: a structural analysis. *American Anthropologist* 74:658–671.
- Ross, M.
1965 *Catalogue of the Byzantine and early mediaeval antiquities in the Dumbarton Oaks Collection*, vol. 2. Dumbarton Oaks, Washington, D.C.
- Rostworowski de Diez Canseco, M.
1978 Una hipótesis sobre el surgimiento del estado inca. In *Actas y trabajos del III congreso peruano "El hombre y la cultura andina"*, edited by M. M. Ramiro, 89–100. Universidad Nacional Mayor de San Marcos, Lima.
1983 *Estructuras andinas del poder: ideología religiosa y política*. Instituto de Estudios Peruanos, Lima.
- Roth, M. T.
2003 *Law collections from Mesopotamia and Asia Minor*. 2nd ed. Scholars Press, Atlanta.
- Rowe, A. P.
1990–1991 Nasca figurines and costume. *Textile Museum Journal* 29–30:93–128.
- Rowe, J. H.
1944 *An introduction to the archaeology of Cuzco*. Papers of the Peabody Museum of American Archaeology and Ethnology, vol. 27. Harvard University Press, Cambridge, Massachusetts.
1945 Absolute chronology in the Andean area. *American Antiquity* 10:265–284.

- 1946 Inca culture at the time of the Spanish conquest. In *Handbook of South American Indians*, edited by J. Steward, 183–330. Bureau of American Ethnology Bulletin 143. Smithsonian Institution, Washington, D.C.
 - 1957 The Incas under Spanish colonial institutions. *Hispanic American Historical Review* 37(2):155–199.
 - 1962 *Chavin art: an inquiry into form and meaning*. Museum of Primitive Art, New York.
 - 1979 An account of the shrines of Cuzco. *Nawpa Pacha* 17:1–80.
 - 1982 Inca policies and institutions relating to the cultural unification of the empire. In *The Inca and Aztec states 1400–1800: anthropology and history*, edited by G. A. Collier, R. I. Rosaldo, and J. D. Wirth, 93–118. Academic Press, New York.
- Rubini, A.
- 1957 Catálogo de la colección arqueología de Aldo Rubini Drago, Hacienda Ocucaje, Perú. Manuscript on file, Museo Regional de Ica, Peru.
- Sahagún, F. B. de
- 1979 [1577] *Codice Florentino*. El Manuscrito 218–220 de la colección Palatina de la Biblioteca Medicea Laurenziana. Facsimile edition. 3 vols. Giunti Barbera and the Archivo General de la Nación, Florence; Archivo de la Nación, Mexico City.
- Sahlins, M.
- 1972 *Stone Age economics*. Aldine, Chicago.
 - 1993 Goodbye to *tristes tropes*: ethnography in the context of modern world history. *Journal of Modern History* 65:1–25.
- Saignes, T.
- 1987 De la Borrachera al retrato: los caciques andinos entre dos legitimidades (Charcas). *Revista Andina* 5(1):139–170.
 - 1989 Borracheras andinas ¿Por qué los indios ebrios hablan en español? *Revista Andina* 7(1):83–128.
- Saito, Y.
- 2007 *Everyday aesthetics*. Oxford University Press, New York.
- Salas Cuesta, M. E., C. M. Pijoan A., M. Salas Cuesta, R. Garia Moll, and D. Juárez Cossío
- 1989 Algunas aspectos bioculturales en torno a los entierros de Tlatilco. In *El Preclásico o Formativo: avances y perspectivas*, edited by M. C. Macías, 263–277. Instituto Nacional de Antropología e Historia, Mexico City.
- Salles-Reese, V.
- 1997 *From Viracocha to the Virgin of Copacabana: representation of the sacred at Lake Titicaca*. University of Texas Press, Austin.
- Salomon, F.
- 1986 *Native lords of Quito in the age of the Incas: the political economy of north Andean chiefdoms*. Cambridge University Press, Cambridge.
 - 1995 “The beautiful grandparents”: Andean ancestor shrines and mortuary ritual as seen through colonial records. In *Tombs for the living: Andean mortuary practices*, edited by T. D. Dillehay, 315–354. Dumbarton Oaks Research Library and Collection, Washington, D.C.
 - 1998 How the huacas were: the language of substance and transformation in the Huarochirí Quechua manuscript. *Anthropology and Aesthetics* 33:7–17.
 - 2004 *The cord keepers: khipus and cultural life in a Peruvian village*. Duke University Press, Durham, North Carolina.
- Sandefur, E. C.
- 2001 Animal husbandry and meat consumption. In *Empire and domestic economy*, edited by T. N. D’Altroy and C. Hastorf, 179–202. Kluwer Academic, New York.
- Santillán, F. de
- 1950 [1563] Relación del origen, descendencia, política y gobierno de los Incas. In *Tres Relaciones de Antigüedades Peruanas*, edited by M. Jiménez de la Espada, 33–131. Editorial Guaranía, Asunción del Paraguay.
- Santillana, J. I.
- 2008 Economía prehispánica en el area Andina (período Intermedio Temprano, Horizonte Medio y Período Intermedio Tardío). In *Economía prehispanica*, edited by L. G. Lumbreras, P. Kaulicke, J. I. Santillana, and W. Espinoza, 231–314. Instituto de Estudios Peruanos, Lima.
- Sarmiento, P.
- 2007 [1572] *The history of the Incas*, translated and edited by B. S. Bauer and V. Smith. University of Texas Press, Austin.
- Sarmiento de Gamboa, P.
- 1965 [1572] *Historia de los Incas*. Biblioteca de Autores Españoles 135. Ediciones Atlas, Madrid.

- Saunders, N.
 2003 "Catching the light": technologies of power and enchantment in pre-Columbian goldworking. In *Gold and power in ancient Costa Rica, Panama and Colombia*, edited by J. Quilter and J.W. Hoopes, 15–48. Dumbarton Oaks Research Library and Collection, Washington, D.C.
- Saussure, F. de
 1966 [1907–1911] *Course in general linguistics (Cours de linguistique générale)*, edited by C. Bally and A. Sechehaye, translated by W. Baskin. McGraw-Hill, New York.
- Sawyer, A. R.
 1960 Paracas necropolis headdress and face ornaments. *Workshop Notes, the Textile Museum Paper* 21:1–4.
 1977 Paracas and Nazca iconography. In *Pre-Columbian art history: selected readings*, edited by A. Cordy-Collins and J. Stern, 363–392. Peek Publications, Palo Alto, California.
- Saxe, A. A.
 1970 *Social dimensions of mortuary practices*. Unpublished Ph.D. dissertation, University of Michigan. University Microfilms, Ann Arbor.
- Sayre, M.
 2010 Life across the river: agricultural, ritual and production practices at Chavín de Huántar, Peru. Unpublished Ph.D. dissertation, University of California, Berkeley.
- Scarre, C.
 2002 A place of special meaning: interpreting prehistoric monuments through landscape. In *Inscribed Landscapes: marking and making place*, edited by B. David and M. Wilson, 154–175. University of Hawaii Press, Honolulu.
 2004 Choosing stones, remembering places: geology and intention in the megalithic monuments of western Europe. In *Soils, stones and symbols: cultural perceptions of the mineral world*, edited by N. Boivin and M. A. Owoc, 187–202. UCL Press, London.
 2008 Shrines of the land and places of power: religion and the transition to farming in western Europe. In *Belief in the past. Theoretical approaches to the study of religion*, edited by D. S. Whitley and K. Hays-Gilpin. Walnut Creek, CA: Left Coast Press, 209–26.
 2009 Stony ground: outcrops, rocks and quarries in the creation of megalithic monuments. In *Megalithic quarrying: sourcing, extracting and manipulating the stones*, edited C. Scarre, 3–20. Archaeopress, Oxford.
 2011 *Landscapes of Neolithic Brittany*. Oxford University Press, Oxford.
- Scarry, E.
 1999 *On beauty and being just*. Princeton University Press, Princeton, New Jersey.
- Schaedel, R. P.
 1978 Early state of the Incas. In *The early state*, edited by H. J. M. Claesson and P. Skalník, 289–320. Mouton, The Hague.
 1988 Andean world view: hierarchy or reciprocity, regulation or control? *Current Anthropology* 29:768–775.
- Schaps, D. M.
 2004 *The invention of coinage and the monetization of ancient Greece*. University of Michigan Press, Ann Arbor.
- Schele, L., and D. Freidel
 1990 *A forest of kings: the untold story of the ancient Maya*. William Morrow, New York.
- Schepartz, L. A., S. Stoutamire, and D. A. Bekken
 2005 *Stegodon orientalis* from Panxian Dadong, a middle Pleistocene archaeological site in Guizhou, south China: taphonomy, population structure and evidence for human interactions. *Quaternary International* 126–128:271–282.
- Scheper-Hughes, N.
 2000 Global traffic in human organs. *Current Anthropology* 41:191–224.
- Scheper-Hughes, N., and P. Bourgois
 2004 Introduction: making sense of violence. In *Violence in war and peace: an anthology*, edited by N. Scheper-Hughes and P. Bougois, 1–27. Blackwell, Oxford.
- Schiffer, M. B.
 1999 *The material life of human beings: artifacts, behavior, and communication*. Routledge, London.
- Schliemann, H.
 1878 *Mykenae: Bericht über meine Forschungen und Entdeckungen in Mykenae und Tiryns*. Brockhaus, Leipzig.
- Schmandt-Besserat, D.
 2010 The token system of the ancient Near East: its role in counting, writing, the economy and cognition. In *The archaeology of measurement: comprehending heaven, earth and time in ancient societies*, edited by I. Morley and C. Renfrew, 27–34. Cambridge University Press, Cambridge.

- Schreiner, P.
1988 Zwei Denkmäler aus der frühen Paläolozenzeit: Ein Bildnis Michels VIII und der Genueser Pallio. In *Festschrift für Klaus Wessel zum 70. Geburtstag: in memoriam*, edited by M. Restle, 249–257. Editio Maris, Munich.
- Scott, J. C.
1998 *Seeing like a state: how certain schemes to improve the human condition have failed*. Yale University Press, New Haven, Connecticut.
- Scott-Kilvert, I. (translator)
1960 *The rise and fall of Athens: nine Greek lives by Plutarch*. Penguin, New York.
- Seaford, R.
1994 *Reciprocity and ritual: Homer and tragedy in the developing city-state*. Clarendon Press, Oxford.
1998 Tragic money. *Journal of Hellenic Studies* 118:119–139.
2004 *Money and the early Greek mind: Homer, philosophy, tragedy*. Cambridge University Press, Cambridge.
- Searle, J.
1995 *The construction of social reality*. Penguin, Harmondsworth, UK.
- Seki, Y.
2010 Nuevas evidencias del sitio arqueológico de Pacopampa en la sierra norte del Perú. *Boletín de Arqueología PUCP* 12:69–96.
- Selten, R.
1970 *Preispolitik der Mebrproduktenunternehmung in der statischen Theorie*. Springer Verlag, Berlin.
- Seyfried, K. J.
1987 Entwicklung in der Grabarchitektur des neuen Reiches als eine weitere Quelle für theologische Konzeptionen der Ramessidenzeit. In *Problems and priorities in Egyptian archaeology*, edited by J. Assmann, G. Burkard, and V. Davies, 219–253. Studies in Egyptology, London.
- Shackleton, C. M., and F. Prins
1992 Charcoal analysis and the principle of least effort—a conceptual model. *Journal of Archaeological Science* 19:631–637.
- Shady, R.
2004 *Caral: la ciudad del fuego sagrado*. Interbank, Lima.
2006 La Civilización Caral: sistema social y manejo del territorio y sus recursos. *Boletín de Arqueología PUCP* 10:59–90.
- Sharlach, T. M.
2003 *Provincial taxation in the Ur III state*. Brill, Leiden.
- Sharma, C. L.
1993 *Ruling elites of Rajastban: a changing profile*. MD Publications, New Delhi.
- Shelach, G.
2000 The earliest Neolithic cultures of northeast China: recent discoveries and new perspectives on the beginning of agriculture. *Journal of World Prehistory* 14(4):363–413.
- Shelton, K.
2010 Living and dying in and around Middle Helladic Mycenae. In *MESOHELLADIKI: The Greek mainland in the Middle Bronze Age*, edited by A. Philippa-Touchais, G. Touchais, S. Voutsaki, and J. Wright, 57–65. Bulletin de Correspondance Hellénique Supplément. De Boccard, Paris.
- Sherratt, A.
1980 Early agricultural communities in Europe. In *The Cambridge encyclopaedia of archaeology*, edited by A. Sherratt, 144–151. Cambridge University Press, Cambridge.
- Shields, R.
1991 *Places on the margin: alternative geographies of modernity*. Routledge, London.
- Shimada, I.
1991 *Pachamacac archaeology: retrospect and prospect*. University Museum Press, University of Pennsylvania, Philadelphia.
- Shiner, L. E.
2001 *The invention of art: a cultural history*. University of Chicago Press, Chicago.
- Shklovsky, V.
1965 [1917] Art as technique. In *Russian formalist criticism: four essays*, edited by L. T. Lemon and M. J. Reis, 3–24. University of Nebraska Press, Lincoln.
- Sibley, F.
1959 Aesthetic concepts. *Philosophical Review* 68:421–450.
1965 Aesthetic and nonaesthetic. *Philosophical Review* 74:135–159.

- 2001 Arts or aesthetics—which came first? *Approach to aesthetics: collected papers on philosophical aesthetics*, edited by J. Benson, B. Redfern, and J. R. Cox, 135–141. Clarendon Press, Oxford.
- Sichuan 四川省博物館
1991 巴蜀青銅器 (*Ba/Shu bronzes*). Chengdu chubanshe, Chengdu.
- Sichuan 四川省文物考古研究所
1999 三星堆祭祀坑 (*The ritual pits of Sanxingdui*). Wenwu chubanshe, Beijing.
- Sichuan 四川省文物考古研究所三星堆遺址工作站
2004 四川廣漢市三星堆遺址仁勝村土坑墓 (Earthen pit tombs at the Renshengcun locus of the Sanxingdui site in Guanghan City, Sichuan). 考古 (*Archaeology*) 2004(10):878–886.
- Sichuan and Guanghan 四川省文物考古研究所三星堆工作站 and 廣漢市文物管理所
1998 三星堆遺址真武倉包祭祀坑調查簡報 (Preliminary report on the investigation of sacrificial pits at Cangbaobao in Zhenwu at the Sanxingdui site). In 四川考古報告集 (*Archaeological reports from Sichuan*), edited by Sichuan, 78–90. Wenwu chubanshe, Beijing.
- Sichuan et al. 四川省文物管理委員會, 四川省文物考古研究所 and 四川省廣漢縣文化局
1987 廣漢三星堆遺址一號祭祀坑發掘簡報 (Preliminary report on the excavations of ritual pit number 1 at Sanxingdui in Guanghan). 文物 (*Cultural Relics*) 1987(10):1–15.
- Sichuan et al. 四川省文物管理委員會, 四川省考古研究所 and 廣漢市文化局文管所
1989 廣漢三星堆遺址二號祭祀坑發掘簡報 (Preliminary report on the excavations of ritual pit number 2 at Sanxingdui, Guanghan). 文物 (*Cultural Relics*) 1989(5):1–20.
- Siderides, X. A.
1926 Μανουήλ Όλοβόλου. Έγκώμιον εις Μιχαήλ Η΄ Παλαιολόγον. *Epeteris Hetaireias Byzantinon Spoudon* 3:168–191.
- Sillar, B.
1992 The social life of the Andean dead. *Cambridge Archaeological Review* 11(1):107–123.
- Silverblatt, I.
1987 *Sun, moon, and witches*. Princeton University Press, Princeton, New Jersey.
1988 Imperial dilemmas, the politics of kinship, and the Inca reconstruction of history. *Comparative Studies in Society and History* 30:83–102.
- Silverman, H.
1993 *Cabuaichi in the ancient Nasca world*. University of Iowa Press, Iowa City.
- Sima Qian 司馬遷
1959 *The grand scribe's records (Shiji, 史記)*. Zhonghua shuju 中華書局, Beijing.
- Simmel, G.
1957 [1904] Fashion. *American Journal of Sociology* 62(6):541–558. Originally published in *International Quarterly* 10:130–155.
1990 [1907] *The philosophy of money*. Routledge, London.
- Simon, E.
2000 Drei goldene Gersten-Ähren. In *James Loeb 1867–1933: Kunstsammler und Mäzen*, edited by B. Salmen, 143–146. Schlossmuseum, Murnau, Germany.
- Simpson, J. Y.
1867 *Archaic sculpturings of cups, circles, &c. upon stones and rocks in Scotland, England, & other countries*. Edinburgh: Edmonston and Douglas.
- Sjöqvist, E.
1940 *Problems of the Late Cypriot Bronze Age*. Swedish Cyprus Expedition, Stockholm.
- Skyrms, B.
1996 *Evolution of the social contract*. Cambridge University Press, Cambridge.
2004 *The stag hunt and the evolution of social structure*. Cambridge University Press, Cambridge.
2010 *Signals: evolution, learning, and information*. Oxford University Press, Oxford.
- Slater, W. J.
1969 *Lexicon to Pindar*. Walter de Gruyter, Berlin.
- Smith, A.
1994 [1776] *An inquiry into the nature and causes of the wealth of nations*, edited by E. Cannan. Modern Library, Random House, New York. Originally published by W. Strahan and T. Cadell, London.
- Smith, A. T.
2003 *The political landscape: constellations of authority in early complex polities*. University of California Press, Berkeley.
2004 The end of the essential archaeological subject. *Archaeological Dialogues* 11:1–20.

- 2006 The spectacular in Urartian images of performance. In *Archaeology of performance: theaters of power, community, and politics*, edited by T. Inomata and L. Coben, 103–134. Altamira Press, New York.
- Smith, B. H.
 - 1988 *Contingencies of value: alternative perspectives for critical theory*. Harvard University Press, Cambridge, Massachusetts.
 - 1995 Value/evaluation. In *Critical terms for literary study*. 2nd ed. Edited by F. Lentricchia and T. McLaughlin, 177–185. University of Chicago Press, Chicago.
- Smith, G. E.
 - 1912 *The Royal mummies. Catalogue général des antiquités Égyptiennes du Musée du Caire nos. 61051–61100*. IFAO, Cairo.
- Smith, J. M. H.
 - 2010 Rulers and relics c.750–c.950: treasure on earth, treasure in heaven. In *Past and Present*, special supplement, *Relics and Remains* 206:73–96.
- Smith, M. L.
 - 2010 *A prehistory of ordinary people*. University of Arizona Press, Tucson.
- Snell, D.C.
 - 1982 *Ledgers and prices: early Mesopotamian merchant accounts*. Yale University Press, New Haven, Connecticut.
- So, J. F.
 - 2001 Jade and stone at Sanxingdui. In *Ancient Sichuan: treasures from a lost civilization*, edited by Robert Bagley, 153–76. Seattle Art Museum and Princeton University Press, Seattle and Princeton.
 - 2008 Exploring ancient Sichuan's cultural contacts: evidence from jade and stone. In *New frontiers in global archaeology: defining China's ancient traditions*, edited by T. Lawton, 299–320. AMS Foundation for the Arts, Sciences and Humanities, Washington, D.C.
- Sofaer, J. R.
 - 2006 *The body as material culture: a theoretical osteoarchaeology*. Cambridge University Press, Cambridge.
- Song Zhimin 宋治民
 - 2005 三星堆遗址仁胜村土坑墓的思考 (Concerning the shaft burials at the Renshengcun locus of the Sanxingdui site). *四川文物 (Sichuan cultural relics)* 2005(4):40–43, 56.
- Sourvinou-Inwood, C.
 - 1995 *"Reading" Greek death: to the end of the Classical period*. Clarendon Press, Oxford.
- Spier, J. (editor)
 - 2007 *Picturing the Bible: the earliest Christian art*. Yale University Press, New Haven, Connecticut.
- Spinden, H. J.
 - 1922 *Ancient civilizations of Mexico and central America*. 2nd ed. American Museum of Natural History, New York.
- Splitstoser, J.
 - 2009 *Weaving the structure of the cosmos: cloth, agency, and worldview at Cerrillos, an early Paracas site in the Ica Valley, Peru*. Unpublished Ph.D. dissertation, Catholic University, Washington, D.C. University Microfilms, Ann Arbor.
- Srejiović, D.
 - 1969 *Lepenski Vir—nova praistorijska kultura u Podunavlju*. Srpska Književna Zadruga, Beograd.
- Srejiović, D., and L. Babović
 - 1983 *Umetnost Lepenskog Vira*. Jugoslavija Zajedničko izd., Belgrade.
- Stanford, W. B. (editor)
 - 1971 *The Odyssey of Homer*. 2 vols. St Martin's Press, New York.
- Stanish, C.
 - 1992 *Ancient Andean political economy*. University of Texas Press, Austin.
 - 2001 Regional research on the Inca. *Journal of Archaeological Research* 9:213–241.
 - 2010 Measuring time, sacred space, and social space in the Inca Empire. In *The archaeology of measurement*, edited by I. Morley and C. Renfrew, 216–228. Cambridge University Press, Cambridge.
- Stanish, C., and B. S. Bauer
 - 2004 *Archaeological research on the Islands of the Sun and Moon, Lake Titicaca Bolivia: final results from the Proyecto Tiksi Kjarka*. Cotsen Institute of Archaeology, Los Angeles.
- Stark, B. L.
 - 2007 Diachronic change in crafts and centers in south-central Veracruz, Mexico. In *Craft production in complex societies: multicraft and producer perspectives*, edited by I. Shimada, 227–261. University of Utah Press, Salt Lake City.
- Stark, D., with D. Beunza, M. Girard, and J. Lukács
 - 2009 *The sense of dissonance: accounts of worth in economic life*. Princeton University Press, Princeton, New Jersey.

- Starnini, E., G. Szakmány, and A. Whittle
 2007 Polished, ground and other stone artefacts. In *The Early Neolithic on the great Hungarian Plain. Investigations of the Körös culture site of Ecsegfalva 23, County Békés.*, edited by A. Whittle, 667–676. *Varia Archaeologia Hungarica* 21. Institute of Archaeology, Budapest.
- Stazio, A.
 1983 Moneta e scambi in Magna Graecia. In *Megale Hellas: storia e civiltà della Magna Grecia*, edited by G. Pugliese Carratelli, 105–169. Milan: Libri Scheiwiller.
 1987 Monetazione delle “poleis” greche e monetazione degli “ethne” indigeni. In *Magna Grecia: lo sviluppo politico, sociale ed economico*, edited by G. Pugliese Carratelli, 151–172. Elektra, Milan.
 1998 Qualche osservazione su origine e funzioni della più antica monetazione delle colonie achee in Occidente. In *Helike II: ancient Helike and Aigialeia. Proceedings of the second international conference, Aigion, 1–3 December 1995*, edited by D. Katsonopoulou, S. Soter, and D. Schilardi, 371–380. Hatziziannis, Athens.
- Stehle, E.
 1997 *Performance and gender in ancient Greece: nondramatic poetry in its setting*. Princeton University Press, Princeton, New Jersey.
- Stiegemann, C. (editor)
 2001 *Byzanz, das Licht aus dem Osten: Kult und Alltag im Byzantinischen Reich vom 4. Bis 15. Jahrhundert, Katalogue, Diözesenmuseum*. Diözesenmuseum, Paderborn, Germany.
- Steiner, D. T.
 2001 *Images in mind: statues in Archaic and Classical Greek literature and thought*. Princeton University Press, Princeton, New Jersey.
- Steinkeller, P.
 1987 The administrative and economic organization of the Ur III state: the core and the periphery. In *The organization of power: aspects of bureaucracy in the ancient Near East*, edited by M. Gibson and R. D. Biggs, 19–41. Oriental Institute of the University of Chicago, Chicago.
- Stern, S.
 1982 *Peru's Indian peoples and the challenge of Spanish conquest*. University of Wisconsin Press, Madison.
- Stevanović, M.
 1997 The production of architecture in the age of clay. *Journal of Anthropological Archaeology* 16:334–395.
- Stewart, A. F.
 1990 *Greek sculpture: an exploration*. 2 vols. Yale University Press, New Haven, Connecticut.
- Stoekl, A.
 1997 Bataille, gift giving, and the Cold War. In *The logic of the gift: toward an ethic of generosity*, edited by A.D. Schrift, 245–255. Routledge, New York.
- Strang, V.
 2008 The social construction of water. In *Handbook of landscape archaeology*, edited by B. David and J. Thomas, 123–130. Left Coast Press, Walnut Creek, California.
- Strathern, M.
 1984a Marriage exchanges: a Melanesian comment. *Annual Review of Anthropology* 13:41–73.
 1984b Subject or object? Women and the circulation of valuables in Highlands New Guinea. In *Women and property, women as property*, edited by R. Hirschon, 158–175. St. Martin's Press, New York.
 1988 *The gender of the gift: problems with women and problems with society in Melanesia*. University of California Press, Berkeley.
 1992 Qualified value: the perspective of gift exchange. In *Barter, exchange and value: an anthropological approach*, edited by C. Humphrey and S. Hugh-Jones, 169–191. Cambridge University Press, Cambridge.
 1997 [1991] Partners and consumers: making relations visible. In *The logic of the gift: toward an ethic of generosity*, edited by A.D. Schrift, 292–311. Routledge, New York.
- Strong, W. D.
 1957 *Paracas, Nazca, and Tiabuanacoid relationships in south coastal Peru*. Memoirs of the Society for American Archaeology 13, Salt Lake City.
- Stuart, D.
 2006 Jade and chocolate: bundles of wealth in Classic Maya economics. In *Sacred bundles: ritual acts of wrapping and binding in Mesoamerica*, edited by J. Guernsey and F. K. Reilly, 127–144. Boundary End Archaeology Research Center, Barnardsville, North Carolina.
- Studevent-Hickman, B.
 2008 The workforce at Umma: some new questions. In *The growth of and early state in Mesopotamia: studies in Ur III administration*, edited by S. Garfinkle and J. C. Johnson, 141–147. CSIC, Madrid.
- Suidas,
 1854 *Lexikon*, by edited Bekker, Georg Reimer, Berlin

- Summers, D.
2003 *Real spaces: world art history and the rise of western modernism*. Phaidon Press, London.
- Sundwall, J.
1936 Altretische Urkundenstudien. *Acta Academiae Aboensis. Humaniora* 10(2):1–45.
- Sun Hua 孫華
2002 銅方孔鋤形器 (Bronze hoe-shaped objects with square holes). In 金沙淘珍—成都市金沙村遺址出土文物 (*Panning for treasure at Jinsba—artifacts excavated from the Jinsba village site in Chengdu City*), edited by Chengdu & Beijing, 57–59. Wenwu chubanshe, Beijing.
- Sun Zhixin
1993 The Liangzhu culture: its discovery and its jades. *Early China* 18:1–40.
- Sutherland, C. H. V.
1974 *Roman coins*. G. P. Putnam's Sons, New York.
- Svenbro, J.
1984 La découpe du poème: notes sur les origines sacrificielles de la poétique grecque. *Poétique* 58:215–232.
1993 *Phrasikleia: an anthropology of reading in ancient Greece*, translated by J. Lloyd. Cornell University Press, Ithaca.
- Swanton, J. R.
1905 *Contributions to the ethnology of the Haida: the Jessup north Pacific expedition*. Memoir of the American Museum of Natural History 5, part 1. Brill, Leiden.
- Swenson, E. R.
2007 Local ideological strategies and the politics of ritual space in the Chimú Empire. *Archaeological Dialogues* 14:61–90.
- Taşon, P. S. C.
1991 The power of stone: symbolic aspects of stone use and tool development in western Arnhem Land, Australia. *Antiquity* 65:192–207.
- Tainter, J.
1975 Social inference and mortuary practices: an experiment in numerical classification. *World Archaeology* 7:1–15.
- Tarlow, S.
1999 *Bereavement and commemoration: an archaeology of mortality*. Blackwell, Oxford.
- Tawney, R. H.
1972 *Religion and the rise of capitalism*. Penguin Books, Harmondsworth, UK.
- Taylor, G.
1987 [1598] *Ritos y tradiciones de Huarochiri del siglo XVII*. Instituto de Estudios Peruanos/Instituto Frances de Estudios Andinos, Lima.
- Taylor, J. H.
1985 The development of Theban coffins during the Third Intermediate period: a typological study. Unpublished dissertation. Birmingham University, Birmingham.
1989 *Egyptian coffins*. Shire Publications, Aylesbury, UK.
1992 Aspects of the history of the Valley of the Kings in the Third Intermediate period. In *After Tut`ankhamun. Research and excavation in the royal necropolis at Thebes*, edited by N. Reeves, 186–206. Kegan Paul International, London.
2000 The Third Intermediate period (1069–664 BC). In *The Oxford history of ancient Egypt*, edited by I. Shaw, 330–368. Oxford University Press, Oxford.
2010 Changes in the afterlife. In *Egyptian archaeology*, edited by W. Wendrich, 220–240. Wiley-Blackwell, Oxford.
- Tedlock, B.
1982 *Time and the highland Maya*. University of New Mexico Press, Albuquerque.
- Teeple, J. E.
1930 Maya astronomy. *Carnegie Institution of Washington Contributions to American Archaeology* 1(2) 29–115.
- Teetgen, A. B.
1907 *The life and times of the Empress Pulcheria, AD 339–AD 452*. Swan Sonnenschein and Co., London.
- Tello, J. C.
1918 *El uso de las cabezas humanas artificialmente momificadas y su representación en el antiguo arte peruano*. Casa Editorial de E. R. Villarán, Lima.
1940 Pachacamac. *Chaski* 1:1–4.
1959 *Paracas, primera parte*. Publicación del Proyecto 8b del Programa 1941–1942 del Instituto Recursos Andinos de Nueva York. Empresa Gráfica, Lima.
1960 *Chavín: cultura matriz de la civilización Andina, con revision de T. Mejía Xesspe*. Archivo “Julio C. Tello,” Publicación Antropológica 2. Universidad Nacional Mayor de San Marcos, Lima.

- Tello, J. C., and T. Mejía Xesspe
 1979 *Paracas segunda parte: cavernas y Necrópolis*. Universidad Nacional Mayor de San Marcos y El Instituto Andino de Nueva York, San Marcos, Peru.
- TePaske, J. J., and H. Klein (editors)
 1982 *The royal treasuries of the Spanish Empire in America*. 3 vols. Duke University Press, Durham, North Carolina.
- Thomas, E.
 2007 *Monumentality and the Roman Empire: architecture in the Antonine age*. Oxford University Press, Oxford.
- Thomas, J.
 2008 Archaeology, landscape and dwelling. In *Handbook of landscape archaeology*, edited by B. David and J. Thomas, 300–306. Left Coast Press, Walnut Creek, California.
- Thomas, R.
 1989 *Oral tradition and written record in Classical Athens*. Cambridge University Press, Cambridge.
- Thompson, C. M.
 2003 Sealed silver in Iron Age Cisjordan and the “invention” of coinage. *Oxford Journal of Archaeology* 22:67–107.
- Thomson, J. E. S.
 1950 *Maya hieroglyphic writing: an introduction*. Carnegie Institution of Washington, Washington, D.C.
- Thompson, M.
 1979 *Rubbish theory, the creation and destruction of value*. Oxford University Press, Oxford.
- Thomsen, R.
 1957 *Early Roman coinage*, vol. 1. Nationmuseet, Copenhagen.
- Thorpe, N.
 2006 Fighting and feuding in Neolithic and Bronze Age Britain and Ireland. In *Warfare and society*, edited by T. Otto, H. Thrane, and H. Vandkilde, 141–166. Aarhus University Press, Aarhus, Denmark.
- Thorpe, R. S., O. Williams-Thorpe, D. G. Jenkins, and J. S. Watson
 1991 The geological sources and transport of the bluestones of Stonehenge. *Proceedings of the Prehistoric Society* 57:103–157.
- Tilley, C.
 1984 Ideology and the legitimation of power in the middle Neolithic of southern Sweden. In *Ideology, power and prehistory*, edited by D. Miller and C. Tilley, 111–146. Cambridge University Press, Cambridge.
 1994 *A phenomenology of landscape: places, paths and monuments*. Berg, Oxford.
- Tilley, C., and D. Miller (editors)
 1984 *Ideology, power and prehistory*. Cambridge University Press, Cambridge.
- Todorova, H.
 1975 Arheologicheskio prouchvane na selishnata mogila i nekropola pri Goliamo Delchevo, Varnensko. In *Selishnata mogila pri Goliamo Delchevo*, edited by H. Todorova, H., S. Ivanov, V. Vasilev, M. Hopf, H. Quitta, H. and G. Kohl, G., 5–243. *Razkopki I Prouchvania* V. Izdatelstvo na BAN, Sofia.
 1982 *Kupferzeitliche Siedlungen in Nordostbulgarien*. MAVA Bd. 14. Beck, Munich.
- Toledo, F. de
 1874 [1571] Informaciones de las idolatrías de las Incas e indios y de como se enterraban. *Colección de documentos inéditos relativos al descubrimiento . . . sacadas en su mayor parte de Real Archivo de las Indias* 21:131–220.
 1889 [1572] Lo que responde el Virrey del Perú don Francisco de Toledo a los capítulos del Maestro Luis Lopéz. In *Colección de documentos inéditos para la historia de España*, vol 94, edited by M. Fernández Navarrete, M. Salva, and P. Sainz de Baranda, continued by Marqués de Pidal y de Miraflores, Marqués de la Fuensanta de Valle, José Sancho Rayon, and Francisco de Zabálburu, 517–518.
- Tollefson, K. D.
 1995 Potlatching and political organization among the northwest coast Indians. *Ethnology* 34:53–73.
- Tolstoy, Paul
 1989 Coapexco and Tlatilco: sites with Olmec materials in the basin of Mexico. In *Regional perspectives on the Olmec*, edited by R. J. Sharer and D. C. Grove, 85–121. Cambridge University Press, New York.
- Tomasto Cagigao, E.
 2009 Talking bones: bioarchaeological analysis of individuals from Palpa. In *New technologies for archaeology: multidisciplinary investigations in Palpa and Nasca, Peru*, edited by M. Reindel and G. A. Wagner, 141–158. Springer-Verlag, Berlin.
- Tomlinson, G.
 2007 *The singing of the New World: indigenous voice in the era of European contact*. Cambridge University Press, Cambridge.

- Torres, C.
2008 Chavín's psychoactive pharmacopoeia: the iconographic evidence. In *Chavín art, architecture and culture*, edited by W. Conklin and J. Quilter, 239–259. Cotsen Institute of Archaeology, UCLA, Los Angeles.
- Tozzer, A. M.
1941 *Landa's relacion de las Cosas de Yucatan: a translation*. Papers of the Peabody Museum of Archaeology and Ethnology. Peabody Museum, Harvard University, Cambridge, Massachusetts.
- Treherne, P.
1995 The warrior's beauty: the masculine body and self-identity in Bronze-Age Europe. *Journal of European Archaeology* 3(1):105–144.
- Treu, M.
1906 *Orationes I*. Programm des königlichen Victoria-Gymnasiums, Potsdam.
- Trigger, B. G.
2003 *Understanding early civilizations: a comparative study*. Cambridge University Press, Cambridge.
2006 *A history of archaeological thought*. 2nd ed. Cambridge University Press, Cambridge.
- Tringham, R.
2005 Weaving house life and death into places: a blueprint for a hypermedia narrative. In *(Un)settling the Neolithic*, edited by D. Bailey, A. Whittle, and V. Cummings, 98–111. Oxbow Books, Oxford.
- Tsountas, Ch.
1889 Ἐρευναι ἐν τῇ Λακωνικῇ καὶ ὁ τάφος τοῦ Βαφειοῦ. *Archaiologike Ephemeris* 1889:129–72.
- Tuan, Y.-F.
1977 *Place and space: the perspective of experience*. University of Minnesota Press, Minneapolis.
1978 Space, time, place: a humanistic frame. In *Timing space and spacing time*. Vol. 1: *Making sense of time*, edited by T. Carlstein, D. Parkes, and N. Thrift, 7–16. Arnold, London.
- Turner, J. (editor)
1996 *The dictionary of art*. 34 vols. Oxford University Press, Oxford.
- Turner, R., and R. Scaife
1995 *Bog bodies: new discoveries and new perspectives*. British Museum, London.
- Turner, T.
1996 Social complexity and recursive hierarchy in indigenous South American societies. In *Structure, knowledge, and representation in the Andes: studies presented to Reiner Tom Zuidema on the occasion of his 70th birthday*, edited by G. Urton, special issue, *Journal of the Steward Anthropological Society* 24(1–2):37–60.
- Turner, V.
1982 *From ritual to theatre: the human seriousness of play*. PAJ Publications, New York.
- Underhill, A. P.
1997 Current issues in Chinese Neolithic archaeology. *Journal of World Prehistory* 11(2):103–160.
- Uriarte, M. T., and R. B. González Lauck
2008 *Olmeca: balance y perspectivas*. Instituto de Investigaciones Estéticas, Universidad Nacional Autónoma de México, Mexico City.
- Urton, G.
1990 *The history of a myth: Pacariqtambo and the origin of the Inkas*. University of Texas Press, Austin.
1997 *The social life of numbers: a Quechua ontology of numbers and philosophy of arithmetic*. University of Texas Press, Austin.
1999 *Inca myths*. University of Texas Press, Austin.
2002 Recording signs in narrative-accounting khipus. In *Narrative threads: accounting and recounting in Andean khipu*, edited by J. Quilter and G. Urton, 171–196. University of Texas Press, Austin.
2003 *Signs of the Inka khipu: binary coding in the Andean knotted-string records*. University of Texas Press, Austin.
2006 Censos registrados en cordeles con “Amarres”: Padrones poblacionales pre-Hispánicos y coloniales tempranos en los khipus Inka. *Revista Andina* 42:153–196.
2009 Sin, confession and the arts of book- and cord-keeping: an intercontinental and transcultural exploration of accounting and governmentality. *Comparative Studies in Society and History* 51(4):801–831.
2010 Recording measure(ment)s in the Inka khipu. In *The archaeology of measurement: comprehending heaven, earth and time in ancient societies*, edited by I. Morley and C. Renfrew, 54–70. Cambridge University Press, Cambridge.
- Urton, G., and C. J. Brezine
2005 Khipu accounting in ancient Peru. *Science* 309:1065–1067.
2011 Khipu typologies. In *Their way of writing: scripts, signs and pictographies in pre-Columbian America*, edited by E. Boone and G. Urton, 319–352. Dumbarton Oaks Foundation, Washington, D.C.

- Vaillant, G. C.
 1930 *Excavations at Zacatenco*, Anthropological Papers of the American Museum of Natural History 32(1). American Museum of Natural History, New York.
 1931 *Excavations at Ticomán*. Anthropological Papers of the American Museum of Natural History 32(2). American Museum of Natural History, New York.
 1935 *Excavations at El Arbolillo*. Anthropological Papers of the American Museum of Natural History 35(2). American Museum of Natural History, New York.
- Valcárcel, L.
 1934 Los trabajos arqueológicos en el Departamento de Cuzco. Sajsawaman Redusubierto I–II. *Revista del Museo Nacional* 3:3–36, 211–233.
 1935 Los trabajos arqueológicos en el Departamento de Cuzco. Sajsawaman Redusubierto III–IV. *Revista del Museo Nacional* 4:1–24, 161–203.
- Valdez, L. M.
 2009 Walled settlements, buffer zones, and human decapitation in the Acari Valley, Peru. *Journal of Anthropological Research* 65:389–416.
- Valencia Zegarra, A., and A. Gibaja Oviedo
 1992 *Machu Picchu: la investigación y conservación del monumento arqueológico después de Hiram Bingham*. Municipalidad de Qosqo, Cuzco.
- Valeri, V.
 1994 Wild victims: hunting as sacrifice and sacrifice as hunting in Huau. *History of Religions* 34(2):101–130.
- van Andel, T. H., K. Gallis, and G. Toufexis
 1995 Early Neolithic farming in a Thessalian river landscape. In *Mediterranean Quaternary river environments*, edited by R. Lewin, M. G. Macklin, and J. C. Woodward, 131–144. Balkema, Rotterdam.
- van de Guchte, M.
 1999 The Inca cognition of landscape: archaeology, ethnohistory, and the aesthetic of alterity. In *Archaeologies of landscape: contemporary perspectives*, edited by W. Ashmore and A. B. Knapp, 149–168. Blackwell, Malden, Massachusetts.
- Vandkilde, H.
 2006 Archaeology and war: presentations of warriors and peasants in archaeological interpretations. In *Warfare and society*, edited by T. Otto, H. Thrane, and H. Vandkilde, 57–74. Aarhus University Press, Aarhus, Denmark.
- van Straten, F.
 1988 The god's portion in Greek sacrificial representations: is the tail doing nicely? In *Early Greek cult practice. Proceedings of the fifth international symposium at the Swedish Institute at Athens, 26–29 June 1986*, edited by R. Hägg, N. Marinatos, and G. C. Nordquist, 51–68. Swedish Institute at Athens, Stockholm.
 1995 *Hierà kalá: images of animal sacrifice in Archaic and Classical Greece*. E. J. Brill, Leiden.
- van Wijngaarden, G.-J.
 1999 An archaeological approach to the concept of value: Mycenaean pottery at Ugarit (Syria). *Archaeological Dialogues* 6:1–46.
- Varzos, K.
 1984 *Η γενεαλογία τῶν Κομνηνῶν (He genealogia ton Komnenon)*. 2 vols. Kentron Byzantinon Ereunon, Thessalonike.
- Veblen, T.
 1899 *The theory of the leisure class: an economic study in the evolution of institutions*. Macmillan Company, New York.
- Vencl, S.
 1999 Stone Age warfare. In *Ancient warfare. Archaeological perspectives*, edited by J. Carman and A. Harding, 57–72. Alan Sutton, Stroud, UK.
- Ventris, M., and J. Chadwick
 1973 *Documents in Mycenaean Greek*. 2nd ed. Cambridge University Press, Cambridge.
- Verano, J.
 1993 Where do they rest? The treatment of human offerings and trophies in ancient Peru. In *Tombs for the living: Andean mortuary practices*, edited by T. D. Dillehay, 189–228. Dumbarton Oaks Research Library and Collection, Washington, D.C.
 1997 Advances in the paleopathology of Andean South America. *Journal of World Prehistory* 11(2):237–267.
 2001 The physical evidence for human sacrifice in ancient Peru. In *Ritual sacrifice in ancient Peru*, edited by E. P. Benson and A. G. Cook, 165–184. University of Texas Press, Austin.
 2003 Trepanation in prehistoric South America: geographic and temporal trends over 2,000 years. In *Trepanation: history, discovery, theory*, edited by R. Arnott, S. Finger, and C. U. M. Smith, 223–236. Swets & Zeitlinger, Lisse.

- Vermeule, E. T.
 1972 *Greece in the Bronze Age*. 2nd ed. University of Chicago Press, Chicago.
 1996 Archaeology and philology: the dirt and the word. *Transactions of the American Philological Association* 126:1–10.
- Vernant, J.-P.
 1990 *Figures, idoles, masques*. Julliard, Paris.
 1991 *Mortals and immortals: collected essays*, edited by F. I. Zeitlin. Princeton University Press, Princeton, New Jersey.
- Vickers, M.
 1990 Golden Greece: relative values, minae, and temple inventories. *American Journal of Archaeology* 94:613–625.
- Videiko, M. Y.
 2007 Contours and contents of the ghost: Tripillia culture proto-cities. *Memoria Antiquitatis* 24:251–276.
- Villka, L.
 1997 *The intrinsic value of nature*. Rodopi, Amsterdam.
- Vogel, H. U.
 1994 Aspects of metrosophy and metrology during the Han period. In *Sous les nombres, le monde. Matériaux pour l'histoire culturelle du nombre en Chine ancienne*, edited by A. Volkov, 135–152. Extrême-Orient, Extrême-Occident 16. Presses Universitaires de Vincennes, Saint-Denis.
- Volkov, A.
 1985 Priédvaritiél'nyie riézoul'taty kolitchiésviénnogo analiza driévníekitaiskikh ètalonnykh sosoudov (Preliminary results of a quantitative analysis of ancient Chinese standard measuring vessels, in Russian). In *Seventeenth proceedings of the annual congress of Sinologists "Society and state in China,"* 145–150. Nauka, Moscow.
 1994a Calculation of π in ancient China: from Liu Hui to Zu Chongzhi. *Historia Scientiarum* 4:139–157.
 1994b Supplementary data on the values of π in the history of Chinese mathematics. In *Philosophy and the History of Science: A Taiwanese Journal* 3:95–110.
 1995 Quantitative analysis of Liu Xin's standard measuring vessels. In *East Asian science: tradition and beyond*, edited by K. Hashimoto, C. Jami, and L. Skar, 377–384. Kansai University Press, Osaka.
- von Falkenhausen, L.
 2006 The external connections of Sanxingdui. *Journal of East Asian Archaeology* 5(1–4):191–246.
- von Neumann, J.
 1928 Zur Theorie der Gesellschaftsspiele. *Mathematische Annalen* 100(1):295–320.
- von Neumann, J., and O. Morgenstern
 2004 [1944] *Theory of games and economic behavior*. Princeton University Press, Princeton, New Jersey.
- von Reden, S.
 1995 *Exchange in ancient Greece*. Duckworth, London.
 1997 Money, law and exchange: coinage in the Greek polis. *Journal of Hellenic Studies* 117:154–176.
- Vörös, I.
 1983 Lion remains from the Late Neolithic and Copper Age of the Carpathian Basin. *Folia Archaeologica* 34:33–50.
- Voutsaki, S.
 1997 The creation of value and prestige in the Late Bronze Age Aegean. *Journal of European Archaeology* 5(2):34–52.
 1998 Mortuary evidence, symbolic meanings and social change: a comparison between Messenia and the Argolid in the Mycenaean period. In *Cemetery and society in the Aegean Bronze Age*, edited by K. Branigan, 41–58. Sheffield Studies in Aegean Archaeology 1. Sheffield Academic Press, Sheffield, UK.
 1999 The Shaft Grave offerings as symbols of power and prestige. In *Eliten in der Bronzezeit: Ergebnisse zweier Colloquien in Mainz und Athen*, edited by I. Kilian-Dirlmeier and M. Egg, 103–117. Monographien des Römisch-Germanischen Zentralmuseums, Mainz.
 2005 Age and gender in the southern Greek mainland, 2000–1500 BC. *Ethnographisch-Archäologische Zeitung* 46(2–3):339–363.
 2010a Agency and personhood at the onset of the Mycenaean period. *Archaeological Dialogues* 17(1):65–92.
 2010b From the kinship economy to the palatial economy: the Argolid in the 2nd millennium BC. In *Political economies in the Aegean Bronze Age*, edited by D. Pullen, 86–111. Oxbow, Oxford.
- Voutsaki, S., S. Triantaphyllou, A. Ingvarsson-Sundström, S. Kouidou-Andreou, L. Kovatsi, A. J. Nijboer, D. Nikou, and E. Milka.
 2006 Project on the Middle Helladic Argolid: a report on the 2005 season. *Pharos* 13:93–117.

Voutsaki, S., S. Triantaphyllou, A. Ingvarsson-Sundström, K. Sarri, M. P. Richards, A. J. Nijboer, S. Kouidou-Andreou, L. Kovatsi, D. Nikou, and E. Milka.

2007 Project on the Middle Helladic Argolid: a report on the 2006 season. *Pharos* 14:59–99.

Wachtel, N

1982 The Mitimas of the Cochabamba Valley: the colonization policy of Huayna Capac. In *The Inca and Aztec states 1400–1800: anthropology and history*, edited by G. A. Collier, R. I. Rosaldo, and J. D. Wirth, 199–235. Academic Press, New York.

Waddington, C.

2007 Neolithic rock-art in the British Isles: retrospect and prospect, in *Art as metaphor: the prehistoric rock-art of Britain*, edited by A. Mazel, G. Nash, and C. Waddington, 49–68. Archaeopress, Oxford.

Waetzoldt, H.

1987 Compensation of craft workers and officials in the Ur III period. In *Labor in the ancient Near East*, edited by M. A. Powell, 117–141. American Oriental Society, New Haven, Connecticut.

1988 Die Situation der Frauen und Kinder anhand ihrer Einkommensverhältnisse zur Zeit der III. Dynastie von Ur. *Altorientalische Forschungen* 15:30–44.

Wagner, C.

1976 Coca y estructura cultural en los Andes peruanos. *Allpanchis* 9:193–224.

Walker, W. H.

1995 Ceremonial trash? In *Expanding archaeology*, edited by J. M. Skibo, A. E. Nielson, and W. H. Walker, 67–79. University of Utah Press, Salt Lake City.

Wallace, D. T.

1998. The Inca compound at La Centinela, Chinch. *Andean Past* 5:9–33.

Wallace, R. W.

1987 The origin of electrum coinage. *American Journal of Archaeology* 91:385–397.

Walsem, van, R.

1997 *The coffin of Djedmonthuiufankb in the National Museum of Antiquities at Leiden*. NINO, Leiden.

Waltman, J. I.

2008 *Minimum wage policy in Great Britain and the United States*. Algora, New York.

Walton, K. L.

1993 How marvelous! Toward a theory of aesthetic value. *Journal of Aesthetics and Art Criticism* 51(3):499–510.

Wang, P.

2002 *Aching for beauty: footbinding in China*. Anchor Books, New York.

Wang Yi

2006 Prehistoric walled settlements in the Chengdu plain. *Journal of East Asian Archaeology* 5(1–4):109–148.

Weber, M.

1968 *Economy and society: an outline of interpretative sociology*. Bedminster Press, New York.

Weiner, A. B.

1980 Reproduction: a replacement for reciprocity. *American Ethnologist* 7:71–85.

1985 Inalienable wealth. *American Ethnologist* 12:210–227.

1992 *Inalienable possessions: the paradox of keeping-while-giving*. University of California Press, Berkeley.

Weiss H. P.

1932 Restos humanos. *Revista del Museo Nacional* 2:90–102.

1962 Tipología de las deformaciones cefálicas de los antiguos Peruanos, según la osteología cultural. *Revista del Museo Nacional* 31:15–42.

Wei Zheng et al. 魏徵等

1973 *History of the Sui [Dynasty]* 隋書. Zhonghua shuju 中華書局, Beijing 北京.

Wen Guang and Jing Zhichun

1992 Chinese Neolithic jade: a preliminary geoarchaeological study. *Geoarchaeology* 7(3):251–275.

Wernke, S. A.

2006 The politics of community and Inka statecraft in the Colca Valley, Peru. *Latin American Antiquity* 17:177–208.

Weschler, L.

1999 *Boggs: a comedy of values*. University of Chicago Press, Chicago.

Wey-Gómez, N.

1998 Nuestro Padre el Sol: scholastic cosmology and the cult of the Sun in Inca Garcilaso's "Comentarios reales." *Latin American Literary Review* 26(52):9–26.

- Whitby, M.
1988 *The Emperor Maurice and his historian: Theophylact Simocatta on Persian and Balkan warfare*. Clarendon Press, Oxford.
- Whitley, D. S., R. I. Dorn, J. M. Simon, R. Rechtman, and T. K. Whitley
1999 Sally's Rockshelter and the archaeology of the vision quest. *Cambridge Archaeological Journal* 9:221–247.
- Whitley, J.
2002 Too many ancestors. *Antiquity* 76:119–126.
- Whittle, A.
2004 Stones that float to the sky: portal dolmens and their landscapes of memory and myth. In *The Neolithic of the Irish Sea. Materiality and traditions of practice*, edited by V. Cummings and C. Fowler, 81–90. Oxbow Books, Oxford.
2005 Lived experience in the Early Neolithic of the great Hungarian Plain. In *(Un)settling the Neolithic*, edited by D. Bailey, A. Whittle, and V. Cummings, 64–70. Oxbow Books, Oxford.
2007a *The Early Neolithic on the great Hungarian Plain. Investigations of the Körös culture site of Ecsegfalva 23, County Békés*. Varia Archaeologia Hungarica 21. Institute of Archaeology, Budapest.
2007b The setting: Ecsegfalva and Körös culture site locations. In *The Early Neolithic on the great Hungarian Plain: investigations of the Körös culture site of Ecsegfalva 23, County Békés.*, edited by A. Whittle, 27–30. Varia Archaeologia Hungarica 21. Institute of Archaeology, Budapest
- Whittle, A., and L. Bartosiewicz
2007 On the waterfront. In *The Early Neolithic on the great Hungarian Plain. Investigations of the Körös culture site of Ecsegfalva 23, County Békés*, edited by A. Whittle, 727–752. Varia Archaeologia Hungarica 21. Institute of Archaeology, Budapest.
- Whittle, A., L. Bartosiewicz, D. Borić, P. Pettit, and M. Richards
2002 In the beginning: new radiocarbon dates for the Early Neolithic in northern Serbia and south-east Hungary. *Antaeus* 25:63–117.
- Widell, M.
2005 Some reflections on Babylonian exchange during the end of the third Millennium BC. *Journal of the Economic and Social History of the Orient* 48:388–400.
- Wilamowitz Moellendorff, U. von
1922 *Pindaros*. Weidmann, Berlin.
- Wilcke, C.
1976–1980 Kauf nach Kaufurkunden der Zeit der III. Dynastie von Ur. *Reallexikon der Assyriologie und vorderasiatischen Archäologie* 5:498–512.
2007 Markt und Arbeit im Alten Orient am Ende des 3. Jahrtausends v. Chr. In *Menschen und Märkte: Studien zur historischen Wirtschaftsanthropologie. Institut für historische Anthropologie* 9, edited by W. Reinhard and J. Stagl, 71–132. Böhlau Verlag, Vienna.
- Will, E.
1954 De l'aspect éthique des origines grecques de la monnaie. *Revue historique* 212:209–231.
1955a *Korinthiska. Recherches sur l'histoire et la civilisation de Corinthe des origines aux guerres médiques*. De Boccard, Paris.
1955b Réflexions et hypothèses sur les origines de la monnaie. *Revue de numismatique* 17:5–23.
1975 Les sources des métaux monnayés dans le monde grec. In *Numismatique antique: problèmes et méthodes*, edited by J.-M. Dentzer, P. Gautier, and T. Hackens, 97–102. Université de Nancy II, Nancy.
- Williams, D.
1991–1993 The “pot hoard” pot from the Archaic Artemisium at Ephesus. *Bulletin of the Institute of Classical Studies* 38:98–103.
- Williams, J. (editor)
1997 *Money: a history*. British Museum Press, London.
- Williams, S. R., K. Forgey, and E. Klarich
2001 An osteological study of Nasca trophy heads collected by A. L. Kroeber during the Marshall Field expeditions to Peru. *Fieldiana* 33:1–132.
- Wilson Jones, M.
2000 Doric measure and architectural design 1: the evidence of the relief from Salamis. *American Journal of Archaeology* 104:73–93.
- Wilson, P.
2000 *The Athenian institution of the khoregia: the chorus, the city, and the stage*. Cambridge University Press, Cambridge.
2003 The politics of dance: dithyrambic contest and social order in ancient Greece. In *Sport and festival in the ancient Greek world*, edited by D. Phillips and D. Pritchard, 163–196. Classical Press of Wales, Swansea.

- Wilson, P. J.
1988 *The domestication of the human species*. Yale University Press, New Haven, Connecticut.
- Wittenburg, A.
1995 Bernhard Laum und der sakrale Ursprung des Geldes. In *Alteltumswissenschaft in den 20er Jahren: neue Fragen und Impulse*, edited by H. Flashar, 259–274. Franz Steiner Verlag, Stuttgart.
- Wolf, E. R.
1999 *Envisioning power: ideologies of dominance and crisis*. University of California Press, Berkeley.
- Wright, F. A.
1936 *The poets of the Greek anthology*. George Routledge and Sons Ltd., New York.
- Wright, H. T.
1977 Recent research on the origin of the state. *Annual Review of Anthropology* 6:379–397.
- Wright, H. T., and G. A. Johnson
1975 Population, exchange, and early state formation in southwestern Iran. *American Anthropologist* 77:267–289.
- Xenake-Sakellariou, A.
1991 Αναζήτηση του έργαστηρίου των χρυσών κυπέλλων του Βαφειοῦ. *Archaiologike Ephemeris* 130:45–64.
- Xia Nai 夏鼎 and Yin Weizhang 殷璋璋
1982 湖北銅綠山古銅礦 (The ancient bronze quarry at Tonglushan in Hubei). 考古學報 (*Acta archaeologica sinica*) 1982(1):1–14.
- Xiao Lin 肖璘, Yang Junchang 楊軍昌, and Han Rufen 韓汝玢
2004 成都金沙遺址出土金屬器的實驗分析與研究 (Experimental studies of the metal objects discovered at Jinsha in Chengdu). 文物 (*Cultural Relics*) 2004(4):78–89.
- Xiao Minghua 肖明華
2004 論滇文化的青銅貯貝器 (On bronze cowrie-storing objects of the Dian-culture). 考古 (*Archaeology*) 2004(1):78–88.
- Xu, Jie
2001a Bronze at Sanxingdui. In *Ancient Sichuan: treasures from a lost civilization*, edited by R. Bagley, 59–152. Seattle Art Museum and Princeton University Press, Seattle and Princeton.
2001b Sichuan before the Warring States period. In *Ancient Sichuan: treasures from a lost civilization*, edited by R. Bagley, 21–38. Seattle Art Museum and Princeton University Press, Seattle and Princeton.
2006 Defining the archaeological cultures at the Sanxingdui site. *Journal of East Asian Archaeology* 5(1–4):149–190.
- Yacovleff, E., and J. C. Muelle
1932 Una exploración en Cerro Colorado: informe y observaciones. *Revista del Museo Nacional* 1(2):31–59.
1934a Un fardo funerario de Paracas. *Revista del Museo Nacional* 3(1):63–153.
1934b El mundo vegetal de los antiguos peruanos. *Revista del Museo Nacional* 3(3):241–323.
- Yang Yongfu 楊永富, Li Kui 李奎, and Chang Sihe 常嗣和
2002 金沙村遺址玉, 石器材料鑑定及初步研究 (Identification and research on the jade and stone raw material from the Jinsha site). In 金沙淘珍 — 成都市金沙村遺址出土文物 [*Panning for treasure at Jinsha — Artifacts excavated from the Jinsha village site in Chengdu City*], edited by Chengdu & Beijing, 193–200. Wenwu chubanshe, Beijing.
- Yasugi, Y.
1995 *Native middle American languages: an areal-typological perspective*. Senri Ethnological Studies 38. National Museum of Ethnology, Osaka.
- Young, G. D.
1979 A merchant's balanced account and Neosumerian gold. In *Studies in honor of Tom B. Jones*, edited by M. A. Powell and R. H. Sack, 195–217. Neukirchener Verlag, Kevelaer, Neukirchen-Vluyn, Germany.
- Young, J. E.
1993 *The texture of memory: holocaust memorials and meaning*. Yale University Press, New Haven, Connecticut.
- Yu Weichao 俞偉超
1996 三星堆文化在我國文化總譜系中的位置、地望及其土地崇拜 (The position, prestige, and local religion of the Sanxingdui culture in the overall scheme of Chinese culture). In 四川考古報告集 (*Archaeological reports from Sichuan*), edited by Sichuan, 59–63. Wenwu chubanshe, Beijing.
- Zelizer, V. A.
1997 *The social meaning of money: pin money, paychecks, and other currencies*. Princeton University Press, Princeton, New Jersey.
- Zhao Dianzeng
1996 The sacrificial pits at Sanxingdui. In *Mysteries of ancient China: new discoveries from the early dynasties*, edited by J. Rawson, 232–239. George Braziller, New York.

- Zhejiang 浙江省文物考古研究所
2003 河姆渡: 新石器時代遺址考古發掘報告 (*Hemudu: report on the archaeological excavations of a Neolithic site*). Wenwu chubanshe, Beijing.
- Zhongguo and Xianggang 中國社會科學院考古研究所 and 香港中文大學中國考古藝術研究中心
2006 玉器起源探索—興隆洼玉器研究與圖錄 (*The origins of Chinese jade culture—Xinglongwa jades research and catalogue*). Chinese University of Hong Kong Press, Hong Kong.
- Zhongguo (Zhongguo Shehuikexueyuan Kaogu Yanjiusuo 中國社會科學院考古研究所)
1980 墟婦好墓 (*The tomb of lady Hao at Yinxu in Anyang*). Wenwu chubanshe, Beijing.
- Zhou, T., R. J. Goldfarb, and G. N. Phillips
2002 Tectonics and distribution of gold deposits in China—an overview. *Mineralium Deposita* 37:249–282.
- Zhu Xun 朱訓
1999 中國礦情: 金屬礦產 (*Chinese minerals: metal minerals*). Kexue chubanshe, Beijing.
- Zhu Zhangyi, Zhang Qing, and Wang Fang
2006 The Jinsha site: an introduction. *Journal of East Asian Archaeology* 5(1–4):247–276.
- Zimmerman, N.
1943–1944 The tapestries of colonial Peru. *Brooklyn Museum Journal*: 25–52.
- Zou Dahai 鄒大海
2009 On some problems regarding the *Book of Mathematical Procedures*, Qin regulations and the ancient measuring units for cereals (關於“算數書”, 秦律和上古糧米計量單位的幾個問題). *Journal of Inner Mongolia Normal University (natural science, Chinese edition)* (內蒙古師範大學學報 [自然科學漢文版]) 38:508–515.
- Zou Heng 鄒衡
1996 三星堆文化與夏商文化的關係 (The relationship between Sanxingdui culture and Xia Shang culture). In 四川考古報告集 (*Reports on Sichuan archaeology*), edited by Sichuan, 57–58. Wenwu chubanshe, Beijing.
- Zhu Xun 朱訓
1999 中國礦情: 金屬礦產 (*Chinese minerals: metal minerals*). Kexue chubanshe, Beijing.
- Zuidema, R. T.
1964 *The Ceque system of Cuzco: the social organization of the capital of the Inca*. E. J. Brill, Leiden.
1977 The Inca calendar. In *Native American astronomy*, edited by A. F. Aveni, 219–260. University of Texas Press, Austin.
1982 Bureaucracy and systematic knowledge in Andean civilization. In *The Inca and Aztec states, 1400–1800: anthropology and history*, edited by G. A. Collier, R. I. Rosaldo, and J. D. Wirth, 419–458. Academic Press, New York.
1990 *Inca civilization in Cuzco*, translated by J.-J. Decoster. University of Texas Press, Austin.
- Zwierlein-Diehl, E.
1992 Phrygillos: zum Problem der Identität des Gemmenschneiders und des Münzstempelschneiders. *Antike Kunst* 35:106–117.

INDEX

- A
 Abaj Takalik (Guatemala), 510
 absolute value, 394
 see also intrinsic value
accorasi (Inca headpiece), 403
 Achilles, 15, 224, 226–32, 233n7, 278–79
 Acosta, José de, 414, 421n4, 500–501
Actas de Cabildo, 420
 Acuña, Francisco de, 422n6
 Addison, J., 353n5
 additive numerology, 505
 adornment
 and body value, 26
 bronze, 266, 334–35n5
 and gender, 301
 in Inca culture, 403
 in Moche civilization, 186–96
 in prehistoric Peru, 33, 293–94, 299–301
 in Sanxingdui and Jinsha, 313–16
adventus and *consensus* of relics, 239, 242
 Aegina (Greece), 173
aes signatum (Roman stamped bronze bars), 280–81
Aesthetic Function, Norm and Value as Social Facts
 (Mukařovský), 340
 aesthetic value
 in ancient Greece, 339–42, 344–52
 of *choreia*, 28, 220, 223
 and cultural value, 334–53
 defined, 4, 257–58
 and Mesoamerican clay figurines, 37–38, 370–91
 and money, 262–65
 and object value, 37, 182, 336–53
 and scarcity, 8
 and subjective value, 17–18
 affirmation of value, 340–44, 346–47
 age and value construction, 30, 178
 agency of objects, 17, 31, 64
 agricultural terraces, 109, 112
abuasca (Inca coarse fabric), 402–3
aisthēsis (sensation), 37, 339–41, 343
ajil (Maya number value), 44–45, 498
 Albornoz, C. de, 422n7
 Alcock, Susan E., 22, 24–25, 90–96
 alcohol (*chicha*), 414–16, 421n3, 422n5, 422nn9–10
 see also *aquillas*; *keros*
 Alexander the Great, 93, 95
 Alföld Linear Pottery sites, 75
 Alkman, 227
 Allison, M. J., 204
altepetl (Nahua social community), 421
 Amandry, P., 282–83
 Ambrose, 243
 Amen priesthood, 43, 140–41, 155–56, 158
 Amit, V., 85–86
 Ammianus Marcellinus, 534
 Amomoloc type figurines, 371
 Anastasius, 243, 524
 Anatolia, 264–65, 269–70
 ancestors and land shrines, 63
 Ancón mummies (Peru), 198
 animal figurines, 325
 animal forms, transformations into, 297–98
 animation, value of, 28, 194–95, 228–32
 anthropology, economic, 12–21, 162
 anthropomorphic heads, 313, 317–18, 320, 327, 333
 anticipatory numerology, 505
 Antiphanes inscription, 347–48
 Anyang (China), 328
 Apollo, 224–25, 228, 281
Apophthegmata (Pindar), 220–21
 Appadurai, Arjun
 on circulation, deposition and destruction of
 objects, 16–17
 and economic value, 142, 260, 393
 on exchange value, 255, 258
 on fetishism of commodities, 9
 on object value, 313
 and saints' relics, 30
 The Social Life of Things, 30, 240
aqba (Inca corn beer), 414–16
aquillas (silver or gold Inca drinking cups), 416–19
 Aquinas, Thomas, 6–7
 Arcadius (emperor), 365
Archaeology of Measurement (Morley and Renfrew), 46
Archaeology of Value (ed. by D. Bailey and Mills), 46
 architecture, 101, 109–16, 129–32, 135–36
 Archytas of Tarentum, 67
 Arena Blanca/Cabeza Larga (Paracas cemetery),
 200–203
Argonauts of the Western Pacific (Malinowski), 13
 Ariadne/Sophia (empress), 365
aríbolos (Inca jars), 401
 Aristokleidas, 229, 231
 Aristotle, 5–6, 47n3, 263–64, 268–69, 340–43, 409
 and *theōria* (contemplation), 343
 Arroyo de Piedra (Guatemala), 506
Art as Experience (Dewey), 344
 Artemis, 224, 234n13
 art value. *see* aesthetic value
 Asklepias of Salona, 243
 Asper, M., 5207
 Aspero (Peru), 291, 302
 Atahualpa (Inca Emperor), 412
ataraxia (tranquility), 340
 Atarco (Peru), 483–86
 Athena, 276
 Athena Promachos statuette, 349
 Athens (Greece), 93–95, 270, 519
 attention, acts of, 339–45, 353n10
aureus (Greco-Roman gold coin), 523

Australian Aborigines, 14, 53–54, 59, 257

“ax money,” 43, 488

Ayers Rock (Australia), 53–54

ayllus (Inka kin groups), 476, 490–91

Aymara language, 132, 208, 411, 421

Aztecs (Mexico), 39, 407, 420, 500

B

Bacchae (Euripides), 233n4

Bachwen (Wales), 59–60

Bailey, Douglass, 46

Bailey, Melissa A., 45–46, 516–35

bak'tun (144,000 days in Maya calendar), 510–14

bala (Sumerian taxation system), 431, 448, 457–58

Balard, Michel, 369n10

Balcónpata (part of Wat'a, Peru), 119

Balkans, 23, 71–73, 78–88

Ballyglass (Ireland), 61–62

Bandurria (Peru), 291

Ban Gu, 462

Baodun culture (China), 307–9, 313–35

Barbarossa, 412

barley, 36, 42, 277–80, 282, 432, 435–38, 443–46

Barna, Judit, 85

barter, 252–53, 487–88

Barthes, Roland, 38, 384–86, 390

base 10 counting system, 464, 481, 502

base 20 counting system, 45, 499–500, 502, 510–11

basket production, 454–56

Basso, K. H., 53

Bataille, Georges, 16

Baudrillard, Jean, 17, 258

Bauer, Alexander, 129

Bauer, Brian, 133–34

Baxandall, Michael, 344

beads, 187–88, 196nn1–2, 290–92, 301, 303, 396–97

beans, 213

see also cacao beans

Bell, Catherine, 227

bells, 189, 193

Benin Kingdom, 397

Benjamin, Walter, 17

Berleant, A., 353n5

Betanzos, Juan de, 132–33

bi (Chinese collared) disks, 319, 323–24, 334n3

biography

cultural, 163, 240

and object value, 17, 31–33, 35, 309–13, 333, 373

of place, 71–74

biotite-tonalite, 55

bishops and relics, 238–39, 243–45

Black and White Portal (Peru), 298

Bloch, Maurice, 1–2, 7, 64, 264

Blomster, J. P., 381

bluestones, 55–56

Blumer, Herbert, 386–90

Boas, Franz, 13

body value

overview, 25–31

in ancient Greece, 27–28

bodily modifications and identity, 205–10

and *choreia*, 218–19

and grave circles of Mycenae, 166, 171–77

and Moche adornment, 36, 186–96

and number value, 27

and object value, 223–24

in Paracas culture, 197–217

and place value, 27

and saints and relics, 236–45

Boggs, J. S. G., 262–63

Boggs: A Comedy of Values (Weschler), 262–63

Bonsall, C., 79

Book of Mathematical Procedures, The, 464, 471–72

Books of Gifts and Rarities, 365

Bourdieu, Pierre, 16, 24, 86, 162, 531

Bradley, Richard, 68

brass coinage, 523

Bray, Tamara L., 38, 392–405

Brezine, Carrie, 496n2

bronze

adornment, 266, 334–35n5

aes signatum, 280–81

arsenical, 334n3

coinage, 260, 279–80, 525–26, 534, 535n1

deposition of, 326

exchange value, 252

production of, 317–18, 330, 332

in Sanxingdui and Jinsha, 35, 308–9, 314–21, 333, 335n7

sculptures, 317–18, 320–21, 333, 335n7

as status item, 403

Bronze Age, 139–40, 259, 266–70, 277–79

Brown, Peter, 238–39, 243

Buikstra, J. E., 217n3

bull imagery, 275–77, 279, 282–83

bundled mummies, 29, 199–203, 210–14, 216, 217n5

Burger, Richard L., 33–34, 252, 258, 288–305

burial domains, 168–70

see also cemeteries

burials

cache burials, 144

of children, 83, 178, 201–4, 215, 290

collective graves, 169

high status, 251, 252–53

and Inca figurines, 402

and Mesoamerican clay figurines, 37–38, 370, 372, 375, 379

multiple, 201–3

of objects of value, 32–33, 308–9

preinternment destruction, 314

and religious iconography, 259–60

with weapons, 259

see also coffins; funerary arts and rituals; mummies; tombs

burning. *see* fires

Butler, Judith, 20

Byzantine culture, 36, 354–69, 524–25

C

Cabeza Larga/Arena Blanca (Paracas cemetery), 200–203

cacao beans, 44, 252, 499, 500–501

cache burials, 144

see also collective graves; multiple burial

- Cahuachi (Peru), 206–7, 209, 214
 Calancha, Antonio de la, 495
 calendars, 44–45, 462, 473n2, 498, 509–15
 campaign plunder, 431
 Campanayuc Rumi (Peru), 298, 300
 Cangbaobao locus (China), 314, 323
 capacity. *see* volume, measurement of
 capitalism, foundations of, 32, 39, 254–55, 257, 408, 412, 415
 capstones, 59–60, 62
 Caqui, Diego, 422n12
 Caral (Peru), 33, 290, 302–3
 Cardal (Peru), 293–94
 Carmichael, P. H., 209
 Carnac (France), 62
 Carn Meini (Wales), 55–56
 Carreg Samson (Wales), 62
 Carrión-Cachot, R., 208
 Carter, Elizabeth, 335n11
 Casey, E. S., 68
 Catholicism, 130–31
 see also saints
 cattle, 36, 275–77, 279–83, 285
 Cavernas (Paracas cemetery), 200–207, 209
 Cavero Palomino, Yuri, 300
 cemeteries, 29, 200–207, 209–17, 251, 258–59
 see also burial domains
 census data, Inka, 476, 485–86, 490
 ceque system (arrangement of Inka sacred places), 491–94
 ceramics
 in fill layers, 113–15, 117–19
 Inka polychrome, 106, 119
 Killke style, 126n6
 Mesoamerican clay figurines, 370–91
 Moche, 187–96
 in Sanxingdui and Jinsha, 313–16
 Cerro Colorado (Peru), 206, 214
 Cerro de la Cruz (Peru), 215
 Cerro Max Uhle (Peru), 215
 Cerro Sapo (Peru), 303
 Chadwick, John, 277–78
 Chaklis (Euboia), 272
chakras (Inka agricultural plots), 476–77
 Chalcolithic period, 259
 chalices, 366–67
chani (value, price - Quechua), 479
 Chanka people (Peru), 398
 Chapman, John, 21–22, 23–24, 66–98
 Charles V (emperor), 410–11, 412
 Chavín civilization (Peru), 34
 Chavín de Huántar (Peru), 34, 252, 289, 296–303
 Chelles, monastery of (France), 241
 Chemla, Karine, 42–43, 459–74
 Chengdu Plain, China, 307–9, 313–35
 Chiapas (Mexico), 372
chicha (Inca corn beer), 414–16, 421n3, 422n5, 422nn9–10
chicherías (drinking establishments), 416
 children, burial of, 83, 178, 201–4, 215, 290
 Chimbu language, 397
 China, 34–35, 42–43, 252, 306–35, 459–60, 464–72
 Chíncha kingdom (Peru), 487–88
 Chinchorro mummies (Chile), 198
 Chios (Greece), 283
 chisel-shaped objects, 323–24
 Chokepukio (Peru), 104, 123
 Chongos (Peru), 201, 206–7, 209
 Chongoyape (Peru), 299, 301
choreia (Greek choral song and dance), 7, 27–28, 36, 218–32, 233n6, 234n13, 235n18
 Chosroes (king), 365
 Chrisomalis, S., 481
 Christ as pearl, 36, 367
 Christianity, 130–31, 355–69, 414–15
 Chumbicarba, Ysabel, 418
 Chupicuaro (Mexico), 370
 churches, Byzantine, 360–61, 368–69n4
 cinnabar, 304
 circulation of commodities, 9, 16–17, 240–41, 332–33, 517
 see also coinage
 civic values, 350
 Clark, J. E., 381
 Clinton, Bill, 429
 clothing, 29, 187, 191–94, 214, 216
 see also textiles
 Coaxomulco type figurines, 371, 383
 Coba (Mexico), 512
 cobbles, 119–20
 Coben, Lawrence, 25, 129
 Cobo, Bernabé, 133, 134, 401
 coca, 133, 136n4, 413–15, 421–22nn3–6, 487–88
 cochineal, 420
 Codex Ešnunna, 431, 444
 Codex Hammurapi, 431
 coffins, 143–46, 151–52, 158–59
 see also burials; mummies; tombs
 coinage
 in Andean culture, 412
 Byzantine, 524–25
 and colonization, 272, 279, 285
 and community, 518–35
 development of, 32, 35–36, 250, 253, 268–71
 and gift exchange, 269
 Greco-Roman, 35–36, 45, 250, 253–55, 261–62, 264–87, 520–30
 and iconography, 36, 262, 272–85
 incuse technique, 272–74
 and object value, 272–85
 and precious metals, 260, 279–82, 523–26, 529–34, 535n1
 spread of, 268
 see also money
 collared (*bi*) disks (China), 319, 323–24, 334n3
 collective graves, 169
 see also cache burials; multiple burial
 collective selection, 387
 Collin, Diego, 418
 colonization, 39, 272, 279, 282, 285, 406–23
 color, value of
 in Byzantine culture, 357
 and cochineal, 420
 duality of, 395

- and Early Horizon, 301–3
- and gradations of value, 397, 403
- of jade and stone, 323
- and *khipus*, 483–86, 489
- and marble, 359–61, 368–69n4
- in Moche culture, 192–93
- and object value, 34
- commemorative value, 47n6
- commensurate value. *see* equivalency value; exchange value
- commercialization. *see* exchange value
- commodification. *see* exchange value
- community-building, 226, 518–35
- comparative display, 155–58, 163–64
- comparative value. *see* gradations of value; relational value
- competitive gift exchange, 13–14, 34, 103, 313, 396
- conceptual images, 379–80
- concreteness of value, 38, 393–95
- cong* tubes (Chinese tubular artifacts), 323–24, 331
- Connerton, P., 122
- conspicuous consumption, 30, 161–63, 185, 333
- Constantina (empress), 239–40, 243, 244
- Constantine I (emperor), 359–61
- Cook, N. D., 422n8
- Cooke, Colin, 304
- Cooney, Kathryn, 29–30, 139–59
- Copacabana (Bolivia), 133
- copper
 - “ax money,” 43, 488
 - coinage, 523–25, 529–30
 - and measurement, 252
 - in Neolithic China, 317–18
 - and object value, 258
 - production of, 330
 - sheets of, 295
 - sources of, 334n4
 - as status item, 251, 403
- Copper Age sites, 71–74
- Coricancha (Cuzco, Peru), 491–94
- Corinth (Greece), 270, 272
- Cornwall (Great Britain), 64
- corporeal relics, 240
- counterfeiting, 532, 534
- counting, 40–41
 - see also* number value
- Covarrubias, M., 378
- Covarrubias Orozco, Sebastián de, 410
- cowrie shells, 314, 319, 330
- craftsmanship, value of
 - and body value, 28
 - of Byzantine art, 355
- choreia* as, 228–32
- and Mesoamerican clay figurines, 373
- Moche, 192
- and mummies, 142, 151–53
- in prehistoric and Early Horizon Peru, 290–91, 299–300, 304–5
 - see also* production and object value
- cranial deformation, 26, 28, 198, 206–8, 379, 391n3
- Croce, Benedetto, 46–47
- Cross, Sarah, 61
- Crux Vaticana, 363
- Csordas, T. J., 216
- Csőszhalom (Hungary), 75–78
- Cuatin, Cristóbal, 418
- Cuatlapanga type figurines, 371, 382–83
- “Cult of Relics in the Letters and Dialogues of Pope Gregory the Great, The,” 239
- Cult of the Saints, The* (Brown), 239, 243
- cultural context and value
 - aesthetic value, 334–53
 - biography and memory, 72–73, 77, 163, 240
 - and body value of relics, 30–31
 - construction of, 1–2, 395–98
 - and origins of coinage, 264
 - and symbolic value, 162–64
- cumbi* (Inca fine fabric), 402–3
- Cummins, Thomas B. F., 38–39, 400, 406–23
- cun* (Chinese unit of measurement), 464–67, 470–72, 473n5
- Cuneiform Digital Library Initiative, 434–35
- cuneiform records, 42, 428, 432, 443, 448
- cup-marks, 59–60
- curacas* (Inca community leaders), 412, 418, 422n12, 489
 - see also* *kurakas*
- currency. *see* coinage; money
- Cuzco (Peru), 23, 129, 134, 399, 489, 491–94
 - see also* Inca culture; Inka culture
- Cuzqueños. *see* Inca culture
- D
- Daidalos, 224, 230–31, 235n21
- dairy production, 447
- Dakoronia, Phanouria, 266
- D’Altroy, T. N., 393
- damgar* (Sumerian trade agent), 438–45
- dan* (Chinese unit of measurement), 466–67, 472, 473–74n10
- Daniel the Stylite, 237–38
- Darius (king), 268
- Das Kapital* (Marx), 8–10
- Database of Neo-Sumerian Texts, 434–35
- da Vinci, Leonardo, 27
- Davis, Fred, 389
- Davis, Wade, 294
- Dearborn, David, 134
- debasement, 524, 534
- deben* (Egyptian weight), 267
- decanummis* (Byzantine copper coin), 524–26
- decimal system, 464, 481
- DeLeonardis, Lisa, 28–29, 197–217
- Delos (Greece) and Delian maidens, 221–22, 224–25, 229, 233n3
- Delphi, 281–83
- Del Pozo, F., 206–8
- denarius* (Greco-Roman silver coin), 523–24
- dentalium, 396
- deposition of objects
 - and body value, 30
 - bronze, 326
 - gold, 328
 - ivory, 329

- and object value, 9, 16–17, 35, 311–13
- and preservation of value, 335n11
- in Sanxingdui and Jinsha, 314, 320, 333–34
 - see also* destruction of objects
- deregulation, 429
- desire
 - and body value, 26, 28
 - and *choreia*, 7, 220, 223–27, 233n6, 234n13, 235n18
 - and object value, 19–20
- destruction of objects, 16–17, 30
- Dewey, John, 344
- Diocletian, 520–21
- display value, 155–58, 163–64
- disposition of objects. *see* deposition of objects
- divination, Maya, 499
- divinity, 224–26, 233n8, 281–84, 296–97
- domicide and domithanasia, 74
- Donnan, Christopher B., 28, 186–96, 220, 258
- Dorsey, G., 404
- Douglas, Mary, 13–14, 16, 46–47
- dowry system, 255
- Dresden Codex*, 498, 504–6, 515n7
- dry-stonework, 57
- duality
 - in Andean cosmology, 296–97
 - of color, 395
 - Inca/Inka, 102, 135
 - pairings, 221, 419, 422n23, 493
 - and Pythagoras, 274
 - of wonder, 223–25, 227–28, 233n9
 - yanantin*, 419
- Dumont, Louis, 47n5
- Durán, Juan García, 421n4
- Durkheim, Emile, 14–15
- Dvorak, Antonin, 430
- E
- Earle, T. K., 393
- Early Bronze Age, 259
- Early Horizon, 34, 252, 296–305
- Early Iron Age, 266–67
- economic disparities, 428–29
- economic value, 29, 67–68, 142, 161, 260, 337, 393
- Ecseghfalva 23 (Hungary), 86
- Eduardo, Don, 493–94
- egalitarian value system, 290–91
- Egypt, 26, 29–30, 139–59, 266–68
 - see also* mummies
- Ehco type figurines, 371, 383
- Eighteenth Brumaire of Louis Bonaparte, The* (Marx), 10
- Eighteenth Dynasty (Egypt), 145
- El Arbolillo (Mexico), 376
- El Baul (Guatemala), 510
- electrum coinage, 260, 269–70
- elephant tusks. *see* ivory
- elevation, 292
- elevationes* of relics, 242
- embalming, 29, 148–52, 156–58
 - see also* mummies
- embellishment, of the body, 28–29, 147, 153, 215
 - see also* enhanced surfaces
- embodied value, 395–98
- Empedocles, 342
- empire building, 128–36
 - see also* colonization; Inca/Inka culture
- Engel, F., 204
- English language, 409–11, 478
- Englund, Robert K., 42, 427–58, 445
- enhanced surfaces, 28, 194, 326–28, 332, 355, 365–67, 369n7
- Ephrem (saint), 364
- Epicurus, 37, 340–41
- Epi-Olmec script, 509
- Epiphanius, 519
- epitaphs, 349–50
- equivalency value, 40–41, 44–45, 406–23, 431–60, 464–72, 482
- Erlitou (China), 316
- eros* (desire)
 - and body value, 26, 28
 - and *choreia*, 7, 220, 223–27, 233n6, 234n13, 235n18
- Ešnunna Codex, 431, 444
- estimār* (value, price - Spanish), 410
- Esztergályhorváti (Hungary), 71, 84–85
- ethnocategories, 489
- eulogia, 238
 - see also* relics and relic cults
- Euphemius, 238
- Euripides, 93, 233n4, 352n1
- Eusiebus, 243
- Evans, Arthur, 277
- Evans, John G., 77
- Evans-Pritchard, Edward, 15
- everyday aesthetics, 346–47, 353n6
- exchange transactions, 253–55
- exchange value (fungibility)
 - overview, 6–12
 - and body value, 26
 - of bronze, 252, 280–81
 - of cattle, 280–81
 - of *chicha*, 416, 421n3
 - of coca, 413–15, 414–15
 - defined, 4, 47n1
 - and exchange transactions, 253–55
 - and functions of money, 265–68
 - of *keros* and *aquillas*, 416–19
 - and *khipus*, 482
 - of labor, 412–14
 - Marx on, 254
 - of mummies, 153–54
 - and object value, 32, 35, 312
 - origins of, 249–60
 - and precious metals, 252, 408, 413
 - and social value, 419–21
 - see also* coinage; relational value
- exotic objects, 34, 39, 109, 111, 166, 192, 302–4
- Espinoza, Waldemar, 487–88
- F
- Fall of Natural Man, The* (Pagden), 409
- fame (immortality), 15, 225, 234n10
- Fanon, Frantz, 408, 414

fashion, 38, 384–89
faunal remains, 115, 117–20, 122, 293, 313–16,
329–31
feasts and feasting, 106, 112, 400
feathers, 419–20
Ferguson, N., 257
fetishism of commodities, 4, 9–10, 39, 271, 310
figurative scenes, 180
figurines, 37–38, 315–16, 320–21, 325, 370–91, 401–2
see also sculptures
fill layers, 113–15, 117–19, 122, 127n11, 203
Finley, Moses, 268, 271
fires, 114–15, 117, 119–20, 123
fish and fisheries, 452–53, 457
Flad, Rowan K., 34–35, 258, 306–35
Flavian period, 523
folles (Byzantine copper coin), 524–26, 530, 535n1
forager communities, 79–81, 88
formalists, 11, 339–40
Formative period, 370–91
Foucault, Michel, 20
Frame, M., 214, 216
Frankish Empire, 239, 241
free market, 7, 11, 428
see also capitalism, foundations of
Freud, Sigmund, 340
Fu Hao, tomb of, 328
funerals of holy men, 31, 238
funerary arts and rituals
access to raw materials, 143
and age, 178
costs of, 159n2
defensive, 144–56
of Early Horizon, 300–301
Eighteenth Dynasty (Egypt), 145
funerary meals, 170, 175
and gender, 178–82, 303–4
and grave circles of Mycenae, 166–85
in Middle and Late Helladic Age, 164–66
Paracas, 198, 201–3, 205–17
and religious iconography, 259–60
reuse of, 154
see also burials; mummies
funerary markers (*stelae*), 169, 175
fungibility. *see* exchange value

G

Galgada (Peru), 291, 302, 303
Galla Placidia, 244
Galvin, Sean, 421n2
Galvin Murúa manuscript, 421n2
game theory, 11
Garagay (Peru), 293
García, Martín, 421n4
Garcilaso de la Vega, El Inca, 118, 419, 481–82, 489,
490
Gawa Island (Papua New Guinea), 15, 46
Geary, Patrick, 30–31, 236–45
ge blades (China), 323–24, 335n9
Gelasius of Caesarea, 243
Geld (gold - German), 286
see also gold

Gell, Alfred, 16–17, 21, 162, 233n5
gender
and adornment, 301
and cranial deformation, 206
and funerary arts and rituals, 178–82, 303–4
and landscape archaeology, 89
and Mesoamerican clay figurines, 381
and value systems, 30, 163–64
see also women
Genovefa of Paris, 244
Gernet, Louis, 337
Giddens, A., 162
Gift, The (Mauss), 13–15, 46–47
gift exchange
in Byzantine culture, 357–59
and coinage, 269
and construction of value, 161–62
and inalienability, 16
kula ring, 34, 396
and object value, 312, 332
and personification of objects, 15
potlatch ceremonies, 13–14, 103, 313
of relics, 241–42
gilding, 194, 326–28
Gimbutas, Marija, 259
Girsu (Mesopotamia), 433, 457–58
globalization, 429
Glybochok (Ukraine), 72–73
gods, 281–84, 403, 407–8
see also divinity
gold
in Andean culture, 411–12
in Byzantine culture, 36, 356–57, 361–62, 369n8
coinage, 260, 285–86, 523–24, 529, 532–33
in Early Horizon, 299–300
exchange value, 252, 413
and gilding, 194, 326–28
and grave circles of Mycenae, 172
in Inca culture, 401–3
and measurement, 252
Moche, 187–91
and object value, 32, 258–60
Paracas, 210, 212, 216
physical qualities of, 361, 363–64
production of, 326, 330, 332
in Sanxingdui and Jinsha, 35, 313–16, 326–28
sheets of, 34, 295, 326–28
as status items, 251–52
Golgotha, 92
Goljamo Delchevo (Bulgaria), 73–74, 87
Gombrich, Ernst, 379–80
Gomi (Ozaki), T., 443
González Tadeo, Pedro, 421n4
Goodman-Martínez-Thompson correlation, 515n8
Gordon, Robert, 296
gradations of value
overview of, 311
and gold foil, 327
in Han China, 323–25, 330, 332
in Inca culture, 38, 395–97, 400–405
in Pre-European Andean culture, 423n21

- Graeber, David
 and comparative value, 396
 on construction of value, 19–20, 35, 154, 219, 397
 on economics and anthropology, 12, 52, 142
 and fetishism of commodities, 9
 influence of Mauss, 15
 on money and coinage, 266, 271
 on numbers, 174, 517
 on Polanyi, 11
 on political nature of objects of value, 35
 and social context of valued objects, 309
 on value *vs.* values, 256
- grains, 36, 42–43, 459–60, 464–72
see also barley; maize
- Grand Long Count calendar, 44, 512–13
- Grand Scribe's Records, The* (Sima Qian), 462
- grave circles of Mycenae (Greece), 25, 30, 32, 166–85, 253, 259–60
- grave markers, 349, 353n9
- Great Transformation, The* (Polanyi), 11
- Greece, ancient
 and aesthetic value, 339–42, 344–52
 and body value, 27–28
 and *choreia*, 218–19
 coinage of, 35–36, 250, 253–55, 261–62, 264–87
 iconography of, 278–79
 influence on Byzantine culture, 356
 place and identity, 68
 and symbolic systems, 516–35
 weights and measures, 45
- Greenspan, Alan, 429
- greenstone, 374, 397
- Gregory, Christopher A., 15, 69
- Gregory of Tours, 238–39
- Gregory the Great (pope), 239–40, 243, 244
- Grieder, Terence, 303
- group identity. *see* community-building; identity
- guacchaconcha* (offspring of Inca lords and ethnic women), 399–400
- Guaman Poma de Ayala, 198, 409–10, 412–13, 421n2
- Guamguan, Ines, 418
- Guarza, María, 417
- Guatemala. *see* Maya culture
- Gucheng, China, 308
- Guevara, Felipe de, 420
- gun mada* (Sumerian tributary payments), 431
- H
- haccu* (value, esteem and price - Aymara), 411
- Hagia Sophia (Constantinople), 360, 368–69nn4–5
- hagiographies, 242
- Haida (North America), 53
- hair, value of, 208–9, 216
- Halbwachs, Maurice, 72
- half *folles* (Byzantine copper coin), 524–26
- Hamilakis, Yannis, 26
- Hammurapi, 431, 445
- Handbook of Landscape Archaeology* (David and Thomas), 67
- Han Dynasty, China, 42–43, 459–72
- Harappa (Pakistan), 252
- Harris, Anthea, 522
- Hay, Clarence, 376
- Hay-Vaillant classification system, 376–79
- head deformation. *see* cranial deformation
- heads, disembodied, 29, 212, 214–15, 217n6
- heiliges Geld* (sacred money) concept, 281
- Heinmann, F., 352n2
- Heinzelmann, Martin, 242
- Helena (saint), 243
- Helmer, Marie, 422–23n15
- Helms, Mary W., 162, 305
- hematite, 304
- hemijade, 321–23
- Hephaistos, 226, 230–31, 235n21
- Herais, 237–38
- Hercules, 407–8, 410
- Herington, C. J., 233n7, 234n10
- Herodotus of Halikarnassos, 268, 283
- Herulians, 94–95
- hierarchies of value. *see* gradations of value
- hieroglyphics, Maya, 311, 501–8, 510, 515n2
- Hirsch, Eric, 53
- History of the Jin [Dynasty]*, 462–63
- History of the Sui [Dynasty]*, 462–63
- History of the [Western] Han [Dynasty]* (Ban Gu), 462, 464–65
- Holguín, Diego González, 410, 419, 488
- Holobolos, Manuel, 357–58
- Homer, 78, 234n13, 277–79, 341–42
- Homeric Hymn to Apollo*, 224, 228–29, 232n1, 233n7
- homo aestheticus*, 405
- homo economicus*, 5–12, 393, 405
- homo mensura*, 37, 342
- bonra* (value, esteem - Spanish), 410
- Houston, Stephen, 21
- Howard-Malverde, Rosalyn, 493–94
- Howgego, Christopher, 268
- hu* (Chinese unit of measurement), 43, 460, 464–72, 473n1
- huaca* worship (Andean and Inca), 132–33, 136n2
- Huancavelica (Peru), 487
- Huaricoto (Peru), 291
- Hubert, Henri, 14
- Huitzilopochtli, 407
- human body, 27, 211–17, 217n1, 500
- Hume, David, 343
- hunter-gatherers, 65
- hunting, 73–74, 87, 328
- Hutcheson, Frances, 353n4
- Hyele (Magna Graecia), 272
- Hypatios, 237
- I
- Ica Valley (Peru), 201, 204
- iconography and coinage, 36, 262, 272–85
- identity
 and bodily modifications, 205–10
 and coins, weights and measures, 519
 collective, 69–70, 285
 labels in Inka *khipus*, 477
 and numeral classifiers, 41
 and object value, 35

- and place, 67–68, 103–4
- and production, 310–12
- ideology, 129–36
- ikatz* or *ikitz* (cargo - Maya), 44
- Iliad* (Homer), 224, 226, 228, 231
- immortal and ageless, 225, 234n10
- inalienability, 16, 27, 83, 89n2, 101, 161, 294
- Inca apu* (lord of the Inca), 399
- Inca/Inka culture
 - architecture of, 101, 109–16
 - background information, 98–99, 101
 - and *chicha*, 414–16, 421n5, 422n3, 422nn9–10
 - and coca, 413–15
 - expansion of, 104–11
 - and gradations of value, 38
 - human sacrifice, 198
 - and intrinsic value, 490–95
 - mummies, 198
 - and number value, 475–96
 - and place value, 23, 25, 97–125, 101
 - political and cultural consolidation, 100–101
 - polychrome ceramics, 106, 119
 - population, 422n8
 - and relational value, 43, 392–405
 - rituals of, 122
 - and sacred spaces, 132–35
 - social status, 399–405, 489–91
 - and social value categories, 99–111
 - and solar worship, 132–36
 - spread of, 398–400
 - and textiles, 422n7
 - and transformation of place, 129–36
- Indus Valley (India, Pakistan, Afghanistan), 252
- Ingold, T., 63, 69, 494
- Initial Period, 33, 292–96
- instrumental value, 42, 45, 394, 432, 531
- Inszenierung* (staging of Catholic ceremony of *adventus* and *consensus*), 239
- intrinsic value
 - overview of, 394–95
 - and absolute value, 31, 394
 - among Inka, 490–95
 - and clash of values, 39
 - defined, 5, 478–80
 - of gold, 260, 419
 - and object value, 32, 432
 - and relational value, 43
 - in Ur III, 42
- Inuit culture (Arctic), 14
- Ion* (Plato), 233n4
- Ireland, 61–62
- Irene (wife of Andronikos), 367
- Iron Gates Gorge of the Danube (Balkans), 23, 71, 78–81, 88
- Island of the Moon (Bolivia), 133
- Island of the Sun (Bolivia), 25, 104, 133–35
- Isthmian script (Maya), 509
- Isthmus of Tehuantepec (Mexico), 509
- Ithake (Greece), 282
- ivory, 35, 313–16, 328–31, 333
- Ixil language, 507
- J
- Jackson, J. B., 70–71
- jade, 35, 252, 313–16, 321–26, 330, 332, 499
- jadeite, 374
- Jakaltek language, 507
- James, Wendy, 86, 88
- jewelry. *see* adornment; ornaments
- Jinsha (China), 35, 308–9, 315–21, 335n7
- Jochim, M. A., 393
- John of Jerusalem, 243
- Jonuta (Mexico), 499
- Joyce, Rosemary, 216, 381
- Julius Caesar, 94–95
- Justin II, 363
- juun winaq* (Maya number system), 500
- K
- k'al* (20 in Maya number system), 507–8
- Kalavrezou, Ioli, 36, 354–69
- Kant, Immanuel, 37, 68, 339, 341–43
- Karanovo VI settlement, 71
- Karpik, Lucien, 8
- k'atun* (7,200 days in Maya number system), 510
- Kaulonia (Magna Graecia), 272
- Keeley, Lawrence, 82–83, 89
- Keesling, Catherine, 353n7
- Kentman, Yoram, 528–29
- Kerbourg (France), 62
- keras* (Inca drinking cups), 400–401, 415–19, 421n3
- khipukamayus* (Inka state administrators), 476–77
- khipus* (Inka knotted cords), 44, 475–77, 480–96
 - see also* quipus
- Khomeini, Ayatollah Ruholla, 31, 237
- Killke period (Peru), 126n6
- k'in* (1 day in Maya number system), 510
- kin groups, 103–4, 476, 490–91
- kite* (Egyptian weight), 267
- Kluckhohn, Clyde, 19–20
- Knossos (Crete), 277
- Kolonna built grave (Aegina, Greece), 173
- Kontosephanos, Andronikos, 362
- Kopytoff, Igor, 17, 240, 242, 255
- Kosiba, Steven, 22–23, 25, 97–125
- Kowalzig, Barbara, 221
- Kraay, Colin, 272–74
- krikoi* (bronze rings), 266
- Kristeller, P. O., 37, 344
- Kroeber, Alfred, 385–86, 389
- Kroisos (king), 270, 283
- Kroll, John, 267
- Kroton (Magna Graecia), 272, 276, 278–79, 281–84
- kula* ring (Papua New Guinea), 34, 396
- Kuntur Wasi (Peru), 298, 299–301, 303
- kurakas* (Inca local lords), 400
 - see also* curacas
- Kurke, Leslie, 27–28, 36, 218–35, 269–72, 519
- Kwakwaka'wakw (Kwakiutl) tribe (North America), 13, 103
- L
- laborers, 102, 124–25, 415–16, 422n14
- labor norms. *see* work days, labor value of

- labor of production, 310–11
labor theory of value, 7–10, 397, 432
 see also Marx, Karl
labor value
 and equivalency values, 432
 in Inca culture, 412–14
 Marx on, 7–10, 20, 162, 254, 397
 of place, 23, 69
 and work days, 436–37, 445, 448–58
 see also wages
Lacan, 343
La Centinela (Peru), 123
laetitia (joy - Latin), 339
La Famosa Ystoria y probanza ... (Murúa), 407–8, 421n2
Lagash inventory text, 447–48
Lake Titicaca (Peru and Bolivia), 25, 104, 133–35
Landa, Diego de, 499–500
land records, Inka, 476–77
landscape, 23–24, 44, 51–65, 67, 69–70, 490–94
land value, 257
language
 Aymara, 132, 208, 411, 421
 Chimbu, 397
 English, 409–11, 478
 Mayan languages, 44–45, 500–503, 507–8
 Quechua, 4–5, 43–44, 132, 399, 409–14, 419, 421, 476–80
 Spanish, 407, 409–11
 and value systems, 407, 409–11
Laos (Italy), 274, 276, 278
lapis lazuli, 187–88, 190, 192–93, 304
La Plata Island (Ecuador), 404
Late Antique period, 521–30
Late Bronze Age, 139–40, 266–67
Late Helladic Age (LH), 165–66
Late Horizon, 400
Late Preceramic period, 33, 290
Latour, Bruno, 19, 530
Lau, George, 210
Laum, Bernhard, 3, 281
Lavallée, D., 117
Laws (Plato), 232n2, 233n4
Layton, R., 53–54, 494
lead, 317, 319, 330
Lebensgefühl (feeling of life - German), 342–43
Lechtman, Heather, 196n3, 300–301
Lefebvre, Henri, 92
Lefkandi (Euboia), 267
lei and *zun* vessels (China), 318–19, 333
Le Moulin at Saint-Just (France), 58
length, measurement of, 465
León, Cieza de, 413–14
Lepenski Vir (Balkans), 78–81
Lerna (Greece), 179
Les Mousseaux (France), 57–58
Lesure, Richard, 37–38, 370–91, 397
Letter to Menoeceus (Epicurus), 340
Lévi-Strauss, Claude, 15
Lewis, C. I., 340, 344, 352–53n3
Li Chunfeng, 463, 467–69, 471
lieu de mémoire (sites of memory), 170
life history. *see* biography
Life of Nikias (Plutarch), 221–22
Lifshitz, Felice, 243
light. *see* shimmering light, value of;
 triboluminescence
limestone, 322
liminal spaces, 170, 184
Linear B tablets (Greece), 277–78, 284
Liu Hui, 463, 465, 467, 473n5
Liu Xin, 462, 471
llautu (Inca head wrap), 403
Locke, L. Leland, 482
Longshan Interaction Sphere (China), 307
Lonsdale, S. H., 234n10
Lost Amazon, The (Davis), 294
Lothrop, Samuel, 301
Lounsbury, F. G., 498, 504–5
Love, Bruce, 505
Lowe, E. D., 386
liú (Chinese unit of measurement), 467, 469–70, 473nn7–8
Lucilla of Carthage, 243
Lucretius, 341, 353n6
Lydia (Anatolia), 35–36, 264–65, 268–70, 521
Lysippus, 342

M
ma'aser sheni (second tithe in Judaism), 528–29
Ma Biao, 473n6
Machu Picchu (Peru), 104–5
Macri, M., 508
Madaba mosaic map (Jordan), 531
Madrid Codex, 515n7
Maekawa, K., 433–34
Magna Graecia, 265, 272–85
 see also Sybaris
Magness, J., 528
Maikop (Russia), 251
maize, 101, 133, 136n4
Makkay, J., 85
Maldonado, Alonso, 418
Malinowski, Bronislaw, 13, 16, 122
Malkin, I., 279
Mama Ocello, 399
Manchay culture (Peru), 292–96
Manganeios Balsamon, 362
Manganeios Prodromos, 358, 364, 367
Maori people (New Zealand), 397
marble, 36, 228, 234–35n16, 322, 357, 359–61, 368–69n4
Marcus, J., 374, 381
marginal utility, 10
 see also subjective value
Maria Komnene, 358
markets, pre-European Andean, 33, 43, 411, 414, 417, 420, 487–88
martyrs, cult of, 243–44
Marx, Karl, 8–12, 20, 39, 162, 254, 395–97
masks, 317–18, 326–27
Mass (Christian), 130–31
massacres and mass graves, 83–85, 87
Massey, D., 69

- Massey, S. A., 204
materialization of value, 31, 392–405
mathematics, 40, 459–60, 464–72
 see also number value
Matsumoto, Yuichi, 300
Maurice (emperor), 365
Mauss, Marcel, 13–16, 20, 30–33, 46–47, 160, 397
Maya culture, 44–45, 122
Maya Long Count calendar, 509–15
Mayan languages, 44–45, 500–503, 507–8
Mazatán region (Mexico), 377
McCormick, Michael, 241
McCulloh, John, 239–40
measurement
 and construction of value, 40
 and development of science and technology, 46, 518
 in Han China, 42–43, 459–60, 464–72
 human body as unit of, 27, 500
 livestock as unit of, 277
 as organization parameter, 530–31
 origins of, 249–60
 by volume, 465–72, 473n5
 by weight, 45, 252, 266–67, 356, 519–30, 532
 see also equivalency value
medallions, Byzantine, 361–62, 366
“Medusa” sculpture (Early Horizon), 297–98, 302
megalithic monuments, 23–24, 54–60, 63–64
Meikle, S., 47n3
Meiyuan locus (China), 315, 321, 325
Mejía Xesspe, T., 210, 217n6
Meliana the Elder, 243
memory, cultural, 72–73, 77
Mendoza Codex, 500–501
Menexenus (Plato), 349–50
Menga group (Papua New Guinea), 85
Menger, Carl, 5, 10
Menkepperrasonneb, tomb of, 275
mensuration. *see* measurement
mercantilism, 254–55
Merry Maidens stone circle (Cornwall), 64
Mesoamerica, ancient, 37–38, 370–91
Mesolithic sites, 61, 78–81
Mesopotamia, 252, 431–58
Metapontion (Magna Graecia), 272, 277, 279, 282
metrology, 45, 456–57, 518, 531–33
Mexico, ancient, 39, 370–91, 407, 420, 497–515
Michael VIII Palaiologos, 357–58
Middle Bronze Age/ Middle Helladic Age, 164–65
Middle Helladic Argolid Project, 168
 see also grave circles of Mycenae
Middle Preceramic period, 290
Middle Yangzi River valley (China), 318
Milka, E., 168
Mill, John Stuart, 5
Mills, Steve, 46
mina, 266
mindaláes (Chincha traders), 487
mines and mining, 407–8, 412, 415, 422–23n15
minimum wage, 430
Minoan resettlement sites (Crete), 23, 71, 78
Mithradates of Pontus, 94–95
mitma (Inka laborers), 102
Moche civilization (Peru), 25–26, 28, 36, 186–96, 196nn1–2, 252, 380
Mohenjo Daro (Pakistan), 252
Molina, Manuel, 434–35
Moll, García, 379
Mollake Chico (Peru), 201
money
 cacao beans as, 44, 500–501
 coca as, 414
 copper arsenic “ax money,” 43, 488
 development of, 250
 functions of, 265–68
 keros as, 417
 meaning of, 18
 and object value, 33, 261–87
 paper money, 262–63, 287n2
 as payment to the Gods, 281–84
 in pre-European Andean, 487–88
 value of, 352n1
 and weight, 266–67
 word origins of, 285–86
 see also coinage
“Monograph on Pitch Pipes and Calendar,” 462–68, 471
monumental structures, 23–24, 33, 47n6, 54–60, 63–64, 290–91
 see also megalithic monuments
moon hieroglyphic (Maya), 504, 507
moral value, 352–53n3, 413
Morelos (Mexico), 376
Morgenstern, Oskar, 11
Morley, Iain, 46
Morris, Ian, 271
mortuary rites. *see* funerary arts and rituals
mosaics, 355
Mount Llullaillaco (Argentina/Chile), 402
Mozilo, Frank, 430
Mukařovský, Jan, 340
mullu powder (ground *Spondylus* shell), 487–88
multiple burial, 201–3
 see also bundled mummies; cache burials; collective graves
mummies
 Ancón, 198
 bundled mummies, 29, 199–203, 210–14, 216, 217n5
 Chinchorro, 198
 Egyptian, 26, 29–30, 139–59
 Inka, 198–99
 Paracas, 198–217
 see also embalming
Munn, Nancy, 15, 46
murex shell, 36, 357–58
Murra, John V., 487, 489
Murúa, Martín de, 407–8, 412, 421n2
Mycenae, shaft graves of, 25, 30, 32, 166–85, 253, 259–60
myths
 Aztec, 407
 and gradations of value, 403
 Inca/Inka, 98–99, 101, 133, 407

and Maya hieroglyphics, 503
and place, 70, 79, 87–88, 493

N

Nahuatl language, 407, 500
Nambhani, 433–34
Naranjo (Guatemala), 508
Nasca culture, 28–29, 199, 201, 206, 209, 214–15, 217n7
naturalistic model of stylistic differences, 376, 378–80
nature, value of, 28, 193, 356, 359–60, 364
nature spirits, 63
Nausikaa (princess), 234nn13
Nazca Drainage (Peru), 204, 206–7, 483–86
Necropolis of Wari Kayan (Peru), 200–203, 206–7, 209–14
Neer, Richard, 223, 233nn5–6
negation of value, 340–44
negotiated value, 337
Nehamas, A., 353n5
Nemean (Pindar), 229–32
Neolithic sites
 Alföld Linear Pottery sites, 75
 Carnac, 62
 Carreg Samson, 62
 Csöszhalom, 75–78
 Ecsegfalva 23, 86
 Esztergályhorváti, 71
 Kerbourg, 62
 Polgár settlements, 71
 and sacred places, 65
 in Sichuan, China, 307–9, 313–35
 Stonehenge, 54–55, 61
nephrite, 321–23
niched buildings, 106, 123
Nicotaca type figurines, 372
Niederberger, C., 376
Nietzsche, Friedrich, 340
Nikias, 221–22, 233n3
Nine Chapters on Mathematical Procedures, The, 463–64, 467–72
Nineteenth Dynasty (Egypt), 143
Nissen, H. J., 41
Niwinski, Andrej, 143
nomisma (coinage or currency - Greek), 285, 339
 see also coinage
nomos (law or values - Greek), 285, 339
nondestruction of settlements, 24–25, 90–96
Nora, Pierre, 96
Nueva Corónica y Buen Gobierno (Guaman Poma de Ayala), 409–10, 421n2
number value
 overview, 39–46
 and body value, 27
 and equivalency values, 431–58
 and exchange transactions, 253–54
 and grave circles of Mycenae, 166, 182–84
 in Greco-Roman world, 516–35
 in Han China, 459–60, 464–72
 Inka, 475–96
 Maya, 497–515, 503–8
 non-neutral nature of numbers, 517

number-based expressions, 480
and offerings, 182–84
nummus (Byzantine copper coin), 524–26

O

Oaxaca (Mexico), 374, 377
object value
 overview, 31–39
 and aesthetic value, 37, 182, 336–53
 agency of, 17, 31, 64
 biography of objects, 17, 31–33, 35, 309–13, 333, 373
 and body value, 223–24
 of copper, 258
 defense of, 83
 and desire, 19–20
 and exchange value, 32, 35, 312
 and gift exchange, 312, 332
 of gold, 32, 258–60
 and grave circles of Mycenae, 166, 178–82
 and light, 354–69
 and Mesoamerican clay figurines, 370–91
 and money, 33, 261–87
 of mummies, 153
 and origins of measurement and fungibility, 249–60
 and place, 39
 production and, 35, 310–12, 317–18, 322–23, 326, 330–32, 335n6
 and relational value, 392–405
 of relics, 238
 in Sichuan, China, 306–35
 and social context, 288–305, 309, 406–23
 and tombs, 25–26
oblos (Attic coin), 266
oceans, 293–94
Ocucaje district (Peru), 201, 206–7, 210, 214–15
Odysseus, 234n13, 350, 352
Odysseus, shrine of (Ithake), 282
Odyssey (Homer), 228, 232n1, 234n13
offerings, 173–76, 179–84, 202–3, 212, 214–16
 see also sacrifices
oikos (Greek household system), 432
Ollanta phase (pre-Inka), 105, 107
Ollantaytambo (Peru), 99, 104–5, 126nn6–7
Olmec culture, 510
Olmec style, 375–81, 384, 388–89, 391n1
Olympia, Panhellenic sanctuary of (Greece), 282
Ondegardo, Polo de, 413
On Household Management (Xenophon), 346–47
On the Nature of Things (Lucretius), 353n6
On the Principles of Political Economy and Taxation (Ricardo), 7–8
On the Soul (Aristotle), 341
ontology of value, 38, 393–95
operational space, 45, 516–35
ornaments
 and grave circles of Mycenae, 171–72, 176, 180
 Moche, 187–95
 as money, 266–67
 Paracas, 28, 209–10
 see also adornment

- ossa* (physical relics), 243
 Ötzi the Iceman (Italy), 26
 Oxkintok (Mexico), 509, 511–12
- P
- pacha* (Inka land), 476
 Pachacamac (Inca creator god), 403
 Pachacamac (Peru), 123
 Pachacuti Inca Yupanqui (Inca ruler), 398–400, 404
pachaca (group of 100 - Inka), 485
 Pacopampa (Peru), 299, 304
 Padina (Balkans), 78
 Pagden, Anthony, 409
 pairings, 221, 419, 422n23, 493
 see also duality
 Palenque (Mexico), 514
 Paloma (Peru), 290
 Palpa (Peru), 201
 Pampa el Pajón (Mexico), 379
panakas (royal Inka *ayllus*), 491
 Pandosia (Italy), 276, 278
 Papadopoulos, John K., 35–36, 261–87
 Paracas culture (Peru), 28–29, 197–217
 Parmenides, 339
 Parry, Jonathan, 1–2, 7, 264
Parthenia or *Maiden Songs* (Alkman), 227
 Paso de la Amada (Mexico), 372
 Passeron, Jean-Claude, 16
 Pasztory, E., 380
 Patroklos, 278
 Paul, A., 212, 216, 217n6
 Paulinus of Nola, 243
 Paul the Silentary, 360, 368–69n4
 Pausanias, 230
 pearls, 36, 357, 363–67, 369n7, 369n10
 peasant-workers, 18–19
pecunia (money - Latin), 285
 see also money
pecus (cattle - Latin), 275–77, 279–81
 Peirce, Charles Sanders, 39, 129
 Peircean replication, 25, 129–32, 135–36
 Peloponnesian War, 93–94
pentannumis (Byzantine copper coin), 524–26
 Peponi, Natasha, 225, 233nn8–9
 perceptual awareness, 341–43
 see also sensation
 perfection, 364, 367
Peri Ktismaton (Prokopios), 360
perivoloi (Mycenae grave circle enclosures), 169
 Pernil Alto (Peru), 202
 Persians, 93–95
 personification of objects, 15
 Persopolis, 93, 95
 Peru
 Chavín civilization, 34, 289
 Chincha kingdom, 487–88
 Cuzco, 23, 129, 134, 399, 489, 491–94
 Early Horizon, 296–305
 Killke period, 126n6
 Lake Titicaca, 25, 104, 133–35
 Late Horizon, 400
 Machu Picchu, 104–5
 Moche civilization, 25–26, 28, 186–96, 252, 380
 Nazca Drainage, 204, 206–7, 483–86
 Paracas culture, 197–217
 prehistoric, 290–96
 and value systems, 33, 252
 see also Inca/Inka culture
 Peter, patriarch of Jerusalem, 238
 Pezzia Assereto, A., 215, 216, 217n2
 phenomenology, 24, 342
 Philip II (king), 407–8
 Phocas, 244
Phoenician Women (Euripides), 352n1
 Photios, Patriarch of Constantinople, 360–61, 364
pignora (Catholic saint's relics), 240
pik (8,000 in Maya number system), 44–45, 500–502, 508
pik (144,000 days or 3rd position in Maya number system), 45, 509–14
 Pik (hieroglyphic for 14,000 days in Maya number system), 510
 pilgrimages, 133–34
 Pillars of Hercules (Gibraltar), 408, 410
 Pindar, 220–21, 229–32, 235nn18–19
 Pisco Valley (Peru), 201, 204, 206–7
 pitch pipes, 462, 473n2, 473n9
 placenames, 53, 70
 places and place value
 overview, 22–25
 biography of, 71–74
 and body value, 27
 and *choreia*, 222
 continuity of significance, 61–62
 conversion of, 25, 97–125, 128–36
 defense of, 83
 enduring, 54
 and grave circles of Mycenae, 25, 30, 32, 165–85, 253, 259–60
 and identity, 67–68, 103–4
 and Inka culture, 23, 25, 97–125, 101
 and *khipus*, 481, 494–95
 and labor value, 23, 69
 and landscape, 23–24, 51–65, 67
 and *lieu de mémoire*, 170
 liminal spaces, 170, 184
 and myths, 70, 79, 87–88, 493
 and nondestruction of settlements, 90–96
 and object value, 39
 and organization of labor, 124–25
 and power, 63–65
 sacred spaces, 132–35
 and space, 22
 and time-marks, 73
 vs. land value, 257
 and *wakas*, 44, 490–95
 Plato, 5, 232n2, 233n4, 286, 347, 349–50
 Platt, T., 102, 419
 plaza spaces, 106, 111–16, 121, 123, 127n10
 Pliny the Elder, 280, 342
 Plutarch, 221–22
 Polanyi, Karl, 6, 11
 Polgár settlements (Hungary), 71, 75–78
 political construction of value, 35, 308–9

political model of stylistic differences, 376, 381–84

Politics (Aristotle), 5–6

Poljanitsa (Bulgaria), 71–72

Polygnotos, 284

Polykrates of Samos, 222

population, Inca, 422n8

porphyra dye, 36, 357–58

porphyritic granodiorite, 55

porphyry, 359

Porteous, D., 74

Porter, James I., 36–37, 336–53, 373

Portugal, 55–56

Poseidon, 284

Poseidonia (Magna Graecia), 272

positionality. *see* ranking and number value

postholes, 61

pothos (desire for one who is absent), 223, 233n6

potlatch ceremonies, 13–14, 103, 313

Potosí silver mine (Upper Peru = Bolivia), 407–8, 412, 415, 422–23n15

pottery. *see* ceramics

poverty threshold, 430

power, 31, 238–39, 244–45, 308–9, 380–82

see also social status

Preceramic period, 33, 290–92, 296–97, 302–4

precious materials, value of, 28, 192, 260, 357

see also bronze; gold; silver

preservation, 335n11

see also sparing of settlements

Presocratics, 37, 342

Preucel, Robert, 129

Price, Martin, 269

price controls, 428

prime value, 260

see also intrinsic value

Primitive Economic man, 13

see also *homo economicus*

Principles of Economics (Menger), 10

production and object value, 35, 310–12, 317–18, 322–23, 326, 330–32, 335n6

see also craftsmanship, value of

Prokopios, 360, 368

Protagoras, 37, 342

proto-Mayan language, 503

Proulx, D. A., 215

proximity value, 156

see also ranking and number value

pseudojade, 321–22

psychotropic substances, 297–98

public inscriptions, 350–52

Puebla (Mexico), 376

Pukara Pantillijlla (Peru), 104, 123

Pumamarca (Peru), 109–10, 122

Punkuri (Peru), 302

Puruchuco-Hauquerones mummies (Peru), 198

Pye, M. E., 381

Pylos (Greece), 284

pyramids, 290–92

Pythagoras, 274

Pythos (Italy), 274

Q

Q'aq'a Qhawana (pre- and Inka town), 104, 122–23

qhapaq bucha (Inka human sacrifice), 198

Qin Dynasty (China), 464

quadrans (Greco-Roman copper coin), 523

qualitative value. *see* relational value

quantification. *see* measurement; number value

quartz, 58–59, 322

Quechua language, 4–5, 43–44, 132, 399, 409–14, 419, 421, 476–80

quipus (Inka knotted cords), 410, 412–13, 421

see also *kipus*

R

Radegund, 244

Rainbird, Paul, 27

ranking and number value, 40, 480, 488–92, 517

rarity. *see* scarcity and value

rattles, 187–88, 193, 300

raw materials and value, 35, 310–11, 330–31, 403

reflection of light, 359–61

see also shimmering light, value of

regimes of value, 17, 309, 316, 332–34

relational value, 4, 38, 43, 337, 392–405, 478–80, 488–90

see also exchange value (fungibility); gradations of value

relics and relic cults, 30–31, 236–45, 257

“Relics and Social Status in the Age of Gregory of Tours” (Brown), 238–39

religious value, 36, 142, 236–45, 259–60, 290–305, 408

relocation, forced, 100

Renfrew, Colin, 31–33, 46, 249–60, 295

Renshengcun (China), 329

replication of coins, weights and measures, 45, 520–21

Republic (Plato), 232n2

repurposing of place, 92

reverentia (Catholic awe, reverence), 239, 243

Rheneia (Greece), 221–22

Ricardo, David, 7–8, 11

Richards, R., 395

Richardson, Jane, 385–86, 389

Rick, John, 303

Ridgeway, William, 265

Riegl, Alois, 24, 47n6

rituals

and *chicha*, 414, 422n5

choreia as, 218–19

and coca, 413–15, 422n5

of conversion, 122–25

Inca/Inka, 122, 132–36, 400

Maya, 122

and metal artifacts, 295

and object value, 39

and Peruvian flat-topped pyramids, 290–91

preinternment destruction, 314

shamanistic, 297

and social status, 134–35

transformations into animal form, 297–98

ritual value. *see* religious value; symbolic value

Robles, Reyna, 376

- rock engravings, 27
Roman Empire, 45, 94–95, 280, 516–35, 532–34
Romanos I (emperor), 366
Rowe, John Howland, 297
royalty, 399
Rubin, Robert, 429
Rufinus, 243
- S
šabras (Sumerian estate managers), 432
«Sacred Commodities: The Circulation of Medieval Relics» (Geary), 240
Sacred Rock (Island of the Sun, Bolivia), 133–34
sacred spaces, 132–35
sacrifices, 14, 27, 118, 198, 221–22, 281–84
 see also offerings
sacificial pits (Sanxingdui, China), 308–9, 313–14, 320, 329, 333–34, 335n11
Sahagún, Bernardino de, 407, 421n1
Sahlins, Marshall, 15
saints, 30–31, 236–45, 257
Salamis (Cyprus), 27
 Salazar, Lucy, 33–34, 292
Salomon, Frank, 132, 197, 496n4
sandstone, 57–58
sangas (Sumerian temple managers), 432
San José Mogote (Mexico), 377
Santillán, F. de, 415
Sanxingdui (China), 35, 308–9, 313–14
sapa Inca (Inca unique king), 399
Saqsaywaman (Peru), 126nn6–7
sarcophagi, 143
Saunders, Nicholas, 296, 299
Saussure, F. de, 39
sayas (Andean moieties), 490
scales, 529–30, 534
scarcity and value, 7–8, 35, 310, 361, 363, 413–14
Scarre, Christopher, 24, 51–65
Scarry, Elaine, 350, 353n10
Schaps, David, 267, 519
Schela Cladovei (Balkans), 79–80, 87
Schindler, Helmut, 496n2
schist, 58
Schliemann, H., 169, 172
scrupulum (weight), 525
sculptures
 bronze, 317–18, 320–21, 333, 335n7
 of Early Horizon Peru, 297–98, 302
 stone, 324–25
 see also anthropomorphic heads; figurines; statues
Seaford, Richard, 271
Searle, John, 254
secondary value, 37, 337
Seddon, M. T., 134
seeds, as metaphor, 216
semiprecious stones, 290–91, 303, 357
semissis (Greco-Roman gold coin), 524, 529
Sens, cathedral of (France), 241
sensation (*aisthēsis*), 37, 339–41, 343
 see also aesthetic value
Sense of Dissonance, The (Stark), 18–19
sestertius (Greco-Roman brass coin), 523
settlements, 24–25, 71–72, 74–78, 86–88, 90–96, 105–25
shaft graves of Mycenae (Greece), 25, 30, 32, 166–85, 253, 259–60
shamanism, 59, 297
Shang dynasty, 252
Sharlach, T. M., 448
shekels, 266, 440–44
shells
 cowrie, 314, 319, 330
 and gradations of value, 396–97
 murex, 36, 357–58
Spondylus, 192, 251, 290–91, 301–3, 402, 487–88
Strombus, 299, 302–4
 see also pearls
Sherman, William Tecumseh, 93
Sheshong I, 158
Shields, Rob, 23, 70–71, 86
Shi'erqiao period (China), 309
shimmering light, value of
 and body value, 28
 in Byzantine culture, 354–69
 and *choreia*, 27, 228–29
 in Early Horizon culture, 299, 301–2
 in Greco-Roman culture, 234–35n16
 in Moche culture, 193
 and object value, 34, 36
 and pearls, 364
 in prehistoric Peru, 295–96
Shiner, L. E., 37
shiny surfaces, value of, 193, 296
 see also shimmering light, value of
Shklovsky, Viktor, 339
sbqa/mi (Inka verbal suffixes), 493–94
shrines, 63–64
Shuar people (Ecuador), 294
Sichuan (China), 34–35, 306–35
siglos (Greek coin), 266
signatures as guarantee of value, 287n2
signification and fashion, 384–85
silk, 357–58
silver
 in Andean culture, 411–12
 coinage, 260, 523–35
 equivalency value, 42, 438–45
 exchange value, 252, 408, 413
 hoards of, 267
 in Inca culture, 401–2, 403
 and measurement, 252
 and mines of Potosí, 407–8, 412, 415, 422–23n15
 as money, 266–68
 as sacrifices, 282–84
 sheets of, 299–300
Sima Qian, 462
Simmel, Georg, 10, 387, 395
singularities, 8
 see also scarcity and value
Sirinos (Italy), 274
size and value, 310–11, 403, 523–25, 533
 see also gradations of value
Skyrms, Brian, 11
slaves, value of, 26, 366, 369n10, 432, 444

- Smith, Adam, 5–7, 10–11, 12, 429
 Smith, Barbara Herrnstein, 3–5
 Smith, Julia, 241
 social action, 70, 106–25
Social Life of Things, The (Appadurai), 30, 240
 social status
 and *eros* of *choreia*, 227
 in Inca/Inka culture, 399–405, 489–91
 and mummies, 29, 211
 and religious ceremonies, 134–35
 social inequality, 34, 251, 380–82
 social power, 68, 88, 140
 socioeconomic hierarchy, 289, 296–305, 381
 social valuables, 288–305
 social value
 and body value, 28
 in colonial Andes, 406–23
 and conversion of place, 121–22
 in Inka culture, 99–111
 of mummification, 142, 154–55
 and organization of labor, 124–25
 and place, 22–23
 taxonomies of, 102, 126n4
 Socrates, 218, 232n1, 233n4
 sodalite, 303–4
 Sofaer, J. R., 197
 solar worship, 132–36
solidus (Byzantine gold coin), 361, 524, 529
 solstices, 132–36
 song/singing. *see choreia*
 Sophia (wife of Justin II), 363
 Sophists, 339, 342, 352n2
 sound, value of, 28, 34, 193
 space and place. *see* places and place value
 Spanish language, 407, 409–11
 sparing of settlements, 24–25, 90–96
 Sparta (Greece) and Spartans, 93–94, 227, 272
 spheres, value of, 364
 Spinden, H. J., 378
 Spinoza, Baruch, 37, 339–40, 341, 343
Spondylus shell, 192, 251, 290–91, 301–3, 402, 487–88
 Stanish, Charles, 25, 128–36
 Stark, David, 18–19
 statues, 27, 228, 233nn5–6, 349
 see also figurines; sculptures
 Stazio, Attilio, 274–75
 Steiner, D. T., 235n19
stelae (funerary markers), 169, 175
 Stephen (saint), 244
 Stonehenge (Great Britain), 54–55, 61
 stones, reuse of, 60–61
 stone tools, 397, 404
 storage structures, 109, 111, 116–19, 121, 127n15
 Strabo, 282
 Strathern, M., 67
Strombus shell, 299, 302–4
 Stuart, David, 44–45, 497–515
 stylistic variation, 373–91
 subjective value, 5, 10, 17–18
 substantivism, 11
Suidas (10th century encyclopedia), 367
 Sulla, 94
 Sulpicius Severus, 243
 Sumer (Mesopotamia), 41–42, 252, 431, 448, 457–58
 see also Ur (Mesopotamia)
 “sun disk” (Jinsha, China), 327–28
 Sundwall, Johannes, 277
 supply and demand, 8
 see also scarcity and value
 surplus value, 9
 surrogates, 28
 Sussopauca, Bernabé, 417
syuyoc apo (imperial Inca governor), 399
 Svenbro, Jesper, 221
 Sybaris (Magna Graecia), 270, 272–76, 279, 282–84
 symbolic value, 83, 154, 162–64, 185, 422n21, 516–35
Symposium (Xenophon), 218, 232n1
- T
 talent, silver, 266
 Tallensi people (Ghana), 64
 Tanis (Egypt), 141, 143, 155
 Taras (Magna Graecia), 272
 Tarlow, S., 163
 taskscapes, 69
 Tawney, R. H., 7
 taxation, 429–31
 Taylor, John H., 159n3
 -te’ (Mayan numerical classifier), 508
 teeth, animal, 15, 33, 293–94
 Tello, Julio C., 199, 202–3, 205–10, 212, 216, 217n6, 297
 tells, 23, 71–78
 Temesa (Magna Graecia), 278
 Temple of the Inscriptions (Palenque, Mexico), 514
 Temple of the Sun (Coricancha, Cuzco (Peru), 491–94
 temple to Viracocha at Raqchi (Peru), 126n7
 Temporada IV burials (Mexico), 379, 391n3
Ten Mathematical Canons, 463
Tesoro de la lengua castellana o española (Covarrubias Orozco), 410
 textiles, 211, 216, 217n5, 289, 402–3, 422n7
 see also clothing
 Thaïs, 95
thauma (wonder)
 in Byzantine culture, 361
 and *choreia*, 28, 36, 220, 223–25, 234n12
 duality of, 223–25, 227–28, 233n9
 value of, 341–42, 352
 Thebes (Egypt), 140–46
 Theodoret, 243
 Theodosius (son of emperor Maurice), 362
 Theodosius the Cenobiarch, 238
theōria (contemplation), 343
Theory of the Leisure Class, The (Veblen), 387
 Thomas, Rosalind, 350
 Thompson, Christine, 267
 Thompson, J. E. S., 498, 511
 Thourion (Magna Graecia), 275–76
 Thucydides, 222, 270
tiana (Inca ceremonial stool), 403
 Ticomán (Mexico), 376
 Tikal (Guatemala), 510

- Tilley, Christopher, 24
time. *see* calendars
time-depth, 64
time-marks, 73–74, 83–85, 88
time value, 154, 222
tin, 252, 317, 330
Tinney, Steve, 434–35
Tipón (Peru), 126n7
Titikala (Island of the Sun, Bolivia), 133–34
Tiwanaku civilization (Bolivia), 398, 400
Tlatilco (Mexico), 370, 372, 375, 379
Tlaxcala (Mexico), 371, 375–76, 382–83, 420
tojool (value, price - Maya), 499
Toledo, Viceroy Francisco de, 415, 422n7
Tomasto Cagigao, E., 204–5
Tomb Robbery Papyri, 144, 147
tombs
 body and object value, 25–26
 reuse of, 29–30, 166, 169–70, 175–76
 tomb robberies, 143–47, 155–56
 see also burials; coffins; *specific tombs or cultures*
Tonina (Guatemala), 509–10
Tonna'ab rockshelter shrine (Ghana), 64
tools, 319, 397, 404
Topa Inca (Inca ruler), 399
toponyms, Inka, 493
t'qrik'oq apo (imperial Inca governor), 399
tournaments of value, 17, 258
Toward an Anthropological Theory of Value (Graeber), 19–20
Tozzler, A. M., 499
tranquility (*ataraxia*), 340
transcendent value, 222
transformations into animal form, 297–98
transformative and transformation of value, 409
translationes (hagiographic texts), 242
translucent quality, 356–57
transmogrification, 326
tremissis (Greco-Roman gold coin), 524, 529
trephination/trepanation, 205
Treskavec Mountain (Macedonia), 78–81
triboluminescence, 59
tribute, 100, 102, 431, 476, 485–86
Trigger, Bruce, 2, 10
Tringham, R., 74
tripods, 36, 276, 278–84
Tripolye-Cucuteni settlements (Balkans), 71–73, 82–86
Trobriand Islands, 13
trophies, 215
Troy, 32, 259
true cross, 243–44, 363
Tuan, Yi-Fu, 22, 52, 54, 59, 71
Tucumé (Peru), 401
Tumulus de Saint-Michel (France), 60
tun (360 days in Maya number system), 44, 510–11
Tupac Amaru (Inca ruler), 422n7
Twentieth Dynasty (Egypt), 143
Twenty-first Dynasty (Egypt), 143, 144–56
Twenty-second Dynasty (Egypt), 157
Tzeltalan language, 500, 502
tz'ite' (type of seed - Maya), 499
U
Ubelaker, D. H., 217n3
Ucko, P. J., 494
Uluru (Ayers Rock, Australia), 53–54
Umma (Sumeria), 438–45, 451–52, 454–57
United States, 429, 430
unity and *choreia*, 225–26, 229–32, 233n9
Upper Tisza project (Hungary), 75
Ur (Mesopotamia), 32, 42, 252, 259, 431–58
Ur-coin (earliest coin made), 269
Urton, Gary, 4, 43–44, 410, 475–96
Ürümchi, mummies of (China), 26
use value
 overview, 6–12
 and biography of object, 311–13
 Marx on, 254
 of mummies, 153–54
 and object value, 35
 and place, 23, 69
 and Sanxingdui and Jinsha, 332–33
Uxte'pik Sinaan Witz (Guatemala), 508
V
vague year, 510–11
Vaillant, George, 37, 371, 373–78
Vale de Rodrigo (Portugal), 55–56
vale un Peru (worth a Peru), 412
validation of coins, weights and measures, 45, 520–21, 529–35
Valley of the Kings (Egypt), 143
value, construction of. *see* body value; number value; object value; places and place value
value judgment. *see* subjective value
value *vs.* values, 19–20, 32, 163, 255–58, 493
Vapheio (Greece), 275
Varna (Bulgaria), 251, 258–59
Varro, Marcus Terentius, 280
Veblen, Thorstein, 387
Velia (Magna Graecia), 272
Ventris, Michael, 277–78
Verano, J., 204, 215
Vermeule, Emily, 285
Vernant, J. -P., 233n6
vessels and measurement, 43, 450, 460–61, 467–68, 470–71, 473n9, 474n12
Vichama (Inca God of death), 403
vigesimal counting system, 45, 499–500, 502, 510–11
Virgin Mary/Virgin Theotokos, 36, 358, 364–65, 367
visual imagery, 210
Vlasac (Balkans), 78
volume, measurement of, 465–72, 473n5
von Neumann, John, 11
von Reden, Sitta, 271, 519
von Wieser, Friedrich, 10
Vörös, I., 74
votive inscriptions, 347–48, 353n7
Voutsaki, Sofia, 30, 160–85, 260

W

Wacquant, L. J. D., 86
 wages, 428–58
wakas (Andean sacred places and objects), 39, 44, 136n2, 217, 490–95
 Wallace, Robert, 265
 Walton, K. L., 353n5
 Wang Mang, 462, 471, 474n12
 warfare, prehistoric, 82–86, 89
 Wari civilization (Peru), 398
 Wari Wilka (Peru), 104
 Wat'a (Peru), 99, 106–22, 124
 Wat'a Archaeological Project (WAP), 99, 105–21, 126n2, 126–27n9
 wealth, emergence of, 251
Wealth of Nations (A. Smith), 429
 weapons, 173–74, 179, 259, 313–19, 323–26, 332–33, 335n9
 weight, measurement by, 45, 252, 266–67, 356, 519–30, 532
 Weiner, Annette B., 15–16, 30, 67, 89n2, 293, 397
 Weiss, H. P., 204, 208–9
 Weschler, Lawrence, 262–63
 Western Apache (of North America), 53
 wheat, iconography of, 278
 Whittle, A., 82, 85–86, 89
 Wilkapata (Peru), 112
 Will, Edouard, 271
 Williams, S. R., 206, 217n3
 wills, 417–18, 422nn18–20
 WINAK (Maya hieroglyphic for 20), 504–7
winal (20 days in Maya number system), 510
 WINIK (Maya hieroglyphic for 20 after the first 20), 505–7
 Wittenburg, Andreas, 281
 Wittgenstein, Ludwig, 39

women

and *chicha* production, 416, 421n3, 422nn9–10
 and cranial deformation, 206
 and funerary arts and rituals, 179–82
 and labor norms, 452
 and relics and relic cults, 243–45
 wage disparities, 428–29
see also gender
 wonder. *see* *thauma*
 work days, labor value of, 436–37, 445, 448–58
 writing, hieroglyphics, 503–8

X

Xauxa (Peru), 489
 Xenophanes, 342
 Xenophon, 218, 232n1, 346–47
 Xin Dynasty (China), 462
xiquipilli (8,000 in Maya number system), 500

Y

yanakuna (Inca state functionaries), 400
yanantin (Andean concept of dualism), 419
yauris (Inca weapon), 403
 Yoruba people (West Africa), 397
 Yueliangwan locus (China), 314, 323, 335n8
 Yukatekan language, 500, 507–8
 Yunnan, China, 319
yupani (value, price), 410–11, 479

Z

Zacatenco (Mexico), 375–76
 Zafimaniry (Madagascar), 64
 Zelizer, Viviana, 17–18
 zero, 481
zhang blades (China), 323–26, 332–33
 Zosimus, 243
 Zou Dahai, 473–74n10



Figure 1.1. Uluru (Ayers Rock) in central Australia (Photo used by permission of Uluru-Kata Tjuta National Park).



Figure 1.2. Stonehenge, an iconic prehistoric “place” in central southern England (photo by Chris Scarre).



Figure 1.4. The Carn Meini outcrops in the Preseli Hills of southwestern Wales, probable source of some of the Stonehenge bluestones (photo by Chris Scarre).

Figure 1.6. Contrasting monoliths of schist and quartz in the stone settings of Le Moulin in central Brittany (photo by Chris Scarre).

Figure 1.9. Megalithic tomb of Carreg Samson in southwestern Wales. The massive capstone is believed to have been an earth-fast boulder dug out from the site on which the chamber was built (photo by Chris Scarre).





Figure 3.1. The Column of Trajan, inaugurated A.D 113. The almost 40-m column was originally capped by the image of a bird, but after Trajan's death, a statue of the emperor was placed atop it. At some point this statue was lost, being replaced in turn (in 1587) with the now appropriate figure of Saint Peter (Courtesy Matthias Kabel).



Figure 3.2. Visible on the north slope of the Athenian acropolis, just below the Erechtheion, is a row of column drums. These were originally intended for use in the “older Parthenon,” which was not yet finished at the time of the Persian sack in 480 B.C. Only later were its remains built into the defensive curtain wall of the acropolis (Courtesy Eusebius [GuillaumePiolle]).



Figure 5.2. A *buaca* in the form of a carved boulder near a spring in Huancané, Peru.



Figure 5.3. The carved boulder *buaca* in Figure 5.2 from a distance.



Figure 5.4. An *apacheta*, or cairn, used as a modern *huaca* near Huancané, Peru.



Figure 5.5. The Sacred Rock, or Titikala, on the Island of the Sun in Bolivia.



Figure 8.1. Ceramic vessels depicting high-status individuals (a. private collection; b. Museo Nacional de Antropología, Arqueología, y Historia, Lima; c. private collection; drawing by Donna McClelland).



Figure 8.2. Nose ornaments (a. Proyecto Arqueológico Dos Cabezas; b. Proyecto Arqueológico Dos Cabezas; c. private collection; d. Proyecto Arqueológico Dos Cabezas; e. private collection; f. private collection).

Figure 8.3. Beads (a. Museo Tumbas Reales de Sipán; b. private collection; c. Private collection, photograph by Justin Kerr; d. private collection, photograph by Justin Kerr; e. private collection; f. Museo Tumbas Reales de Sipán).



Figure 8.4. Front and back of a spider bead (a, b); peanut necklace (c) (Museo Tumbas Reales de Sipán).





Figure 8.5. Backflaps (a–d); bells (e–f) (a. drawing by Donna McClelland; b. Museo Tumbas Reales de Sipán; c. drawing by Donna McClelland; d. Museo Tumbas Reales de Sipán; e. drawing by Donna McClelland; f. Museo Tumbas Reales de Sipán).



Figure 8.6. Figure wearing beaded bracelets and a beaded pectoral (a); beaded bracelets (b–c); beaded pectoral (d) (a. private collection; b. Museo Tumbas Reales de Sipán; c. Museo Tumbas Reales de Sipán, photograph courtesy of Walter Alva; d. Museo Tumbas Reales de Sipán).

Figure 8.7. Octopus pectoral (Museo Tumbas Reales de Sipán; painting by Alberto Gutiérrez).



Figure 8.8. Seated figure wearing a headdress frontlet (a); headdress frontlets (b–f) (a. Proyecto Arqueológico Dos Cabezas; b. Museo Tumbas Reales de Sipán; c. private collection; d. private collection; e. private collection; f. private collection).





Figure 8.9. Ear ornaments (a, c–e); figure wearing ear ornaments (b); figure wearing a tunic covered with metal platelets (f). (a. Museo Tumbas Reales de Sipán; b. private collection; c. The Metropolitan Museum of Art, Gift and Bequest of Alice K. Bache, 1966, 1977 (66.196.40–.41). Image © The Metropolitan Museum of Art; d. Museo Tumbas Reales de Sipán; e. Museo Tumbas Reales de Sipán; f. Staatliches Museen zu Berlin).



Figure 8.10. Mannequin wearing a full ensemble of clothing and ornaments (Museo Tumbas Reales de Sipán, photograph by Susan Einstein).



Figure 9.1. The mummies of Ancón are one example of the ancient Andean custom of bundling the body to ensure its preservation and bodily form. False heads and human hair wigs are characteristic of bundles at Ancón and elsewhere (left: Reiss and Stübel 1880–1887:plate 11; right: Reiss and Stübel 1880–1887:plate 16; Special Collections, Sheridan Libraries, Johns Hopkins University).



Figure 9.5. Cranial deformation resulted in a number of head shapes. This example is an adult female from tomb 90 at Chongos, Pisco Valley (Museo Regional de Ica, MRI 00274-12).



Figure 9.6. This late Nasca ceramic sculpture portrays a corpulent woman with extensive skin designs and long hair extending down the shoulders and back. The ideal Nasca head contrasts with the elongated shape favored by Paracas (Museo Regional de Ica, MRI 00143-01).

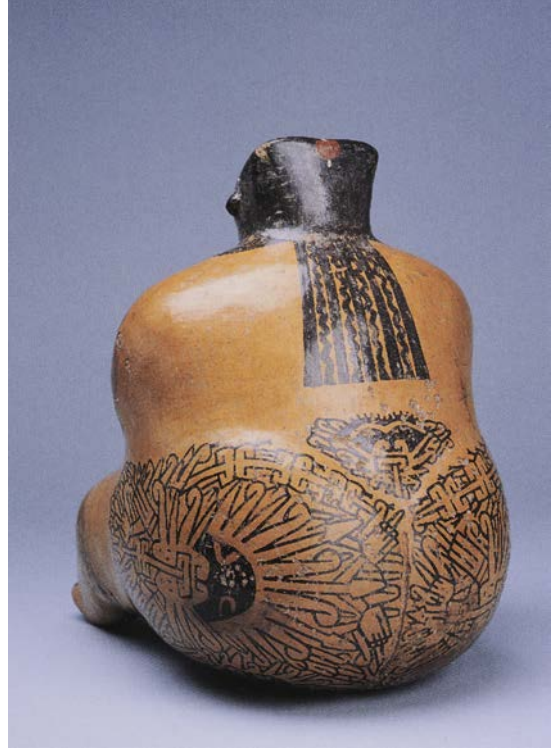


Figure 9.8. The Paracas body is idealized in ceramic sculpture. Emphasis is placed on attire, facial markings, and head shape (Museo Regional de Ica, MRI 00021-01).



Figure 9.9. A Nasca gold nose ornament and hummingbird "whiskers" with cut and embossed designs. Gold ornaments such as these were also common to high-status men and women in Paracas society (courtesy National Museum of the American Indian, Smithsonian Institution No. 178879.000. Photo by NMAI Photo Services staff).



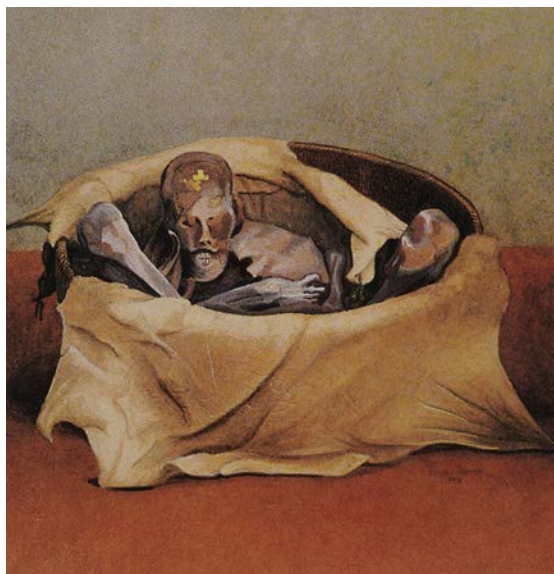


Figure 9.10. Bundle 310 from the Necropolis of Wari Kayan (left). The body is seated in a deerskin-lined basket (right). Before the body was interred, it was wrapped and covered in embroidered textiles (Archivo Julio C. Tello, Museo de Arqueología y Antropología de la UNMSM).



(overview)



(detail)

Figure 9.12. Beans are frequent design elements in the iconography of Paracas Necropolis textiles. In this detail, from bundle 378, the body assumes the shape of a bean (© 1990 University of Oklahoma Press).



Figure 9.13. A Paracas mummified head from Ocucaje showing cloth wrapping and stuffed eye sockets (Museo Regional de Ica, Peru, MRI 00898-12). Image from *Paracas Ritual Attire* by Anne Paul. Copyright ©1990 by the University of Oklahoma Press, Norman. Reprinted by permission of the publisher. All Rights Reserved.



Figure 9.14. Disembodied head imagery is prevalent for the Paracas and Nasca. This pair of diminutive gold heads is constructed from hammered sheet metal and mimics the mummified head (Museum of Fine Arts, Houston. Gift of Alfred C. Glassell Jr.).



Figure 14.1. Cut shell ornaments frequently associated with infants at the village of Paloma, Chilca Valley, Peru; Middle Preceramic period (5000–3000 B.C.). Photograph Courtesy of Jeffrey Quilter.



Figure 14.2. Biconical bead with dual drilling; El Paraiso, Chillón Valley, Peru; Late Preceramic period (3000–1800 B.C.). Photograph Courtesy of Jeffrey Quilter.



Figure 14.4. Drilled sea lion canines from a necklace worn by an adult male leader; Cardal, Lurin Valley; Initial period (1800–800 B.C.). Photograph Courtesy of Richard Burger.



Figure 14.5. Ear ornaments carved from whalebone worn by an adult male leader; Cardal, Lurin Valley; Initial period (1800–800 B.C.). Photograph Courtesy of Richard Burger.



Figure 14.6. Small copper and gold plates made of hammered sheet metal; Mina Perdida, Lurin Valley; Initial period (1800–800 B.C.). Photograph Courtesy of Richard Burger.



Figure 14.7. Courtesy of the Japanese Archaeological Mission: Kuntur Wasi Project.

Figure 14.8. Gold and silver snuff spoon believed to have been found at Chavín de Huántar, Ancash; Early Horizon (800–200 B.C.). (Photograph Courtesy of Dumbarton Oaks Research Library and Collection).



Figure 14.10. Beads of sodalite, *Spondylus*, turquoise, and other precious materials found by in the tomb of a female leader at Kuntur Wasi, Jequetepeque Valley; Early Horizon (800–200 B.C.). Photograph Courtesy of Yoshio Onuki.





Figure 17.1. Cut-glass bowl with precious stones and pearls, tenth/eleventh century (San Marco Treasury, Venice).



Figure 17.2. Purple and gold embroidered *peplos*, 1261 (Museo di Sant'Agostino, Genoa).



Figure 17.3. Marble revetment in Hagia Sophia, Constantinople, sixth century.



Figure 17.4. Book-matched pattern on a revetment in the naos of the church of the Chora, Constantinople, 12th/14th century.



Figure 17.5. Gold medallion with Virgin enthroned and Baptism, seventh century (Dumbarton Oaks, Washington, D.C.).



Figure 17.6. Marriage belt, gold seventh century (Dumbarton Oaks, Washington, D.C.).



Figure 17.7. Reliquary cross of Justin II (565–578), restored front view (Vatican collection, Vatican City).



Figure 17.8. Ivory panel of Empress Ariadne/Sophia, fifth century (Bargello, Florence).



Figure 17.9. Medallion of Leo VI, detail of votive crown, late ninth century (San Marco Treasury, Venice).

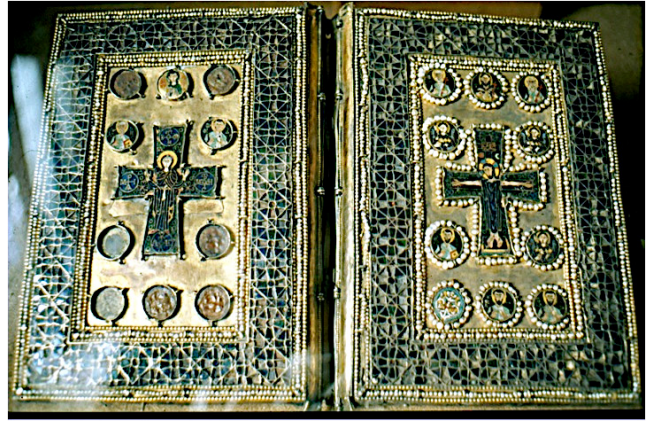


Figure 17.10. Silver gilt book cover with enamels, precious stones and pearls, tenth/eleventh century (Marciana Library, Venice).



Figure 17.11. Chalice of Romanos I, tenth century (San Marco Treasury, Venice).



Figure 20.1. “Huitzlopichitli Otro Hercules, Tetzcalipoca Otro Jupiter,” color wash on paper (Sahagún 1577:folio 10r; Biblioteca Medicea Laurenziana, Florence).



Figure 20.2. “Allegorical Image of Potosí,” color washes and silver (Murúa 1590–1600:folio 141v; private collection, Ireland).



Figure 20.6. “Offering coca and alpaca to the Andean gods of Collasuyu,” color washes and silver (Murúa 1590–1615:folio 103v).



Figure 23.1. *Khipu* showing tiered knot arrangement (American Museum of Natural History, New York, 41.2/6994; photo by Gary Urton).



Figure 23.2. *Khipu* UR28 from Atarco (Museum für Völkerkunde, München, Germany, s/n C; photo by Gary Urton).



Figure 23.4. Inka copper “axe money.” (Photo courtesy of Museo Inka, Universidad Nacional de San Antonio Abad del Cusco).

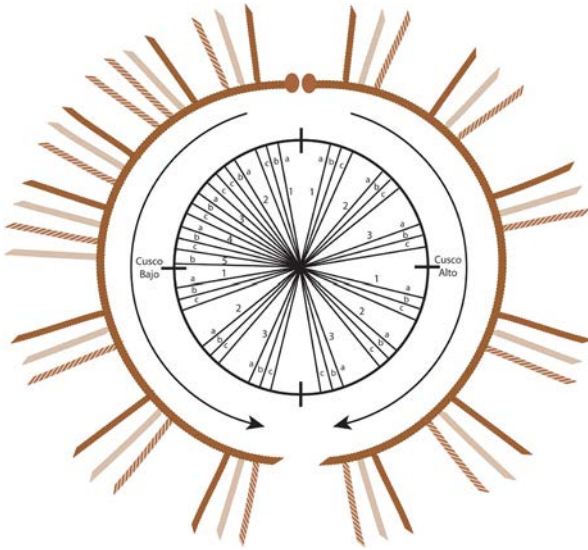


Figure 23.5. The *ceque* system of Cuzco compared to a pair of *kipus*.



Figure 23.6. Image of a Khipukamayuc, called “the Secretary of the Inca,” from Guaman Poma de Ayala (1980:359–360 [1615]).

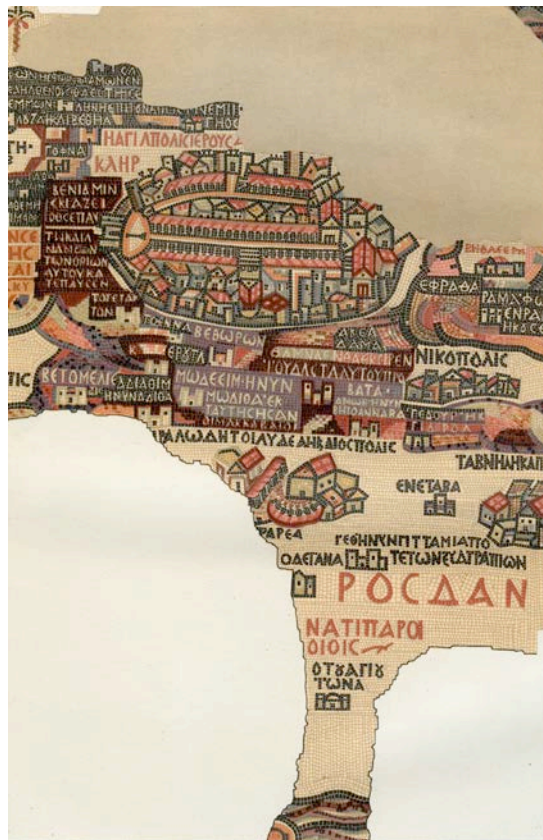


Figure 25.4. Portion of the Madaba mosaic map depicting Jerusalem and surrounding towns (from Avi-Yonah 1954. Reprinted by permission of Israel Antiquities Authority).



Scholars from Aristotle to Marx and beyond have been fascinated by the question of what constitutes value. John K. Papadopoulos and Gary Urton's *The Construction of Value in the Ancient World* makes a significant contribution to this ongoing inquiry, bringing together in one comprehensive volume the perspectives of leading anthropologists, archaeologists, historians, linguists, philologists, and sociologists on how value is created, defined, and expressed in a number of ancient societies around the world. Based on the basic premise that the concept of value is a social construct that is defined by the cultural context in which it is situated, the volume explores four overarching but closely interrelated themes: place value, body value, object value, and number value. The questions raised and addressed throughout the volume are of central importance to archaeologists studying ancient civilizations: How can we understand the value that might have been accorded to materials, objects, people, places, and patterns of action by those who produced or used the things that compose the human material record? What do we know about how objects were valued in the past, whether, for example, in the pre-industrial market or pre-market economies of the Mediterranean, or the "non-market" contexts of Oceania and the pre-Columbian Andean societies? Why were certain materials valued by people in many different parts of the world over other materials? What qualities of physical substances were at the heart of how cultures determined, negotiated, and on occasion sanctioned value? Taken as a whole, the contributions to this volume demonstrate how the concept of value lies at the intersection of individual and collective tastes, desires, sentiments, and attitudes that inform the ways people select, or give priority to, one thing over another.



ISBN 978-1-931745-91-8



9 781931 745918

Printed in the U.S.A.