UNIVERSITY OF CALIFORNIA, MERCED

Living at the Intersections at Lisht

A dissertation submitted in partial satisfaction of the requirements
for the degree Doctor of Philosophy

in

Interdisciplinary Humanities

by

Alyson Catherine Caine

Committee in charge:
Professor Christina Torres
Professor Mark Aldenderfer
Professor Kathleen Hull
Professor Sarah Schrader

2023

Dedication Page

For RAD

Signature Page

Living at the Intersections at Lisht

For my Doctoral Degree

By
Alyson Catherine Caine

Approved: _____

Christina M. Torres, Ph.D.
Professor and Chair, Anthropology and Heritage Studies
University of California, Merced
Advisor and Chair of Dissertation Committee

Approved: _____

Mark Aldenderfer, Ph.D.
Distinguished Professor Emeritus
University of California, Merced

Approved: _____

Kathleen Hull, Ph.D.
Professor Emerita, Anthropology and Heritage Studies
University of California, Merced

Approved: _____

Sarah Schrader, Ph.D.
Assistant Professor, Archaeology
Leiden University

Table of Contents

List of Symbols, Tables, Figures, and Illustrations

Tables

Figures

Acknowledgements Page

This dissertation is the product of many years of work, guidance, and help from a number of people and institutions, all of which I would like to thank here. Since I began my doctoral study at the University of California, Merced, I have been stewarded by my advisor Christina Torres. Her guidance through this work as well as projects external to my dissertation research have enabled my progression and completion of this project. She has pushed my research to be more mindful of the social implications our work holds for the past but also the present, which has made all my work that much stronger. In addition to Christina, the other members of my committee have shared their insights which have served to further my own questions. Mark Aldenderfer as a committee member and professor has been a constant instigator to question interpretations and think differently about archaeological research. Kathleen Hull similarly as a committee member and professor introduced material considerations to my research. Sarah Schrader has shared her insights to (bio)archaeological research in Egypt. The questioning of my work by these four committee members has pushed my questions to be clearer and mindful of the pitfalls inherent to (bio)archaeological research. All four of these scholars have fostered my academic research and helped to shape the professional I am.

Funding from the Institute for Bioarchaeology Grant from the Department of Egypt and Sudan at the British Museum supported this research. In addition to this funding, the American Research Center in Egypt Northern California Chapter's Mary Buttery Memorial Student Grant and small grants from the University of California, including the UC Humanities Center have supported travel for data collection and time for interpreting data collected. The University of California, Merced, has also facilitated my focus on research for and writing this dissertation through a Fletcher Jones Fellowship and Humanities Consortium Dissertation Fellowship.

Through the course of data collection, I have had the pleasure of working with a number of museum staff who have helped with my data collection and made my travels more enjoyable. First, my months spent at the Smithsonian Institute's National Museum of Natural History was facilitated by Amanda Lawrence. Amanda spent much of her time making my data collection easy and shared interesting stories about her own work, which greatly helped on days I spent working alone. While my time at the Peabody Museum of Archaeology and Ethnology at Harvard University was short, Loring Burgess was vital for my studying the skeletal sample from Lisht and accessing the archival documents on these remains. In addition, the Peabody Museum of Archaeology and Ethnology provided permission for documents from their archival records on Lisht, specifically the translations of Senebtisi's name from Chapter 4. Lastly, while I did not work directly with the Metropolitan Museum of Art's Egyptian Art Department, their research and open access database of material recovered from Lisht importantly bolstered interpretations made in this dissertation. The Metropolitan Museum of Art also provided permission for any images that were not already available through open access. Adela Oppenheim, Diana Patch, and Dieter Arnold, importantly, took time to discuss my project and share their insights on the site of Lisht. Excavation documents shared by the Metropolitan Museum of Art with the Peabody Museum of Archaeology and Ethnology

and National Museum of Natural History facilitated the associations depicted in this dissertation, which formulate much of this work.

My own dissertation research on the skeletal sample from Lisht was bolstered by previous scholars' work on this collection. In particular, Christine Marshall's research and knowledge on the site of Lisht made this research possible. Christine shared all her research with me with the hopes of this site being documented and shared with other researchers and I cannot thank her enough for making this dissertation possible. Additionally, Alison Wilcox began research on Lisht aimed at associating skeletal remains with tombs from excavations. Her original work combing through archival and excavation documents provided a foundation that I've built on. In my time working on this research, I had the opportunity to involve undergraduate students at the University of California, Merced. These students that worked on my research, Camila Rodriguez and Morgan Malone, highlighted new perspectives on my current and further research. Importantly, the statistical analyses performed for this dissertation were completed with help from Trent Trombley. I hope this dissertation highlights the multitude of people influencing interpretations.

During my travels for data collection, I benefited from family and friends opening their homes to me. My cousins Tim and Courteney Caine provided a place to stay while doing data collection in New York. My time staying with them was such a special experience not only for the time I spent studying but also the time I shared with their family. While I conducted data collection at the National Museum of Natural History, my family, the Caines and Kruegers, provided spaces to relax while working daily. My sister and her partner, Jenny Caine and Andy Frank, shared their home with me for months on end which made my research possible to perform. Lastly, Gina Palefsky and Trent Trombley shared their home with me anytime I needed a place to stay in Merced. This kindness along with the food and laughter they shared with me are the fondest memories I have of my time at the University of California.

Throughout graduate school I have shared thought provoking and fun conversations with a number of people. First, friends I made through Christina's lab were invaluable to my success. Shaina Molano, Anna Gurevitz, and Gina Palefsky, you all shared your knowledge and expertise with me along with your friendship. Without you all I would not have enjoyed or excelled as well in those initial years of course work. My friends from my master's at Durham University have always provided light and fun in times of stress: Khrystyne Tschinkel and Katie Hunt. Over the course of my graduate career, I have shared conversations, worked with, and received advice from a number of people that I'd also like to thank for their support: Elizabeth Nelson, Derek Kennet, Charlotte Roberts, Anne Grauer, Mark Hubbe, William Pestle, Lesley Gregoricka, Leslie Freund, Gisselle Garcia, Katie Kinkopf, Kristen Broehl, Diana Malarchik, Jelmer Eerkens, Daniel Shoup, Christopher Canzonieri, Lorna Tilley, Rose Campbell, and Casey Kirpatrick. I would lastly like to thank Kimberly Williams who shared the joy of bioarchaeology with me during my undergraduate schooling at Temple University.

My final thanks go to my family, both the Caines and Kruegers, who have shown constant interest in my travels and studies. In particular, Bob, Karen, Jenny, Holly, Jay, Evan, and Nana all of whom have supported my pursuits since high school. Dylan and Ronda, thank you for the laughs, I couldn't have done this without you.

Curriculum vita

Alyson Caine

alysoncaine.com

EDUCATION

Summer 2023 Doctor of Philosophy, Interdisciplinary Humanities
University of California, Merced, California
Supervisor: Dr. Christina Torres
Dissertation: *Living at the Intersections at Lisht*

Spring 2014 Master of Science, Paleopathology, Archaeology
Durham University, Durham, United Kingdom
Supervisor: Dr. Charlotte Roberts

Spring 2012 Bachelor of Arts, Anthropology, Sociology Minor
Temple University, Philadelphia, Pennsylvania

ACADEMIC POSITIONS

2023-2024 Visiting Assistant Professor, Department of Anthropology, Dickinson College

2020-2023 Instructor of Record, Department of Anthropology and Heritage Studies, University of California, Merced

PUBLICATIONS

Peer-reviewed Journal Articles

2023 **Caine A**., Torres, CM. "Living with Chronic Impairment: Tracing care using changes in the skeleton". *Bioarchaeology International* 7 (1). https://doi.org/10.5744/bi.2022.0013.

2022 Caine, Alyson C., Charlotte A. Roberts, and Derek Kennet. 2022. "A Community in Transition: Analysis of Health and Well-Being in People Living during and Following Aridification." *International Journal of Osteoarchaeology* 32 (5): 1082–95. https://doi.org/10.1002/oa.3134.

Edited Volumes

Under Review **Caine A**., Canzonieri C., Marshall C., and Zimmer M. *Life and the Biological Consequences therein at the Mission period site of Sanchez Adobe (1787-1794).* Manuscript for publication in Native Californian Cultural Persistence During the Mission Period: Bioarchaeological and Mortuary Studies at Sanchez Adobe (CA-SMA-71H) volume edited by Jelmer Eerkens, Lee Panich, and Christopher Canzonieri.

Book Chapters

In Press **Caine A.** *The Human Remains from Qarn al-Harf Cemetery.* In: The Bronze Age Communal Graves of Qarn al-Harf, Ras al-Khaimah (UAE): Southeast Arabia at the dawn of the second millennium. Oxbow Books: Oxford, UK. January 2023.

2016 Saunders, B., **Alyson C.**, and William D. 2016. *Archaeological Rescue Excavations on Packages 3 and 4 of the Batinah Expressway, Sultanate of Oman*. British Foundation for the Study of Arabia Monographs, no. 18. Oxford: Archaeopress Publishing Ltd.

Book Reviews

2019 **Caine A.,** Who's Responsible? How to Ethically Research Massacres and Mass Violence. "Book review of *Massacres: Bioarchaeology and Forensic Anthropology Approaches*. Edited by Cheryl P. Anderson and Debra L. Martin. X+226 pp. Gainesville: University Press of Florida, 2018. $95.00 (hardcover)." *Current Anthropology*: June 2019.

2018 **Caine A.,** The Way Forward for Bioarchaeology. "Book review of *Exploring Sex and Gender in Bioarchaeology.* Edited by Sabrina C. Agarwal and Julie K. Wesp. X+295 pp. University of New Mexico Press, Albuquerque. 2017. $85.00 (hardcover)." *Current Anthropology*: February 2018.

PRESENTATIONS

Chaired Conference Symposia:

2021

Caine AC. *Bioarchaeology: Social Status & Inequality.* American Association of Physical Anthropology. Proceedings of the 90th Annual Meeting of the American Association of Physical Anthropologists, April 7-28th 2021: Virtual.

2015

Caine AC, Shaw HA. *Exploring the Theme of Migration in Paleopathology: Past, Present, and Future.* Paleopathology Association. Proceedings of the 42nd Annual Meeting of the Paleopathology Association, March 24-25, 2015: St. Louis, MO.

Paper Presentations:

2022-2023

Tilley L., Tapia I., **Caine A.,** Canzonieri C. Free for all: Exploring the scope of non-specialist, user-friendly Index of Care. Paper presented at: Proceedings of the 29th Annual Meeting of the European Association of Archaeologists, August 29-September 2: Belfast, NIR.

Caine A. Living at the Intersections at Lisht. Paper presented at: Proceedings of the 93rd Annual Meeting of the American Association of Biological Anthropology, April 19-22, 2023: Reno, NV.

Caine A., Eerkens, JW., Twigg, J., Hannah, C., Shoup, D. Isotopic Analyses of Fauna from CA-ALA-11. Paper presented at: Proceedings of the 57th Annual Meeting of the Society for California Archaeology, March 16-19, 2023: Oakland, CA.

2021-2022

Caine A., Canzonieri, C., and Marshall C. Life and Death at Mission Asistencia. Paper presented at: Proceedings of the Society for California Archaeology Northern Data Sharing Meeting, September 24, 2022: Sacramento, CA.

Caine A., Canzonieri, C., and Shoup, D. The Human Remains from excavations at an Alameda shellmound site (CA-ALA-11). Paper presented at: Proceedings of the 56th Annual Meeting of the Society for California Archaeology, March 3-6, 2022: Visalia, CA.

Caine, A. Canzonieri, C., Marshall, C., and Zimmer M. Differential diagnosis of skeletal alterations in a child from Sanchez Adobe (CA-SMA-71). Paper presented at: Proceedings of the 56th Annual Meeting of the Society for California Archaeology, March 3-6, 2022: Visalia, CA.

2019-2021

Caine A, 2020. Social stratification and its differential experience at Middle Kingdom (2050-1650 B.C.) sites in Egypt. Presented at: American Association of Physical Anthropology Meeting 2020. Proceedings of the 89th Annual Meeting of the American Association of Physical Anthropology, April 15-18, 2020: Los Angeles, CA. Presented at the Proceedings of the 90th Annual Meeting of the American Association of Physical Anthropology, April 7-28th 2021: Virtual.

2014-2015

Caine A., 2015. The skeletal findings from excavations in the Batinah, Oman. Presented at: Society for American Archaeology Meeting 2015. Proceedings of the 80th Annual Meeting of the Society of American Archaeology, April 15-19, 2015: San Francisco, CA.

Caine A., Shaw HA. Migration and the greater context: Where to now? Presented at: American Association of Physical Anthropology Meeting 2015. Proceedings of the 84th Annual Meeting of the American Association of Physical Anthropology, March 25-28, 2015: St. Louis, MO.

Caine A., Roberts C., Montgomery J., and Kennet D. A Migrant Perspective: An analysis of prehistoric health in relation to mobility in a Wadi Suq population at Ra's al-Khaimah, UAE. Presented at: Paleopathology Association Meeting 2015. Proceedings of the 42nd Annual Meeting of the Paleopathology Association, March 24-25, 2015: St. Louis, MO.

2012-2013

Kennet D., Velde C., Ahmed H., **Caine A**., Goodburn-Brown D., Hilton A., Mortimer A., de Vreeze M., and Weeks L. Qarn al-Harf: rescue excavations at a new Wadi Suq cemetery in Ra's al-Khaimah. Paper presented at: Seminar for Arabian Studies 2013. Proceedings of the 46th Seminar for Arabian Studies, July 26-28, 2013: London, England.

Poster Presentations:

2022-2023

Malone, M. and **Caine, A.** Perspectives from female mortuary practices at Lisht, Egypt, from osteobiographies. Poster presented at: Committee on Diversity's Undergraduate Research Symposium at the Proceedings of the 92nd Annual Meeting of the American Association of Biological Anthropology, April 19-22, 2023: Reno, NV.

2021-2022

Caine A. Meaning Making through Object Biography and Osteobiography. Poster presented at: Proceedings of the 9th Annual Meeting of the Western Bioarchaeological Group Meeting, October 21-22, 2022: Riverside, CA.

Caine A. Reading the Archive for Demographic Patterns at Lisht. Poster presented at: Proceedings of the 73rd Annual Meeting of the American Research Center in Egypt, April 22-24, 2022: Irvine, CA.

Caine A., Canzonieri, C., and Shoup, D. Scurvy and its presence in an Early/Middle Transition (500-200 B.C.) California Shell Mound Cemetery. Poster presented at: Proceedings of 91st Annual Meeting of the American Association of Biological Anthropology, March 23-26, 2022: Denver, CO.

Rodrigeuz C. and **Caine, A.** Spatial Distribution of Social Inequality at Lisht. Poster presented at: Committee on Diversity's Undergraduate Research Symposium at the Proceedings of the 91st Annual Meeting of the American Association of Biological Anthropology, March 23-26, 2022: Denver, CO.

Caine A., Canzonieri, C., and Shoup, D. Trephined or not? A probable early case of trephination in an Indigenous Bay Area population. Poster Presented at: Proceedings of the 49th Annual Meeting of the Paleopathology Association, March 21-23, 2022: Denver, CO.

2019-2020
Caine A., Torres-Rouff, C. 2020. Differential diagnosis for pathological lesions in the Cranio-facial region of a pre-Columbian female from San Pedro de Atacama, Chile. Presented at: Paleopathology Association Meeting 2020. Proceedings of the 47th Annual Meeting of the Paleopathology Association, April 14-15, 2020: Los Angeles, CA.

2016-2017
Caine A. Commingled, Disarticulated, and Eroded… Oh My! Navigating Bioarchaeology in the Arabian Peninsula. Presented at: Proceedings of the 86th Annual Meeting of the American Association of Physical Anthropology, April 19-22, 2017: New Orleans, LA.

2015-2016
Caine A. Your Guess is as Good as Mine: Differential Diagnosis of One Disarticulated Skull. Presented at: Proceedings of the 43rd Annual Meeting of the Paleopathology Association, March 24-25, 2016: Atlanta, GA.

Dresser S., **Caine A.** Dental Disease of a Late-Horizon Gabrielino-Tongva Native American Settlement. Presented at: Proceedings of the 85th Annual Meeting of the American Association of Physical Anthropology, March 25-29, 2016: Atlanta, GA.

2013-2014
Caine A. Locals vs. Non-locals: What are bioarchaeological studies on migration interpreting about identity? Presented at: Proceedings of the 2nd Annual Meeting of the Western Bioarchaeological Group, October 10-11, 2014: Las Vegas, NV.

Caine A., Roberts C, Kennet D. On the cusp of change: impacts of subsistence strategy changes on the health of a Wadi Suq population from Ra's al-Khaimah, UAE. Presented at: Paleopathology Association Meeting 2014. Proceedings of the 41st Annual Meeting of the Paleopathology Association, April 8-9: 2014, Calgary AB.

2012-2013
Caine A. An Analysis of Human Remains from Four Wadi Suq tombs (2000-1600 BC) in Qarn al-Harf, Ra's al-Khaimah, UAE: palaeodemographic insights. Poster presented at: Seminar for Arabian Studies 2013. Proceedings of the 46th Seminar for Arabian Studies, July 26-28, 2013: London, England.

Caine A. Heavy Stuff: Individuals with Possible Fluorosis in Ra's al-Khaimah, UAE. Poster presented at: PPA 2013. Proceedings of the 40th PPA Palaeopathology Association, April 9-10, 2013: Knoxville, Tennessee.

Roberts C.A. and **Caine A**. Myths about leprosy: results of a survey relating to established perceptions about the infection. Poster presented at: BABAO 2013. Proceeding of the 15th British Association for Biological Anthropology and Osteoarchaeology, September 13-15th 2013: York, England.

Williams KD., Tibbot G., Ramirez F., **Caine A.**, Gregoricka L. Geospatial bioarchaeology of the mortuary landscape of the Al Khubayb Necropolis (northern Oman). American Schools of Oriental Research. Nov 14-17: Chicago, IL.

2010-2011
Caine A. Experiences in Bioarchaeology: Temple Undergraduate Research Forum and Creative Works Symposium (TURF-CreWS), College of Liberal Arts, Temple University, April 7, 2011, based on research in the "Spatial, Social and Bioarchaeological History of Ancient Oman", organized by K.D. Williams and M. Harrower.

Abstract

Living at the Intersections in Egypt

by

Alyson Caine

Mortuary practices are active spaces for negotiation of identities for the dead and the living. In the Middle Kingdom Period (2030 – 1650 B.C.E.) of Egypt, differences in mortuary practices, specifically the human remains, can elucidate lived and aspirational life histories of individuals and communities. Napoleon began the export of Egyptian material to the Western world. This export commences Egyptian archaeology, which has resulted in numerous legacy collections housed in Western museums. These legacy collections present multiple obstacles to study and comprehension of archaeological samples from these early excavations. However, legacy collections also pose the opportunity to reactivate mortuary spaces and recontextualize interpretations of the past promoting an understanding of historical narratives as a product of modern conceptions and values.

This research examines the legacy collection of skeletal remains from excavations at Lisht beginning in 1906. First, the skeletal sample associated with excavations are assessed to understand the remains available for study and their possible association to tombs from the site. This inventory is followed by studies of differences in mortuary practices at the site of Lisht and is based on data collected from skeletal, archaeological, and archival remains. Lisht was originally excavated by the Egyptian Expedition Fund in the early 20th century and in the intervening years since excavation, skeletal remains, archival documents, including maps, fieldnotes and photos from excavations, and archaeological finds have been separately housed in various Western institutions. Analyses based on skeletal, archaeological, and archival remains produce life histories that highlight a variety of experiences at Lisht but also the potential of revisiting legacy collections. This research argues that while intersectional analyses promote greater understanding of intersections of identities (e.g., girls vs. adult women), it importantly elucidates the influence Western notions have on archaeological and curatorial practices for legacy collections. This dissertation explores the interaction between biases inherent in collection and curation from the original excavations at Lisht and how these biases can be counteracted by new analyses of legacy collections.

Chapter 1 – Identity and its Study Through Death

Archaeology in Egypt

Egypt has been the focus of archaeological excavations dating back to the conquests of Napoleon in 1798 – 1799 (Richards 2005:20). The majority of these initial excavations were conducted by the French and British and resulted in the plethora of material culture that comprises ancient Egyptian exhibits at museums across the world (Stevenson, 2014, 2019). The British in particular, through the so-called Egyptian Expedition, spearheaded much of the collection of Egyptian material and established long-term, large-scale excavations across Egypt. Much of the resultant material from these early excavations filled exhibits in the British Museum but also many smaller, provincial museums throughout the United Kingdom (Stevenson, 2019). In the early 1900's the United States began to engage, with the Metropolitan Museum of Art (Met), one of the larger U.S. institutions to participate in the export and curation of ancient Egyptian material. Beginning in 1906, the Met created the Egyptian Art Department, which amassed thousands of artifacts from archaeological excavations beginning that same year. The Egyptian Art Department currently houses approximately 26,000 objects from excavations in Egypt which span the Paleolithic to the Roman period (ca. 300,000 B.C.E. – C.E. 4th century; "Egyptian Art - The Metropolitan Museum of Art" n.d.).

The first excavations funded by the Met included that of the Middle Kingdom period (2030 – 1650 B.C.E.) site of Lisht, approximately 35 km south from Cairo. Excavations began in 1906 focused on the North Pyramid complex and over the decades of excavation, more than 1000 tombs and archaeological features have been excavated (Oppenheim et al. 2015:312). These excavations were focused on the acquisition of material culture to represent the Dynastic period, particularly the Middle Kingdom period, in the Met's Egyptian Art Exhibit. Today, the Met's collection of Middle Kingdom period objects and art is described as the most important outside of Egypt, likely because of its abundance and the variety of funerary objects and individuals from the period that represent an otherwise understudied period (Oppenheim n.d.).

Middle Kingdom Egypt context

The Middle Kingdom period (2030–1650 B.C.E) of Egypt is comprised of the 11th, 12th, 13th, and 14th Dynasties. Each of these is marked by the reign of various Pharaohs, which largely dictated chronology for ancient Egypt. The Middle Kingdom period is bookended by two relatively short periods of unrest in Egypt (Table 1). The First Intermediate period (2130 – 2030 B.C.E) precedes the Middle Kingdom period and is characterized as a time during which Egypt was segmented into two; Upper and Lower Egypt. The Second Intermediate period (1650 – 1550 B.C.E) follows the Middle Kingdom period and is characterized by foreign (Hyksos) control of Egypt.

Table 1 Chronology of Ancient Egypt (Oppenheim et al. 2015:xix)

Predynastic Period	**ca. 4400 – 3100 B.C.E.**
	Badarian
	Naqada I
	Naqada II
	Naqada III – Dynasty 0
Early Dynastic Period	**ca. 3100 – 2649 B.C.E.**
	1st Dynasty
	2nd Dynasty
Old Kingdom	**ca. 2649 – 2130 B.C.E.**
	3rd Dynasty
	4th Dynasty
	5th Dynasty
	6th Dynasty
First Intermediate Period	**ca. 2130 – 2030 B.C.E.**
	7th – 9th Dynasties
	10th Dynasty
	11th Dynasty (first half)
Middle Kingdom Period	**ca. 2030 – 1650 B.C.E.**
	11th Dynasty (second half)
	12th Dynasty
	13th Dynasty
	14th Dynasty
Second Intermediate Period	**ca. 1650 – 1550 B.C.E.**
	15th Dynasty (Hyksos)
	16th Dynasty
	17th Dynasty
New Kingdom Period	**ca. 1550 – 1070 B.C.E.**
	18th Dynasty
	19th Dynasty
	20th Dynasty
Third Intermediate Period	**ca. 1070 – 664 B.C.E.**
	21st Dynasty
	22nd Dynasty
	23rd Dynasty
	24th Dynasty
	25th Dynasty
Late Period	**ca. 664 – 332 B.C.E.**
	26th Dynasty
	27th Dynasty
	28th Dynasty
	29th Dynasty
	30th Dynasty

The Middle Kingdom period is considered a “classical” or “golden age” period by scholars, who suggest Egyptians consciously imitated the art and architecture of the preceding Old Kingdom period (2649 - 2130 B.C.E.; Baines 2007:195; Oppenheim et al. 2015:2; Richards 2005:1). This designation stems from the political and cultural unity that followed reunification of Lower and Upper Egypt during the 11th Dynasty. The resultant urbanization led to a multitude of experiences for Egyptians and non-locals

alike, including potential expansion of a middle class through trade and entrepreneurial enterprise (Meskell 2002:33). Unfortunately, limited archaeological and architectural sites from the Middle Kingdom period have survived (Richards 2005:1; Oppenheim et al. 2015:1&306). This lack of archaeological evidence along with their location away from tourist areas and the priorities of initial excavators has limited insights for the Middle Kingdom period to the study of the elites (Oppenheim et al. 2015:2), whose mortuary contexts are well represented considering preservation constraints. Much of this research has emphasized material culture and iconography from the Middle Kingdom period but the people, specifically skeletal remains, have not been a part of this discussion. In this dissertation I focus on the legacy skeletal collection from Lisht, where many of the skeletal remains date to the Middle Kingdom period, in part to promote further understanding of the Middle Kingdom period from osteological data.

The Middle Kingdom period begins in the second half of the 11th Dynasty with Pharoah Mentuhotep II reigning from the capital of Thebes (Oppenheim et al. 2015:2). The capital remained in Thebes through the reign of two later Pharaohs, until the beginning of the 12th Dynasty when Amenemhat I moved the capital to Itjtawi, near the modern city of Lisht (Oppenheim et al. 2015:3). Amenemhat I was a commoner, who seized control of Egypt as King Amenemhat I from Nebtawire Mentuhotep IV, founding a new dynasty, the 12th (Berman 1985; Oppenheim et al. 2015:54). During Amenemhat I's reign he founded the royal residence, Amenemhat Itjatawi, between Meidum and Memphis to signify his reunification of Upper and Lower Egypt (Oppenheim et al. 2015:55). Amenemhat I's reign is followed by that of his son, Senwosret I. More recent finds from excavations at Lisht, including architecture and relief decorations, have suggested co-regency between Amenemhat I and Senwosret I, which promoted the passage of power to Senwosret I following Amenemhat I's likely assassination (Oppenheim et al. 2015:56-57; Waddell 1980).

The cemetery complex at Lisht is comprised of two main pyramids which were built to house these two Pharaohs following their deaths: the north pyramid complex for Amenemhat I and the south pyramid complex for Senwosret I (Arnold, 2008). Up until the 13th Dynasty, kingship passed from father to son. However, beginning in the 13th Dynasty, a large number of kings, for a period of approximately 50 over 150 years, ruled over Egypt with many having relatively short reigns (Oppenheim et al. 2015:6). While political change was fairly rapid at the end of the Middle Kingdom period, there is relative stability in ideology and mortuary practices that scholars argue is exemplified by a standardized burial practice dictated by elites and imitated by non-elites (Oppenheim et al. 2015:218).

The Site of Lisht

During the Middle Kingdom period, Amenemhat I, moved the capital of Egypt to Itjtawi, near the modern city of Lisht. Archaeological remains from excavations at Lisht suggest the mortuary site was created following this (Oppenheim et al. 2015:56). There have been a number of disturbances to the site, which have complicated our understanding of the site's chronology. Most of the dating for this site comes from relative dates attributed to material culture recovered during excavation, of which many represent the Middle Kingdom period (2030 – 1650 B.C.E.). However, material culture from "debris" at the site and tombs represent the later New Kingdom period (1550 – 1070

B.C.E.). The presence of material culture from the New Kingdom period suggests semi-consistent use of the mortuary site through the Second Intermediate period (1650 – 1550 B.C.E.) into the New Kingdom period. While continued use is evidenced by material culture from periods following the Middle Kingdom period, archaeologists suggest that private tombs for elites were no longer constructed at Lisht-North from the later part of Amenemhat I's reign and began using Lisht-South (Arnold 2008:13). Lisht-South's use is suggested to have continued into Senwosret I son, Amenemhat II's, reign (Arnold 2008:13). Supporting the idea of a continued occupation, much of the material culture from the South Pyramid complex, built for Senwosret I, dates to his reign (Figure 1; 34.1.205-208). While tombs for elites were no longer constructed at Lisht-North following Amenemhat I's reign, there is evidence of continued use by non-elites for burial of the dead as well as the construction of settlements during the New Kingdom period (Oppenheim et al. 2015:321), which further corroborate the continued use by non-royal Egyptians. There is abundant evidence of plundering and looting of burials, in antiquity and modern times, which has further complicated the chronology of the site. Archival remains, particularly excavation documents, reference the presence of looting and/or plundering delineating possible disturbances and discrepancies with dates of tombs. The bulk of skeletal remains associated with tombs from Lisht, for which material culture is curated and accessible in the Met, have been dated to the Middle Kingdom period, and as such for this dissertation I focus my discussions to the Middle Kingdom period.

Figure 1 Panels from Senwosret I's Pyramid Complex at Lisht South (accession number 34.1.205; metmuseum.org) excavated by the Egyptian Expedition and on display at the Met (Name Panels from the Inner Wall of Senwosret I's Pyramid Complex | Middle Kingdom, n.d.)

The History of Lisht Excavations

Beginning in 1906, the Met began excavations at the North pyramid complex at Lisht-North. These excavations aimed at collecting objects for curation and display in the Met's newly formulated Egyptian Art Department and exhibits, which now holds thousands of objects from Lisht. In addition to material culture, a number of skeletal remains were collected. Most were sent to the National Museum of Natural History (NMNH) in Washington D.C. under the curation of Dr. Ales Hrdlička. The acquisition of skeletal remains from Lisht-North by NMNH was facilitated by Hrdlička's involvement in excavations at Lisht in 1908. Over two shipments, approximately 700 accession numbers associated with Lisht skeletal remains were received by Hrdlička at the NMNH. While the great majority of skeletal remains from Lisht are housed at NMNH, the skeletal remains of two individuals were sent to the Peabody Museum of Archaeology and Ethnology at Harvard University (Peabody) in 1933 as a part of a larger trade. Although the skeletal remains from Lisht were shipped and curated into these institutions' collections in the early 1900s there is no comprehensive report on either set of skeletal remains. This dissertation remedies this lack of documentation and provides insights to the skeletal remains from Lisht previously left out of narratives from the site and inasmuch as possible recontextualize these remains. In the century since initial curation, a number of researchers have attempted to study the skeletal remains and their notes have facilitated my own study of the skeletal remains from Lisht.

Theoretical Approach

Mortuary contexts are spaces for studying identity—individual, familial, and collective— because these spaces and practices are inhabited by both the dead and the living (Binford, 1971; Fowler, 2013; Meskell, 2007; Ricoeur, 2004). In death new identities are negotiated for the dead by the living through the creation of the grave, including the inclusion of specific material goods, placement on a landscape, and ritual practices (Ekengren, 2013; Fowler, 2013; Ingold, 2007; Sofaer, 2006). The grave, therefore, is an active space which holds social meaning and has complex relationships with individual and collective identities (Fowler, 2013; Ricoeur, 2004). A close relation between the body and material included within the grave has been used in bioarchaeological research to explore societal beliefs about death and the identity of the dead and the living, which can provide different narratives of life experiences and identities (Ekengren, 2013; Fowler, 2013; Meskell, 2007).

In the 1970's archaeologists began considering the social aspects of mortuary contexts, including the structure, composition, and relationship between the dead and the living. Saxe (1970) and Binford (1971), helped usher in consideration of social aspects of a burial complex by exploring the relationship between mortuary context and structures of society, while Barth (1969) and Binford (1971) articulated the social persona as dimensions of an individual, including age, sex, ethnicity, social position, etc. These works expanded the discussion about the individual but also the mortuary context, thus promoting discussions of difference and similarity that consider agency as the part of the materials and bodies of the dead and the living. A key takeaway from this work is the variation seen in mortuary practices, which is not independent from social organization (Buikstra, 1987). In the intervening decades, archaeologists have expanded on the concept of social personae, for example exploring the ways gender and ethnicity are

articulated in mortuary practices and how these depict larger societal practices (Li, 2019; Meskell, 2007; Parker Pearson, 2012; Stratton, 2016; Zuckerman, 2020).

Archaeological Studies of Identity

Considerations of social persona transitioned into the archaeological study of identity. Archaeologists have progressively explored specific aspects of identity, including gender (Agarwal & Wesp, 2017; Conkey, 2007; Conkey & Gero, 1997; White, 2005), age (Gilchrist, 2000; Gowland, 2006; Lewis, 2007; Meskell, 1999; Sofaer, 2011; Sofaer, 2006), and social status (Ames, 2007; Robb et al., 2001; Trinkaus, 1995; Wason, 2004). These works have led to a proliferation of research on identity expression of materials recovered by archaeologists, including food remains, mortuary goods, and the body. This research aims to understand the expression and experience of identities at various levels including the individual and community, in different contexts including private and public (Insoll, 2007:14). However, a longstanding critique of archaeological research of identities is the bias inherent in analysis. For example, many studies have reiterated simplistic conceptions of sex that do not account for temporal variation and instead use terminology fundamental to our modern cultural contexts (Meskell, 2007). Third wave feminism has brought about new approaches to identity research, including intersectionality theory that can help to not simply address these biases but make them visible (Clarke & McCall, 2013; Cooper, 2015; Crenshaw, 1990; Franklin, 2001).

Monolithic Identities

Intersectionality theory was developed for legal application to address the ways that the experiences of women of color, specifically Black women, have been excluded from discussions of privilege and oppression (Crenshaw 1989; Crenshaw 1990). While coined by Kimberlé Crenshaw in 1989, the concept has been articulated by many Black feminists' in the past century (Crenshaw, 1989, 1990; The Combahee River Collective, 2011). In Sojourner Truth's 1851 speech, "Ain't I a Woman", she discussed the ways that being Black and a woman meant that her racial identity was prioritized and in the majority of scenarios resulted in the negation of her identity as a woman (Truth, 2011). In the intervening decades, this experience has been operationalized to promote justice for women of color. In Crenshaw's work (e.g., 1989, 1990), she shows the consequences the intersection of gender and race pose for Black women in the criminal justice system with the aim of addressing their marginalization by promoting the inclusion of Black women's narratives.

In the social sciences, intersectionality theory has been used as a social critique of the institutionalization of racism, sexism, and classism (Battle-Baptiste 2017; Crenshaw 1989; Crenshaw 1990; Cole 2009; Sterling 2015). Within the social sciences, personal identity is not the focus of analysis but the systems of power and oppression that influence and articulate identities (Cooper, 2015). Within an archaeological and bioarchaeological context, intersectionality theory has been used to reveal the forces driving structural hierarchies and highlighting the cultural specificity of marginalization (Byrnes, 2017; Franklin, 2001, 2020; Gowland, 2017). Much of the efficacy of intersectionality theory in bioarchaeological research is the result of the work of Black Feminist archaeologists. Black Feminist Archaeology lays out the potential that intersectionality has for creating inclusive dialogues through deconstructing the matrix of

domination that has institutionalized sexism and racism characteristic of the field (Battle-Baptiste 2017:65; Franklin 2020; Franklin & Wilson 2020; Hill Collins 2014:227-228). Black feminist archaeologists' research focuses on captive African peoples in the United States to positively enhance the depth of knowledge and understanding of their experiences and which does not recreate or perpetuate stereotypical imagery (Battle-Baptiste 2017; Franklin & Wilson 2020; Sterling 2015; Watkins 2012). While intersectionality theory promotes activist outcomes specifically for Black peoples, including inclusive dialogues of the past, this theoretical framing enables the exploration of researcher's power dynamics, promoting an analysis of the influence past research has on modern interpretations.

Intersectionality theory has been progressively applied in bioarchaeological contexts. Acknowledging the power dynamics inherent in identity production, perception, and performance, intersectionality theory promotes investigation of experiences that can include social inequality but which does not consider social inequality the sole driver of experiences (Byrnes, 2017; Clarke & McCall, 2013; Cooper, 2015). As critiqued in archaeological studies of identity, intersectionality requires reconceptualizing the meaning and consequences of social categories that considers context specific differences (Cole, 2009). This reconceptualization more accurately depicts individual and collective experiences that acknowledge not only difference but also inherent biases by researchers. When used in archaeological research, intersectionality theory affords a reflexivity to investigate the histories archaeology has produced of past identities. Bioarchaeology provides the unique opportunity to expand understandings of identity expression and fluidity as skeletal remains provide a life course view of identities and many archaeological sites promote cross cultural analyses (DeWitte & Yaussy, 2021).

Intersectionality theory argues identities are fluid and interlocking, leading to differential experiences of oppression and privilege that can be invisible when only solitary identities are accounted for (Cho, Crenshaw, & McCall 2013; Cole 2009; Crenshaw 1989; Crenshaw 1990; DeWitte & Yaussy 2021). Bioarchaeology poses the opportunity to study these interlocking identities as embodied in human remains (Gowland 2006; Sofaer 2006; Torres-Rouff et al. 2017; Zuckerman et al. 2014), revealing experiences of oppression and privilege that were previously unseen and therefore, promote holistic narratives of past peoples. The archaeological record from Egypt has perpetuated narratives of elites and royals from the Dynastic periods. The cemeteries at Lisht are comprised of elite and non-elite burials (Arnold, 2008; Lythgoe, 1907a), promoting the investigation of individual and collective experiences and identities expressed in mortuary practices outside of elite experiences. This dissertation expands the discourse surrounding mortuary practices during the Middle Kingdom period and is informed by intersectionality theory, the embodiment of identities in the skeleton, social stratification, and its relation to Egyptian conceptions of identity. The Western gaze that dictated and frames archaeological work conducted in Egypt before independence in 1922, is explored to understand its influence on the archaeological record and its role in dictating interpretations from material recovered and represented from Lisht.

Embodied Identities

Bioarchaeologists use the skeleton to explore identities that are embodied in skeletal remains. The plasticity of the skeleton produces material evidence of lived

experiences that reveal an accumulation over the life course (Gowland, 2017). As Sofaer (2006) notes, bioarchaeology studies the materiality of the skeleton as a primary source of observable adaptations made by the body to accommodate changing environments and cultural practices (Sofaer 2006).

At its inception, bioarchaeology was focused on categorizing races and understanding "normal white men" (Hrdlička, 1918:8). Much of the first research conducted by physical anthropologists was aimed at studying man's bodily and functional differences which helped to categorize races, including the potential "…physical, physiological, and intellectual effects of racial mixtures on progeny" (Hrdlička, 1918:24). However, during the 1970's a new wave of theoretical framing influenced biological anthropologists' consideration of the body as an agent in cultural production. The biocultural approach exemplifies this turn to viewing the body as an agent of change that is not only the product of biology but culturally produced (Buikstra & Beck, 2020:351; Goodman et al., 1988). As defined by Blakely (1977:1), the biocultural approach aims "…to illustrate the interrelationships between biological, cultural, and environmental variables …". While a vital step forward in terms of holistic approaches to studying humankind, the biocultural approach did not consider larger theoretical framings for which biological anthropologists have come to emphasize.

Through the 1990's and into the 2010's biological anthropologists increasingly incorporated theoretical frameworks in analyzing the body, including embodiment theory. Embodiment theory has been broadly applied by many in the social sciences, including queer (Blackmore, 2011; Carnes, 2019; Dowson, 2000; Ryan, 2020; Voss, 2000), feminist (Butler, 2014; Conkey & Gero, 1997; Geller, 2008, 2016; Muller & Butler, 2018), and black feminist theory (Battle-Baptiste 2017; Crenshaw 1989; Crenshaw 1990; Hill Collins 2014; Sterling 2015), through which resultant research has expanded understandings of human diversity. Particularly following Sofaer's *The Body as Material Culture: A Theoretical Osteoarchaeology,* bioarchaeologists began to describe the body outside of individual biological profiles in osteobiographies, providing further context that bridged contextually specific cultural practices with the biological profile of the skeleton (2006).

Embodiment theory incorporates individual and collective experience to produce life histories that not only explore the biological consequences of identities in the past but also the cultural implications of identities in society. This nexus of biology and culture creates the social identity which is influenced by the biological life course and social constructs of identity, for example gender, disability, social standing, etc. While some identities are ascribed at birth and therefore immutable (e.g., biological sex and age), other identities, such as ethnicity, social status, or disability, may require social negotiations that change throughout the lifespan (Meskell, 2007). These immutable and mutable identities create variable experiences that can change over a life course and within different cultural contexts. For example, social status can change as a result of marriage or migration to a new community. Embodiment research emphasizes the mutable and immutable identities present within a bioarchaeological context and promotes life course research. This approach enables observing changes in identity performance by an individual and perception by a society over and individual's lifespan.

This dissertation addresses the role that legacy archaeological collections, particularly their collection and curation, play in producing interpretations of

archaeological remains. Archaeology in Egypt is founded on material collected during colonial contact, which has resulted in the extensive legacy collections housed in Western museums across Europe and North America (Mahmoud, 2016; Riggs, 2018; Stevenson, 2014, 2019). This archaeological work and the resultant legacy collections have come to define archaeological knowledge of ancient Egypt (Riggs, 2010, 2018; Stevenson, 2014, 2019). As a mainstay in museums drawing visitors from across the world, Egyptian artifacts, particularly Egyptian bodies, have come to serve as "voyeuristic viewing and study" promoting visitors traveling to Egypt through museums (Riggs, 2010:1148). An emphasis on elite goods by excavations of Egyptian sites during the 20th century, has resulted in an overrepresentation of royal and elite mummified individuals, with skeletal remains largely viewed as lesser materials (Riggs, 2018; Stevenson, 2014). This dissertation argues that the preferential representation of elite Egyptians by archaeologists and museums has perpetuated the oppression and privilege ancient Egyptians experienced in life in their death. Through a reflexive bioarchaeology, I show that intersectionality theory not only provides insight on past people's experiences, but crucially also presents the opportunity to understand current and historic biases influencing the interpretations accessible to researchers.

Organization of Dissertation

In this dissertation, quantitative and qualitative analyses are combined to understand the differential experiences of individuals living at Lisht as well as the limitations Lisht's status as a legacy collection has for undertaking studies. The three chapters emphasize the research potential legacy collections hold for reevaluating archaeological samples but also the role priorities of initial excavators, curators, and subsequent researchers, have had for producing holistic interpretations of these samples. Chapter two, *The Legacy of Lisht*, focuses on the interpretive consequences of the priorities of the initial excavators and the institutions funding and curating these remains, including the Met, NMNH, and Peabody. Archival records are used to produce the expected results for skeletal remains recovered from excavations at Lisht. This includes providing a baseline expectation for the minimum number of skeletal remains recovered and the demographic profile (e.g., age and sex) of those individuals. This chapter concludes by detailing the limitations that legacy skeletal collections present because they were excavated before modern standards and as secondary objects of analysis.

The subsequent chapters focus directly on skeletal remains from the Lisht skeletal collection that could be associated with tombs through my archival and archaeological analysis. Chapter three, *Narratives from Lisht*, focuses on the 256 individuals that were associated with 95 tombs recovered from the first three years of excavation at Lisht. This chapter provides a quantitative view of the skeletal remains that represent the individuals recovered from Lisht. This approach highlights differences across the archaeological sample at a variety of axes of identity, including age, sex, and social status. From this analysis, distinct mortuary patterns and differences are outlined to provide an overview of Lisht's mortuary experiences. This chapter is followed by one that provides a qualitative parallel to the legacy collection from Lisht titled, *Meaning Making from Osteobiography and Object Itinerary.* In this chapter, osteobiographical and object itinerary are used to study two individuals, one elite female and one non-elite female, that were acquired by the Peabody in 1933 by the Met as a part of a larger trade of skeletal remains. This

chapter highlights the limitations museum representations of Lisht have had for understanding people collectively as well as for specific individuals. Through revisiting these skeletal remains and their use and disuse as objects since exhumation, this chapter highlights the research potential of reanalyzing skeletal remains from legacy collections and the variable values attributed to them as objects by museums.

I conclude the dissertation by underscoring the palimpsest nature of legacy collections and skeletal remains more specifically. Through exploring errors and biases along with new representations of past people from Lisht in this dissertation, this concluding chapter argues that narratives of the past become more holistic and representative with a greater understanding of limitations inherent to legacy skeletal collections. In addition, while legacy collections pose obstacles to study, with each new study or approach, new knowledge produces a greater understanding of the collection and interpretations contributing to a more inclusive perspective of the past. Using an intersectional analysis, this project reimbues a legacy skeletal collection with research potential while also addressing the variable experiences of privilege and oppression the archaeological site and remains from Lisht have experienced at the hands of myriad researchers over time including my own.

Chapter 2 – The Legacy of Lisht

Introduction

This chapter outlines the legacy of archaeological excavations and research at the site of Lisht, Egypt, which resulted in the collection and curation of skeletal remains. Key researchers and institutions supporting Egyptian archaeology and the goals of the broader excavations at Lisht will be discussed with an emphasis on the individuals involved with the excavation, collection, and curation of Lisht skeletal remains. Excavations at Lisht recommenced in the 1980's following a long hiatus; however, these recent excavations have focused on structures and architecture of the site. To understand how the skeletal remains have been used for interpretations and fit into the larger legacy of the Lisht archaeological site, the archaeological research directly associated with the initial years of excavation and collection of skeletal remains will be the focus here.

Museums present opportunities to travel back in time and understand the varied experiences of people in the past. However, the preferential collection and display of solitary narratives limits our understanding. Here, I study the role that excavation and curation at the site of Lisht, Egypt, had for the legacy of this site and that of the individuals recovered. With an emphasis on the human skeletal remains from these excavations, this paper will compare original excavation documents with the resultant curated collections of skeletal remains to highlight the consequences excavation and curation of skeletal and archaeological remains from this collection has had for a holistic understanding of the people living at Lisht.

Legacy and Ancient Egypt

Legacy as defined by the Cambridge Dictionary, is "something that is a part of your history or that remains from an earlier time" (*Legacy*, 2023). Archaeology is the study of society's legacy through material and architectural traces. While this legacy is largely presented through museum exhibits and publications, legacy goes beyond the museum setting and our contemporary understanding of the past. The importance of legacy is not restricted to modern cultures, for example, legacy is an important feature of ancient Egyptian life and death, as evidenced by textual reference to legacy and through material representation. During the Dynastic period (3100 B.C.E. – C.E. 332), there is ample textual, iconographic, and archaeological evidence of belief in an afterlife by Egyptians. Religious beliefs of Egyptians in life highly influence the belief of a transformation at the end of life affording a continuation into a mirror image of life in death (Brewer & Teeter, 2007:98). This belief in an afterlife meant that mortuary contexts and rituals served to symbolize an individual into their afterlife, made manifest by material and textual or iconographic representations of the individual and society in mortuary spaces.

Over the course of the Dynastic period, there was a direct connection between kings and gods, wherein religious rituals including accommodations through material goods, specifically food and drink, statues, and clothing, maintained protection from these deities and the king for all Egyptians. These rituals also extended into death which promoted the eternal rejuvenation of the king and deities. Specific accommodations for

the afterlife in funerary practices change throughout the Dynastic period but emphasis on legacy is maintained through practices to preserve the body and goods promoting the continuation of life following death (Brewer & Teeter, 2007:98-99,103; Meskell, 2002, 2004; Quirke, 2015; Richards, 2005). In addition to preserving the body, statues and figurines served as duplicates of the body and iconography and inscriptions represented the individual in mortuary contexts for their afterlife (Meskell, 2004;7; Richards, 2005). While the ideology around death centered on deities and kings, the afterlife was not restricted to just those segments of society.

Belief in an afterlife was universal with accommodations made by all Egyptians. An inability to provision for death was thought to result in the annihilation of the individual from memory (Spencer, 1982). However, social status influenced the level of investment individuals could place in their legacy for the afterlife, and was one of the primary determinants of the material included and ceremonies practiced (Ezzamel, 2004; Meskell, 2002; Richards, 2005). By the Old Kingdom (2649 – 2130 B.C.E.), in addition to mummification practices, accommodations for the dead in the form of food and material objects were collectively believed to provide for individuals in the afterlife and mummification shifted from an elite practice to one for all Egyptians (Shaw, 2000). From the Old Kingdom on, mortuary practices became more elaborate, particularly for elites, with the incorporation of monumental tombs in the Middle (2030 – 1650 B.C.E.) and New Kingdoms (1550 – 1070 B.C.E.) as well as elaborate ritual practices associated with funerals (Spencer, 1982). Textual evidence from the New Kingdom period show that Egyptians took time off from work to perform funerary rites, with non-elites taking less time and therefore preparing less for mortuary events (Austin, 2015; Ezzamel, 2004). Death and the preparation for these events was prioritized by the Egyptian state with documents from temples showing that the state paid a priest to perform mortuary events when and where necessary (Ezzamel, 2004).

Middle Kingdom Period Mortuary Practices

Egyptian mortuary practices during the Middle Kingdom Period (2030 – 1650 B.C.E.) were an important part of social life with the materiality of the mortuary context, including the mortuary structure, assemblage, and body, functioning as an expression of actual and/or aspirational identity for the afterlife (Li, 2019; Meskell, 1999, 2002; Richards, 2005). Scholars have argued that the general homogenization of mortuary practices across social strata during this period represents promotion of one pattern for mortuary practice (Brewer & Teeter, 2007; Oppenheim et al., 2015:218; Quirke, 2015). There is widespread use of stelae, stone or wooden slabs with inscriptions (Oppenheim et al., 2015:33). Coffins, cultural mummification, the removal of organs to slow decomposition of the body, and canopic jars, containers used to collect organs removed during mummification, became a more common practice (Quirke, 2015). The body, either following mummification or devoid of mummification practices, would be wrapped in linens to further protect from decomposition before being placed in a coffin or on the landscape (Riggs, 2014). In addition, people began being buried with one or more individuals increasingly in the Middle Kingdom period. All of these features which characterize the Middle Kingdom have supported the notion of state sanctioned mortuary practices (Oppenheim et al., 2015:218).

Egyptian Archaeology and the Museum

The collection and curation of archaeological material has a long history beginning with cabinets of curiosity in the late 15th century. These collections comprised privately-owned material and objects that were attributed value by individual collectors (Amsel-Arieli, 2012; Bowry, 2014). Over the centuries, these privately owned collections morphed into large-scale spaces for display of our collective natural history, with museums seeing an exponential increase from 1870 to 1910 (Stevenson, 2019:39). As museums grew, the need for more objects also grew. Colonial contacts of the early 20th century facilitated the collection of objects with many museums funding archaeological excavations (Stevenson, 2019). For example, Western imperialism, primarily by the French and British, resulted in numerous expeditions to Egypt and is the basis for most early archaeology there. Fascination with ancient Egypt is intimately linked to these early excavations and the material recovered from them represents ancient Egyptians to museum visitors historically and today. The excavation and export of ancient Egyptian goods in the early 20th century, and as the basis of many Egyptian archaeological collections across the world, is tied to the concept of "partage" wherein small trinkets or duplicate finds were negotiated to be exported from Egypt (Stevenson, 2019:27). Museums in the United States benefited from these practices, particularly British archaeological fieldwork, with much of the Egyptian material culture represented in exhibitions here coming from these excavations (Stevenson, 2019:69). These early 20th century excavations in Egypt continue to structure the research questions driving archaeology in Egypt.

French archaeological work, including the export of material culture by Napoleon, stands as the first large scale export of Egyptian culture to the West (Richards, 2005:20). However, the British instituted large-scale, long-term excavations in the early 20th century, which exported large quantities of Egyptian heritage to Western institutions, including the British Museum in London and Metropolitan Museum of Art (Met) in New York (Riggs, 2010; Stevenson, 2019). The British Egyptian Expedition Fund, which led many of these excavations, had three aims: 1) organize excavations in Egypt, 2) publish the sites explored, and 3) ensure the preservation of antiquities by presenting them to museums and similar public institutions (Stevenson, 2019:10). While not the first organization or Western country to endeavor to excavate Egyptian archaeological sites, the British-led Egyptian Expedition Fund expanded archaeological research and disseminated Egyptian archaeological artifacts across the globe, producing and curating much of the archaeological knowledge on ancient Egypt consumed today (Stevenson, 2014; Stevenson et al., 2017). In the United States, the Met was at the forefront of efforts to obtain Egyptian archaeological remains. The Egyptian Art Department was created in 1906 sparking the acquisition of material for exhibit in their Egyptian Art galleries. This department's inception coincides with Met- funded excavations by the Egyptian Expedition at numerous sites in Egypt, including at Lisht, Dashur, Kharga, and Thebes, all with the intent of collecting objects for curation at the Met (Winlock, 1909).

While the body is known to hold significant value to an individual's legacy in ancient Egypt (Meskell, 2004), the material surrounding the body, particularly structures like mastabas (large scale superstructures with subterranean graves) and pyramids, have been emphasized by archaeologists and museums alike. Tombs, their architecture, and iconography have been relied upon to formulate ideas and exhibits for the public about

past Egyptians while the skeletal remains of these ancient Egyptians themselves are largely ignored. Where the body is represented by museums, focus is placed on mummified individuals. The emphasis on specific features of Egyptian mortuary practices, including pyramids and mummified individuals, has limited our understanding of past Egyptians, to elites of society who were afforded these practices. This prioritization is apparent in many exhibitions on ancient Egypt, including Lisht, which highlight elites, sarcophagi, mastaba, and material culture recovered from elite burial contexts. This unequal representation has hampered potential research on the site and its material products, particularly the skeletal remains. Because initial motivations of excavation aimed at obtaining unique objects for curation in the Met's Egyptian exhibitions, skeletal remains were not prioritized. Consequently, these remains have not been studied to formulate or address research questions for Lisht. This proliferation of elite mortuary paraphernalia has afforded ancient Egyptians a selective collective legacy into the early 21st century.

Much of the collections in museums that represent ancient Egypt are the result of early archaeological excavations and unfortunately, many represent orphaned or legacy collections (Frieman & Janz, 2018). Orphaned collections are those that were systematically excavated but for which curatorial support was not obtained. In contrast, legacy collections are those with ownership or title clearly designated but were not documented or curated to the modern standards expected today, resulting in a loss of research potential (MacFarland & Vokes, 2016). The proliferation of these collections from archaeological research has been described as a "curation crisis" (Friberg & Huvila, 2019; Kersel, 2015; Marquardt et al., 1982; Voss, 2012). Despite this understood 'loss', archaeologists have attempted to address this crisis promoting the restudy of legacy and orphaned collections to reimbue research potential (Voss, 2012). By revisiting these collections, scholars have argued that new perspectives on issues or cultures are possible, particularly legacy collections, for which multi-year excavations present the opportunity for large-scale syntheses (Frieman & Janz, 2018; MacFarland & Vokes, 2016; Voss, 2012).The skeletal collection from Lisht presents an opportunity to study the consequences of museum funded Egyptian archaeological excavations of the early 20th century that have resulted in legacy collections, while also reimbuing research potential to the minimally studied legacy skeletal collection. Here I study the consequences of collection and curation of skeletal remains from Lisht by archaeologists and biological anthropologists. To understand the role excavation, collection, and curation has had for these remains, archival documents will be used to demonstrate the expected collections representing Lisht, and these will be contrasted with the actual skeletal collection. Juxtaposing expected versus reality will underscore the consequences of interpreting the intended legacy of individuals from Lisht with these collections.

History of Lisht

The Met founded a Department of Egyptian Art and began excavations at Lisht in 1906 to secure objects for display in the museum (Oppenheim et al., 2015:311). The First World War interrupted excavations in 1914 and 1915; however, excavations were conducted annually from 1906 – 1934. During these 28 years, a number of archaeologists led the excavations including Arthur Mace, Herbert E. Winlock, and Ambrose E. Lansing (Oppenheim et al., 2015:311), excavating different areas of the mortuary complex. Over

800 features (tombs, houses, and factories) were ultimately excavated. Excavations at Lisht recovered material culture that forms the core of the Twelfth and Thirteenth Dynasty displays at the Met (Oppenheim et al., 2015:312). Along with these objects, archival documents including drawings, photographs, and excavation notes provide greater insight to the excavations. The *Metropolitan Museum of Art Bulletin (Bulletin)* also provides a historical narrative for the excavations in Egypt conducted by the Egyptian Expedition. These *Bulletins* were published sporadically from 1907 to 1922 and show that while initial excavations in Egypt focused on Lisht, this focus later shifted to surrounding sites. After 1909, while excavation documents show continued work, *Bulletins* discuss the products of excavations at Lisht less and less.

The site of Lisht is approximately 35 miles south of Cairo and was the location of royal pyramid complexes. The funerary complexes at Lisht served the new capital of the Twelfth Dynasty, during the reign of Amenemhat I, who moved the capital of Egypt from Thebes to Itjtawi, which is thought to be modern day Lisht (Oppenheim et al., 2015:3). Individuals buried at the North Pyramid complex of Lisht belonged to Amenemhat I and include elite and non-elite groups of the capital (Figure 2). From material culture, the funerary complexes appear to have been used up to the 2nd Intermediate period (1650 – 1550 B.C.E.) with periods of disuse, including the building of settlements on top of the mortuary complex south of the North Pyramid during the New Kingdom period (1550 - 1070 B.C; Oppenheim et al., 2015:321). While material culture from the site of Lisht, including from the North Pyramid, represents multiple periods of Egypt's Dynastic period, the tombs recovered in the first three seasons of excavation, 1906 – 1909, largely date to the Middle Kingdom period, and are the focus of this research. Although excavations at Lisht continued into the early 1930's, skeletal remains appear to have only been collected in the first three seasons of excavation, 1906 – 1909 (Figure 2). The Egyptian Expedition, supported by the Met, shipped skeletal remains to museums in the United States, including NMNH and Peabody. These skeletal remains have been the subject of limited archaeological research and provide the opportunity to further contextualize the individuals from Lisht with other material collected from the site. Here, I focus on the skeletal collection from Lisht and the initial seasons of excavation to understand how the legacy of Lisht presented through archaeological and archival remains aligns with and/or differs from the osteological interpretations of skeletal remains from Lisht.

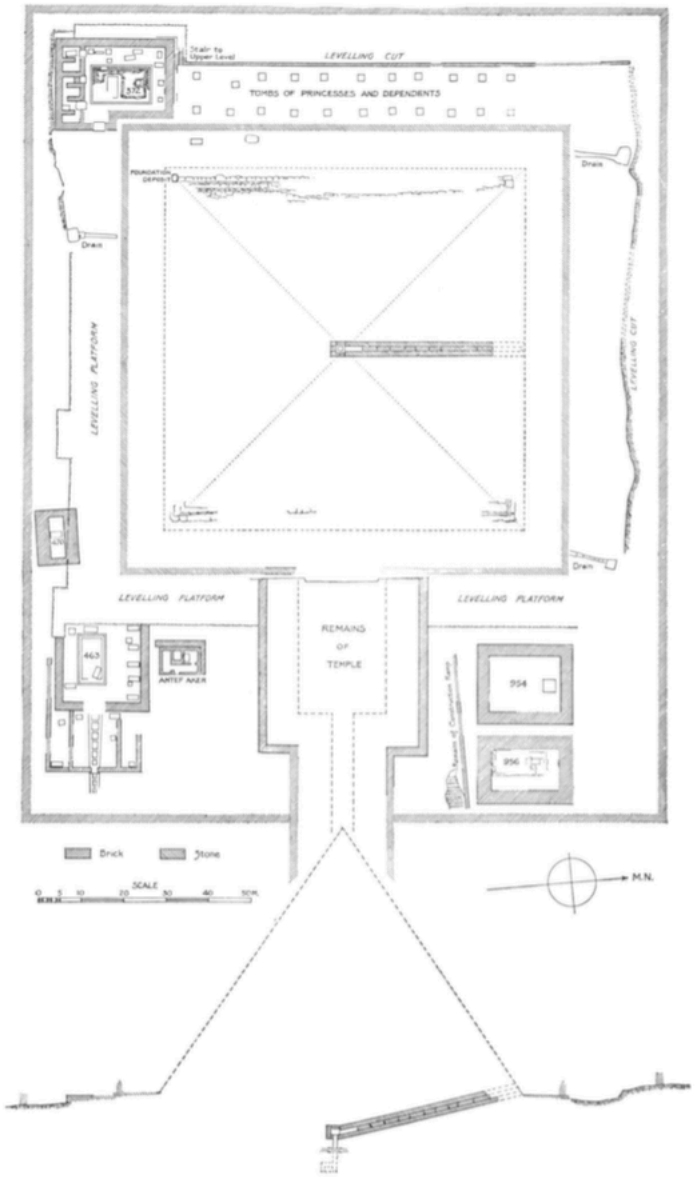


Figure 2 Map of Lisht North Pyramid Complex from Mace 1922

1906 – 1909 Excavations

The first two seasons of excavation at Lisht (1906-1908) were jointly directed by Arthur C. Mace and Herbert E. Winlock. The first season aimed to clear the pyramid along its eastern side, which contained tombs of prominent personages of the reign of Amenemhat I, including a temple for worshiping the King (Lythgoe, 1907a, 1907b). During this excavation season, approximately 100 tombs were opened including those of Senbtes and Hapisit, whom Lythgoe has extensively described (Lythgoe, 1907c). Material culture from these tombs suggests, with the exception of a few intrusive burials, that the cemetery was used during the Twelfth Dynasty only (Lythgoe, 1907c). Excavations in the second season focused on the northern side of the pyramid, including its entrance, as well as continuing at the cemetery of private tombs west of the pyramid

that had begun the previous year (Lythgoe, 1908). Features emphasized by the Met *Bulletins*, include houses and silos on the northern side of the pyramid, and several deep shaft tombs, one of which contained a stela dedicated to prince Hapu, from the Twentieth Dynasty (Mace, 1908).

In the third year of excavations more team members were added, including Mr. W.J. Jones, Mr. F.L. Unwin, Mr. Davies, and Dr. A. Hrdlička (Lythgoe, 1909). The inclusion of Hrdlička marks the beginning of the Smithsonian Institute's involvement in the collection and examination of skeletal remains from Lisht. Work during this year focused on clearing Twelfth Dynasty tombs west of the pyramid, and resulted in the excavation of approximately fifty tombs (Lythgoe, 1909). Excavation also focused on the temple of the pyramid of Senwosret I, which was started by the French expedition in 1894-1896. Throughout these seasons, prominent individuals that were buried at Lisht have been the focus of much of the archaeological excavations and include, Senwosretankh and Imhotep from Lisht South and Rehuerdjersen, Intefiqer, Senebtisi, Nakht, and Senwosret at Lisht North (Oppenheim et al., 2015:312).

Integrating the Lisht Collections

Here, I consolidate available information from the archival record and the extant skeletal material at the Met, NMNH, and Peabody museums. Excavation documents and archival remains represent the collection expectations and interpretations from Lisht individuals. Therefore, archival remains produce the narrative(s) expected to represent individuals buried at Lisht. Osteological analyses of the skeletal collection from Lisht will allow me to provide interpretation(s) possible about individuals buried at Lisht. As such, combining archival and osteological analysis will provide various data points that represent the expected and actual interpretations possible from the skeletal collection and allow a better sense of the reality of life and death at Lisht. In addition, comparing the expected and actual interpretations, this paper considers the consequences legacy collections produce for skeletal remains.

The Archive of Lisht

A large collection of drawings, photographs, excavators' notes, and maps comprise the archival remains representing the excavations at Lisht. While the majority of the archival remains are housed at the Met, scans of photographs, maps, excavation documents, curation documents, and correspondence are also housed in association with the collections of skeletal remains at NMNH and the Peabody. According to the Met's open access database, over 3,000 archaeological finds comprise their collected material from Lisht excavations. While the site of Lisht comprises more than a mortuary complex, the scope of this research restricts the analysis of archaeological and archival remains to those that discuss or deal with mortuary practices, specifically where skeletal remains are noted. Excavation notes and photographs, predominantly housed at the Met, were created during excavation seasons by excavators and/or supervisors of excavation. These documents outline many specifics of burials, including the presence of material culture, typology of burial (surface, shaft, or mastaba), presence of skeletal remains, and presence of coffins or sarcophagi. In many cases, drawings of tombs and skeletal remains complemented these notes. But, in a few instances, no notes were taken and only drawings of tombs were included.

Archival remains at NMNH and the Peabody largely comprise museum accession records and correspondence about acquiring skeletal remains. Scans and copies of original excavation documents and photographs from the Met are present sporadically at both museums. Over the last century, curators and researchers have worked on the skeletal remains and in more recent studies, researchers have attempted to reassociate skeletal remains with tombs. Correspondence between curators at NMNH and the Met discuss the prospect of reassociating remains while admitting to having limited knowledge about what each museum possesses from Lisht. This correspondence provides insight to the motivations of collection and curation of Lisht archaeological remains. Correspondence includes notes and letters written by researchers and curators at the Met and NMNH, including Dr. Ales Hrdlička, Dr. Mason, Dr. A.M. Lythgoe, Caspar Purdon Clarke, Dr. Eugen Strouhal, Dr. Christine Lilyquist, and Dr. Ray Slater. Importantly, connecting archival remains from the Met with skeletal material at NMNH (e.g., associating Met tomb numbers with Smithsonian accession numbers) was aided by correspondence between researchers and curators. More recently, notes and research conducted by Christine Marshall and Alison Wilcox on the skeletal remains at NMNH has also aided in this analysis.

Accession documents include Excel spreadsheets outlining skeletal remains curated by the museum and accession cards created by NMNH staff when the skeletal remains were received from Egypt in 1908 and 1909. These accession documents provide dates, tomb numbers, and descriptions of skeletal remains for the remains provided museum numbers (Figure 3). Photographs from excavations are curated with the Lisht collection at the Smithsonian Institute but predominantly comprise duplicates and/or scans of original photographs, all of which are housed at the Met. Photographs, skeletal remains, and excavation documents housed at NMNH represent excavations from 1906 to 1909. As outlined above, the Met continued excavations and skeletal remains are noted in excavation documents as recovered during these seasons but there is limited documentation of what was done with these remains and no further accession of skeletal remains from Lisht is noted for NMNH or Peabody collections.

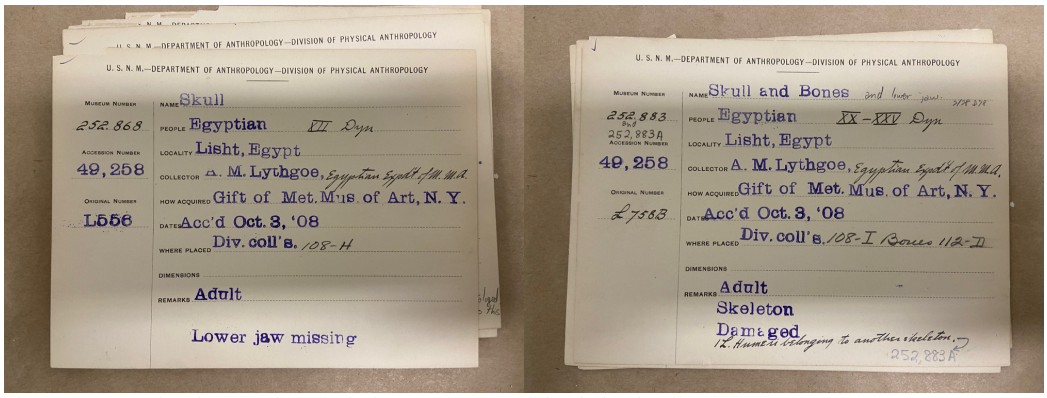


Figure 3 Example of Accession cards from NMNH's Lisht skeletal collection

In excavation documents, skeletal remains are noted where present. In instances where articulated burials were recovered, excavation notes include drawings and descriptions of the position of the body. Excavators noted estimated age and sex of

skeletal remains, and in a few instances noted pathological alterations to individuals recovered. While, no methods are noted for estimating age-at-death or sex, in some cases excavators note specific epiphyses or dental eruption for age estimates in non-adults. Much of the emphasis in excavation notes is placed on the structure of the burial and the grave goods recovered. The location of the burial was described in a number of excavation notes, wherein the closest excavated burial was discussed or mapped. Analysis of photographs, in combination with, excavation documents enabled the identification of burials with skeletal remains identified and potentially recovered by the Egyptian Expedition. In some instances, excavators specifically annotate the collection of grave goods and skeletal remains, with accession numbers provided for material culture intended for curation by the Met. These notes suggest, indirectly and in some instances directly, that while skeletal remains may have been identified in tombs, not all skeletal remains were collected. This haphazard collection of material is reflected in excavated and documented finds left at Lisht for which a current location is unknown (Arnold, 2008:85) and the assignment of accession numbers to material culture in excavation documents that are not locatable in the Met's open access database. These archival remains formulate the expected results from Lisht excavations, specifically the minimum number of individuals expected from Lisht and the distribution of males and females and adults and non-adults, which will be contrasted to osteological data collected from the skeletal collection at NMNH and the Peabody.

Archival Methods

Close analysis of archival documents and correspondence is used to reconstruct the tombs and mortuary practices representing the skeletal collection from Lisht. Excavation notes will provide data on the type of burial, contents of the burial, including skeletal remains, and potential demographic distribution of individuals recovered from Lisht. These data points will be compared and contextualized with osteological data to produce narratives on reassembled tombs and to help provide interpretations that might otherwise have been lost as a consequence of the variable collection and curation of skeletal remains.

The Skeletons in the Archive from Lisht

Skeletal remains were first shipped to NMNH in 1908 following the first season of excavations from 1906-1907. These elements are described as being selected by Hrdlička while visiting excavations at Lisht in 1908. Archival documents from the Met and accession records from NMNH indicate two direct shipments of skeletal remains from Egypt. The first shipment (Accession 49258) included four cases of skeletal remains. This shipment has 47 separate museum numbers associated with it: 252841-252886. As such, 47 individuals are represented by this accession number, for which twenty-three tombs are noted. The second shipment in 1909 (Accession 50330) included a further 37 boxes of skeletal remains. This second shipment of skeletal remains included remains not only from Lisht, but new excavations conducted by the Egyptian Expedition, including those at Kharga Oasis and Ain el Turba, and represents the largest number of skeletal remains from Lisht. The second accession number, 50330, represents 4,207 skeletal elements, including skulls and postcrania. Skeletal remains from Lisht included in this accession have museum numbers from 256001-256578. According to Strouhal's

notes during his attempted study of the Lisht skeletal collection at NMNH, approximately 460 individuals are represented by skulls, however, the plethora of isolated postcranial elements were not attributed tomb numbers and therefore these elements were not able to be associated with skulls in most instances (Strouhal 2007). Of these 406 individuals, 51 individuals were associated with 43 tombs. These elements represent individuals who were tentatively dated to the 12th and 20th-25th Dynasty at Lisht. Initially, the shipment of human remains was not accompanied by excavation documents or photographs. However, following requests over the years by NMNH curators and researchers, some photos and archival documents have been shared.

A third shipment of skeletal remains, clothing, faunal remains, and photographic negatives were shipped to Hrdlička in 1914, according to correspondence from Dr. Ray Slater in 1982. However, there is no record of this shipment including skeletal remains from Lisht excavations in NMNH records. No further shipments of skeletal remains from Lisht to NMNH are documented after the 1909 shipment. As curator and researcher at NMNH, Hrdlička and Strouhal both studied the skeletal remains from Lisht. According to correspondence and archival documents, Strouhal was working to publish a report on the skeletal collection from Lisht in 2007. His notes indicate that while Hrdlička continued to work at Lisht and other Egyptian archaeological sites run by the Egyptian Expedition, there was no further anthropological material shipped to NMNH that was attributed to Lisht after 1909.

In archival documents at NMNH, Strouhal notes various shipments of skeletal and faunal remains from Lisht being distributed to different museums (Table 2). The majority of skeletal remains he notes (n = 472) are housed at NMNH. Following the acquisition of human remains in 1908 and 1909, NMNH traded a small number of skeletal remains to other museums including the San Diego Museum of Man (currently Museum of Us; n = 2) and Hrdlička Museum in Prague (n = 2) as part of special collections curated by Hrdlička. Skeletal remains were also sent to the American Museum of Natural History, totaling in 11 individuals that were received by the museum in September 1908. It is not clear whether these 11 individuals came directly from the Egyptian Expedition or the NMNH collection of skeletal remains. While skeletal remains are noted by NMNH as housed at the Egyptian Museum in Cairo, there is no current record of these skeletal remains in their possession. Finally, two skeletonized individuals, found in the 1906-1907 season of excavation at Lisht, were sent to the Peabody in 1932 by the Met.

Table 2 Distribution of skeletal remains from Lisht stored at museums

Institution	**Number of Individuals**
National Museum of Natural History, Washington D.C.	472
Hrdlička Museum, Prague	2
Museum of Man, San Diego	2
American Museum of Natural History, New York	11
Peabody Museum, Cambridge	2
Egyptian Museum, Cairo	2
Total	**491**

Skeletal remains from the Lisht skeletal collection at NMNH were organized by individually cataloged elements or skeletons and isolated skeletal elements. Isolated skeletal elements were housed separately from skeletal remains with museum numbers. The majority of skeletal remains analyzed here were crania that had been separated from postcranial elements. Where bones of the skull were articulated or associated with a single individual a museum number was assigned. Museum numbers were associated with 463 individual crania and there were an additional 49 cataloged individuals with cranial and postcranial elements. For isolated skeletal elements, in most cases the site and a bulk museum number were assigned to categories of elements, for example P256478 referred to isolated femora. Mandibles, similarly, were separated from crania and cataloged with a bulk museum number and stored with isolated skeletal elements (n = 262). Because an emphasis of my analyses was on associating skeletal remains with tombs, individual museum numbers were studied first (n = 463). With remaining time, observations were made of isolated skeletal elements with bulk museum numbers, totaling 1,337 individual elements. For these observations, emphasis was placed on long bones and elements for which pathological conditions were observed in cataloged individuals associated with tombs. These elements largely include bones of the skull, including mandibles and maxillae, femora, tibiae, scapulae, sacrum, and innominate bones. In a few isolated skeletal elements, tomb numbers were written in pencil and therefore, whenever possible, these elements are included in analyses for associated tombs.

Osteological Methods

All data collection was done macroscopically using Osteoware to record data points which is freely available, easy to use, and creates results widely compatible with other skeletal data sets. The Osteoware database is segmented into data collection categories, including Inventory, Taphonomy, Age and Sex, Pathological Conditions, etc. Each of these data categories were formulated following the standards for data collection outlined by Buikstra and Ubelaker (1994) unless otherwise noted (Wilczak & Dudar, 2020).

Preservation and Completeness

Within Osteoware, completeness of elements was scored either 1, 2, 3, or blank. These codes represent at least 75% complete, 25-75% complete, <25%, and missing, respectively. Preservation of skeletal remains was recorded following Osteoware's taphonomy data points, including interment environment impacts, excavation/retrieval damage, and curatorial changes. Taphonomic features were scored as present or absent. For isolated skeletal elements, Osteoware was not used, except for mandibles and maxilla with dentition. Therefore, completeness of elements was not coded but given a percentage of completeness based on diagnostic features of the bone present. The minimum number of individuals (MNI) was estimated following methods outlined by (Brickley & McKinley, 2004; McKinley, 2004). For skeletal elements to be included in calculating the MNI, at least 50% of an element needed to be present.

Demography

Age-at-death and sex were assessed where skeletal elements were present with age specific or sexually dimorphic features. Sex, for example, was assessed predominantly from features of the skull, including the mastoid process, supraorbital sharpness and ridge, nuchal region, and mental eminence of the mandible (Acsádi & Nemeskéri, 1970). For innominate bones, features including the greater sciatic notch, subpubic concavity, and preauricular sulcus were scored from 1 to 5, following Buikstra and Ubelaker (1994; Phenice, 1969). Osteometrics were also used to assess sex, specifically measurements of the scapula, humerus, radius, femur, and tibia (Bass, 1987:156-157, 200, 230-231, 250). Individuals estimated to be between the ages of 15 and 19 at the time of death were assessed for sex where sexually dimorphic features were present. All resultant sex information was recorded in Osteoware, which codes estimated sex from 1 to 6 and is outlined in Table 3.

Table 3 Codes used for sex categories as outlined by Osteoware

Code	**Sex Estimate**
1	Definite Male
2	Definite Female
3	Indeterminate Sex
4	Probable Male
5	Probable Female
6	Ambiguous Sex

Age-at-death was assessed in non-adults and adults. For non-adults, dental development and eruption were assessed following Ubelaker (1989) and Moorrees and colleagues (1963). Epiphyseal fusion of skeletal elements was used to estimate age-at-death in non-adults following Cunningham and colleagues (2016). Where possible, measurements were taken of non-adult long bones to estimate age-at-death, including the diaphysis of femora, tibiae, and humerii, as outlined by Cunningham and colleagues (2016). Age-at-death for adults focused on degenerative changes and cranial suture closure. The majority of individuals from Lisht were represented solely by crania and therefore cranial suture closure, specifically of the ectocranial sutures (Meindl & Lovejoy, 1985), comprise the majority of ageable features. In addition, dental wear was assessed to estimate age-at-death (Lovejoy, 1985). Because these methods lack precision (Ruengdit et al., 2020) or are influenced by dietary practices (Faillace et al., 2017), broad age categories were used for adult ages, including young adults (20-35 years), middle adults (35-50 years), and old adults (50+ years). Where innominate bones were present in adult skeletal remains, degenerative changes at the pubic symphysis and auricular surface were recorded following Brooks and Suchey (1990), Todd (1921), and Lovejoy and colleagues (1985). Age-at-death analysis was recorded in Osteoware for each individual where skeletal features were present. Osteoware codes age from 1 – 12 and is outlined in Table 4.

Table 4 Codes used for age categories as outlined by Osteoware

Code	**Age-at-death**
1	Fetal, *in utero*
2	Birth to 11 months

3	1-4 years
4	5-9 years
5	10-14 years
6	15-19 years
7	Young Adult, 20-35 years
8	Middle Adult, 35-50 years
9	Old Adult, 50+ years
10	Non-adult, Age Indeterminate
11	Adult, Age Indeterminate
12	Unknown Age

Results

Archival Results

Archival analysis documents a total of 289 tombs excavated from 1906 – 1909. Of these tombs, 139 are categorized as shaft tombs, 126 were described as surface burials, 24 tombs had no reference to tomb type and are categorized as unknown tomba. Skeletal remains were noted in 183 tombs, one of which is an unknown type of tomb. Of the 183 tombs, 62.8% are described as surface burials (n = 115) and 36.6% are described as shaft tombs (n = 67). As stated, in some instances excavation documents include numbers of individuals excavated. Based on these notes, the total number of individuals expected from these 183 tombs is a minimum of 493 individuals. Articulated skeletons and/or the presence of postcranial elements are noted in 169 tombs, while solely cranial elements were represented in the remaining 14 tombs. Age was estimated in 140 tombs and sex was estimated in 97 tombs. Of the 493 individuals, 213 individuals were provided an estimated age-at-death, while sex is estimated in 130 individuals (Table 5).

Table 5 Expected Demographic Profile from Archival Remains by Excavation Season

Season	Tombs Excavated[1]		Tombs with Skeletal Remains Noted*		Number of Individuals Expected[2]		Number of Adult Skeletal Remains Expected†		Number of Non-adult Skeletal Remains Expected		Number of Male Skeletal Remains Expected†		Number of Female Skeletal Remains Expected†	
1906 – 1907	**132**		**88**		**230**		**102**		**32**		**34**		**43**	
	Shaft	Surface	Shaft	Surface	Shaft	Surface	Shaft	Surface	Shaft	Surface	Shaft	Surface	Shaft	Surface
	62	69	27	61	154	75	59	43	4	28	17	17	19	24
1907 – 1908	**91**		**35**		**77**		**27**		**10**		**18**		**11**	
	Shaft	Surface	Shaft	Surface	Shaft	Surface	Shaft	Surface	Shaft	Surface	Shaft	Surface	Shaft	Surface
	45	24	13	21	55	21	15	11	1	9	9	8	5	6
1908 – 1909	**65**		**60**		**186**		**26**		**15**		**10**		**13**	
	Shaft	Surface	Shaft	Surface	Shaft	Surface	Shaft	Surface	Shaft	Surface	Shaft	Surface	Shaft	Surface
	31	33	27	33	149	37	6	20	2	13	3	7	2	11
Total	**288**		**183**		**493**		**155**		**57**		**62**		**67**	
	Shaft	Surface	Shaft	Surface	Shaft	Surface	Shaft	Surface	Shaft	Surface	Shaft	Surface	Shaft	Surface
	138	126	67	115	358	134	80	74	7	50	29	32	26	41

Plundering and/or looting is noted in 23 of the tombs' excavation documents, but is not uniformly noted; however, at least 70 tombs' excavation notes have no mention of looting or plundering. Finds from tombs support the presence of looting, for example a possible tomb robber's lamp is represented in material collected from Tomb 503 and represented in the Met's archaeological collection from Lisht (15.3.1269 metmuseum.org; Figure 4). In addition to plundering and/or looting, in many tombs only a portion of grave goods and skeletal remains were "kept", a phrase that has been interpreted as collected for curation. Tomb 506 highlights the various taphonomic factors impacting material collected by excavators. For example, some grave goods and skeletal remains are quantified and described, but next to these a separate number of those finds are noted as kept by excavators. In the case of Tomb 506, a total of 30 skulls are described as present but only 19 are described as collected. This haphazard collection of material is not directly explained in excavation documents but could result from differential preservation of remains because of plundering and/or looting.

[1] Total tombs include tombs categorized as unknown but not outlined in table
[2] Total individuals include individual(s) from unknown tombs

Figure 4 Pottery collected from Tomb 503 (15.3.1269) that is described by the Met as a "possible tomb robber's lamp"*(*Lamp | Middle Kingdom-Second Intermediate Period*, n.d.)*

Osteological results from Lisht

A total of 716 museum numbers were analyzed for various macroscopic features at NMNH (n = 714) and the Peabody (n = 2). These museum numbers include cranial skeletal elements, isolated mandible and maxillae, intact crania, and individuals with cranial and postcranial elements. Of the 716 cataloged skeletal elements, 256 could be associated with tombs from Lisht. These 256 individuals are discussed in depth in Chapter 3 along with the 95 tombs that were associated with these skeletal remains.

MNI

Combining the crania and skulls with museum numbers with isolated skeletal elements a minimum of 585 individuals are represented in the skeletal collection from Lisht and are analyzed here. This estimate is based on the number of right temporal bones that were represented by at least 50% of the bone. Postcranial elements were associated with museum numbers in 51 individuals. In 40 of those cases, associated tomb numbers were present (n = 38 from NMNH and n = 2 from Peabody), while the remaining individuals could not be associated directly with tombs at Lisht. Individual crania and skulls were associated with museum numbers in 463 individuals; however, three of these museum numbers, P252854, P252886, and P256189, were not present in the NMNH collection and therefore were not studied. In one instance, a museum number included multiple individuals. Dentition, while recorded, is not included in MNI calculation.

Demography

Age-at-death and Sex

Age and sex were estimated for 683 skeletal elements from the Lisht skeletal collection. No fetal remains were present but all other age categories were represented, including adult of indeterminate age (Table 6). Four individuals could not be attributed an age at all. All sex categories are represented.

Table 6 Age and sex estimates for Lisht skeletal remains

Category	Male	Probable Male	Ambiguous	Female	Probable Female	Indeterminate	Total	Male: Female Ratio*
Birth – .9 months	-	-	-	-	-	2	2	--
1 – 4 years	-	-	-	-	-	45	45	--
5 – 9 years	-	-	-	-	-	61	61	--
10 – 14 years	-	-	-	-	-	32	32	--
15 – 19 years	1	1	0	1	15	17	35	1:8
20 – 35 years	2	49	28	10	67	14	170	51:77
35 – 50 years	4	69	32	7	51	10	173	73:58
50 + years	1	13	7	0	21	0	42	14:21
Non-adult, Age Indeterminate	-	-	-	-	-	4	4	--
Adult, Age Indeterminate	1	16	34	0	36	28	115	17:36
Unknown Age	0	0	0	0	0	4	4	--
Total	9	148	101	18	190	217	683	157:208

*Ratios of males to females based on combined number of Probable Male/Female and Male/Females

Adults represent the majority of individuals in the Lisht skeletal collection, at 73.1% (n = 500). Young and middle adults were most frequently observed, representing 50.1% of the individuals assessable for age and 68.6% (n = 343) of adults recovered. Non-adults represent 26.3% (n = 180) of the individuals from Lisht. Individuals estimated to be between 5 and 9 years old at the time of death were the most frequently observed non-adult age category, 33.9% (n = 61). For individuals with sexually dimorphic features (n=535), females represent 38.9% (n = 208) while males represent 29.0% (n = 157) of individuals, when probable and definite males/females are combined. When age-at-death is accounted for, females are disproportionately represented in all age categories except for middle adults (35 – 50 years).

Tombs

From the skeletal remains studied, 256 individuals, represented by cranial elements, skulls, and/or postcrania, could be associated with 95 tombs (Table 7). 53 of these 95 tombs are shaft tombs and 40 were surface burials. The remaining two tombs did not have any reference to tomb typology and are categorized as unknown. Table 6 outlines the 256 individuals associated with tombs from Lisht, with 204 museum numbers categorized as shaft burials, 49 categorized as surface burials, two categorized as unknown, and one categorized as intrusive. From tomb associated skeletal remains, postcranial elements were recovered in 40 individuals, n = 38 from NMNH and n = 2 from Peabody.

Table 7 Distribution of skeletal elements by tomb type, age-at-death, and sex

	Shaft	Surface	Intrusive	Unknown	Total

Skeletal Elements	Crania/Skulls	193	22	0	1	216
	Postcrania	11	27	1	1	40
Age	Adults	187	39	1	1	228
	Non-Adults	17	10	0	1	28
Sex	Male	61	15	0	0	76
	Female	88	21	1	1	111

Comparing the Archive and Skeletons from Lisht

Aligning the archival documents with osteological data highlights preferences and decisions made by the excavators and the curators after excavation. Beyond the specific details of this site's excavation and curation, contrasting these data sets elucidates inconsistencies and potential issues with legacy collections excavated and not recorded to modern standards. To formulate analyses that contrast the expected skeletal sample from archival analysis with the actual skeletal sample from osteological analyses, statistical tests specifically chi-square and odds ratios are presented. All statistical analyses were performed using R statistical software. Where necessary, chi-square tests included Yates continuity correction to ensure statistical relationships were not the result of the relatively small sample size. If sample sizes of less than five cases were examined, Fisher's exact tests were used. Please see Appendix A for tables outlining statistical analyses, including chi-square matrices.

Tomb Typology Representation

From archival remains, 62.5% of the tombs excavated with skeletal remains were surface burials (n = 115), while 37.0% of tombs excavated with skeletal remains were shaft tombs (n = 67). However, for tombs represented by skeletal remains at NMNH, 55.8% (n = 53) are shaft tombs, while 42.1% are surface burials (n = 40). This difference in tomb representation between archival and osteological data sets is statistically significant according to a chi-square text with Yates' continuity correction ($x^2 = 9.4$, df = 1, p = 0.002; Appendix A Table 21). Table 8 shows the statistically significant odds ratio (p = 0.001) for tombs represented by the osteological data set are 2.265 times more likely to represent a shaft tomb with a confidence interval under 1 (0.2636 – 0.7335). A similar difference in tomb representation by individuals expected from the archive versus individuals represented in osteological analysis is seen. Of the minimum of 493 individuals expected from archival remains, 72.6% (n = 358) individuals were recovered from shaft tombs, while 27.2% (n = 134) were recovered from surface burials. Of the minimum of 256 individuals associated with tombs from NMNH, 80.1% (n = 205) were associated with shaft tombs, while 19.1% (n = 49) are associated with surface burials. When comparing tomb representation for individuals from archival and osteological data sets, the difference is statistically significant according to a chi-square test with Yates' continuity correction ($x^2 = 5.3$, df = 1, p = 0.02; Appendix A Table 22). A statistically significant odds ratio (p = 0.02) shows that individuals represented by the osteological data set are 1.562 times more likely to represent a shaft tomb with a confidence interval under 1 (0.44 – 0.92). The preferential collection and annotation of provenience data for skeletal remains from shaft tombs has resulted in the overrepresentation of these

individuals from Lisht (Table 8). This comparison suggests there is a loss of data between documentation during excavation and my subsequent osteological analysis.

Table 8 Chi-Square and Odds Ratio for Tomb Typology Representation

Tomb representation	Archival Data Set			Osteological Data Set			N_T	Statistical Analyses		Interpretation of Odds Ratio
	Shaft	Surface	N	Shaft	Surface	N		Chi-Square	OR[a]	
Tomb	115	67	183	53	40	93	276	9.4*	0.44*	2.265 times more likely tombs with skeletal remains represent shaft tombs
Individual	358	134	493	205	49	256	749	5.3*	0.64*	1.562 times more likely individual skeletal remains represent shaft tombs

$_T$ Total sample size

[a] An odds ratio values ≥1.01 represent higher prevalence in the first sample compared, while a value ≤ 0.99 represents a higher prevalence in the second sample.

*Statistically significant p value (≤ 0.05)

Skeletal Elements Representation

From osteological analysis of the NMNH collection, skeletal remains associated with surface burials were more likely represented by cranial and postcranial elements (n = 27 tombs) as opposed to shaft burials (n = 12 tombs). However, archival remains suggest 92.4% of tombs with skeletal remains included postcranial elements. A similar preference for postcranial elements present in surface burials is seen in archival data, with postcranial elements recorded in 112 surface burials and 58 shaft tombs (n = 183 tombs with skeletal remains present). The difference in representation of postcranial elements by shaft tombs for archival and osteological analysis is statistically significant according to a chi-square test with Yates continuity correction ($x^2 = 47$, df = 1, p = 7e-12; Appendix A Table 23). Table 9 shows statistically significant odds ratio (p = 1.74e-12) for shaft tombs represented by the archival data set are 20.95 times more likely to include postcranial remains than the shaft tombs represented by the osteological data set with a confidence interval greater than 1 (8.42 – 57.93). Similar distributions are seen between surface burials with postcranial elements represented in archival and osteological data sets. The differential presence of postcranial elements for surface burials in the osteological and archival data is statistically significant according to a Fisher's exact test (p = 1e-6; Appendix A Table 24). A statistically significant odds ratio (p = 1.744e-12) shows that surface burials represented by the archival data set have 17.52 times greater chance of including postcranial remains than surface burials represented by the

osteological data set with a confidence interval greater than 1 (4.40 – 102.65). These results parallel the results on tomb typology, wherein data appears to be lost between the documentation of tombs and my subsequent analysis of skeletal remains at NMNH (Table 9).

Table 9 Odds Ratio for Postcranial Remains Representation by Across Tombs from Archival and Osteological Data Sets

Postcranial Representation	Archival Data Set			Osteological Data Set			N_T	Statistical Analyses		Interpretation of Odds Ratio
	Absent	Present	N	Absent	Present	N		Chi-Square	OR[a]	
Shaft	9	58	67	41	12	53	120	47*	20.95*	20.95 times greater representation in archival data set
Surface	3	112	115	13	27	40	155	1e-06[†]	17.52*	17.52 times greater representation in archival data set

$_T$ Total sample size
[a] An odds ratio values ≥1.01 represent higher prevalence in the first sample compared, while a value ≤ 0.99 represents a higher prevalence in the second sample.
*Statistically significant p value (≤ 0.05)
[†] Fisher's exact test

The collection of postcranial elements is predominately seen in burials with only one individual present. Single versus multiple interments exhibited significant differences based on the type of tomb. Archival documents show shaft burials more frequently possessed multiple interments (n = 45/68 tombs), than surface burials (n = 11/115 tombs). Similar distributions are seen from osteological analyses alone, with multiple interments most frequently observed with shaft tombs (n = 33/53 tombs) while only four surface burials were recorded with multiple interments (n = 40). The difference in representation of multiple interments archival and osteological analysis is not statistically significant according to a Fisher's Exact test (p = 0.4) or chi-square test with Yates continuity correction ($x^2 = 0.71$, df = 1, p = 0.4; Appendix A Table 25). Table 10 shows the odds ratio for multiple interments which is not statistically significant with a confidence interval not equal to 1 (.11 – 1.88). Where multiple interments were present in osteological analyses, postcranial elements were significantly less likely to be collected, according to a chi-square test with Yates' continuity correction ($x^2 = 100.99$, df = 1, p = <0.0001; Appendix A Table 26). These results suggest that excavation priorities overrepresented shaft tombs excavated at Lisht; however, the skeletal remains from surface burials were more comprehensively collected. The collection of full or articulated skeletons which is seen from surface burials results in more comprehensive interpretations of these skeletal remains than what can be interpreted from cranial elements alone, which largely comprise skeletal remains from shaft tombs.

Table 10 Statistical analyses for multiple interments represented in archival versus osteological data sets

	Archival Data Set			Osteological Data Set			N_T	Statistical Analyses		Interpretation of Odds Ratio
	Shaft	Surface	N	Shaft	Surface	N		Fisher's Exact	OR[a]	
Multiple Interments	45	11	56	33	4	37	93	0.4	0.5	Odds ratio not significant (0.11 – 1.88)

Demographic Representation

When age-at-death and sex of skeletal remains associated with tombs from Lisht (n = 256 individuals representing 95 tombs) are considered for collection practices different patterns emerge (Table 11). Age-at-death resulted in differential presence of postcranial elements collected, with non-adults more frequently represented by postcranial elements (n = 8/28 individuals) than adults (n = 32/228 individuals). However, this difference is not statistically significant according to a chi-square test with Yates' continuity correction ($x^2 = 2.97$, df = 1, p = 0.08; Appendix A Table 27). 64.3% of non-adults from osteological analyses (n = 28) were interred with multiple individuals rather than given individual burials, while 78.9% of adults were interred with multiple individuals. This difference in single versus multiple interments for adults and non-adults is not statistically significant according to a chi-square test with Yates' continuity correction ($x^2 = 0.11$, df = 1, p = 0.7; Appendix A Table 28). Non-adults are more likely to be represented in shaft tombs than surface tombs according to a statistically significant chi-square test with Yates' continuity correction ($x^2 = 4.9$, df = 1, p = 0.03; Appendix A Table 29). Table 9 shows statistically significant odds ratio (p = 1.74e-12) for shaft tombs represented by the archival data set are 20.95 times more likely to include postcranial remains than the shaft tombs represented by the osteological data set with a confidence interval greater than 1 (8.42 – 57.93). On the other hand, according to chi-square tests with Yates' continuity correction, no statistically significant differences are seen between sexes for tomb type ($x^2 = 0.01$, df = 1, p = 0.94; Appendix A Table 30), postcranial elements collected ($x^2 = 0.35$, df = 1, p = 0.55; Appendix A Table 31), or burial with multiple interments ($x^2 = 0.32$, df = 1, p = 0.57; Appendix A Table 32).

Table 11 Resultant Demographic Distribution of Osteological Remains from Lisht at NMNH

Tomb Typology	Number of Tombs	Number of Individuals	Postcranial Elements Present	Number of Adult Skeletal Remains	Number of Non-Adult Skeletal Remains	Number of Male Skeletal Remains	Number of Female Skeletal Remains
Shaft	53	205	12	188	17	61	89
Surface	40	49	27	39	10	15	21
Unknown	2	2	1	1	1	0	1
Total	**95**	**256**	**40**	**228**	**28**	**76**	**111**

Inconsistencies between archival and skeletal collections

The results of this comparative analysis show that insights from the skeletal collection from Lisht have been hindered in the intervening century since initial excavation and documentation. From these analyses it appears information was lost at multiple stages, during excavation and documentation, shipment of material recovered during excavation, and subsequent curation of material. Altogether, these various stages of loss have resulted in obstacles to analysis and hindered insights possible from the legacy skeletal collection from Lisht.

Loss from Documentation to Accession

There are disparities in the resultant skeletal remains from Lisht presented in archival documents and remains curated at NMNH and the Peabody. First, the archival documents, specifically the excavation documents, suggest a different distribution of skeletal remains at the site of Lisht. From accession records and annotations on skeletal remains, a total of 95 tombs could be associated with skeletal remains at NMNH and the Peabody. In many instances, tombs noted as containing skeletal remains are not represented in the skeletal collection from Lisht (Table 12). Similarly, skeletal remains with annotated tomb numbers and associated accession documents denote tombs from Lisht which have no skeletal remains recorded as present. In one instance (Tomb 590) denote a tomb for which no excavation documents or acknowledgement of its existence was identified. In this case, correspondence in April 1980 between Drs. Eugene Strouhal, Christine Lilyquist, and Ray Slater note that this tomb, 590, was misnumbered and the skeletal remains represent Tomb 790, for which skeletal remains were noted as present in excavation documents.

Table 12 Tombs from Lisht with skeletal remains according to archival and osteological analyses

Tombs with Skeletal Remains noted	Skeletal Remains Present	Tombs with Skeletal Remains noted	Skeletal Remains Present	Tombs with Skeletal Remains noted	Skeletal Remains Present	Tombs with Skeletal Remains noted	Skeletal Remains Present
402	--	561	X	787	--	852	X
405	--	562	--	789	--	853	--
406	X	563	--	790	X	854	X
407	--	565	--	791	X	855	--
408	X	566	--	792	X	856	X
409	--	600	X	793	X	857	--
501	--	601	X	794	--	858	X
503	X	606	X	795	--	861	--
504	X	607	--	796	--	862	--
505	--	610	X	799	X	863	X
506	X	624	X	803	X	864	--
507	X	702	X	805	X	865	X
508	X	706	X	806	X	866	--
509	X	711	--	807	X	867	X
510	X	712	X	808	--	868	--
511	--	715	X	809	X	869	--

512	--	720	--	810	X	870	X
513	--	724	X	811	X		
514	--	726	--	812	X		
515	--	731	X	813	X		
518	X	732	--	814	--		
519	X	733	--	815	X		
521	X	734	--	816	X		
522	--	735	--	817	--		
523	--	736	X	818	X		
524	--	737	X	819	X		
525	--	738	X	820	X		
526	X	739	X	821	X		
527	--	740	--	822	--		
528	X	741	--	823	X		
531	--	742	X	824	--		
532	X	743	--	825	X		
533	--	744	--	826	X		
534	--	745	--	827	X		
535	--	746	X	828	X		
536	--	747	X	829	X		
537	--	748	--	830	X		
538	X	749	--	831	--		
539	--	752	--	832	--		
541	X	753	--	833	--		
542	--	754	--	834	--		
543	--	755	--	835	X		
544	--	756	--	836	X		
545	--	758	X	837	--		
547	--	763	X	838	X		
548	X	765	X	840	--		
549	--	768	--	841	--		
550	--	769	--	842	--		
551	--	780	--	843	--		
552	X	781	--	845	X		
553	--	782	--	846	--		
554	X	783	X	847	X		
555	X	784	--	848			
556	X	785	--	849			
558	X	786	X	851			

From osteological analysis, a total of nine tombs are represented by skeletal remains, for which archival records are not present or archival records do not confirm the presence of skeletal remains (Table 13). As stated, Tomb 590 was mislabeled upon accession into the NMNH skeletal collection. When the tomb number is corrected to Tomb 790, the skeletal remains from NMNH match those outlined by excavation documents. A second instance of mislabeling is present, Tomb 608. While Tomb 608 is a recorded tomb from Lisht there is no record of skeletal remains recovered from this tomb in excavation documents. However, Tomb 809 did possess skeletal remains according to excavation documents and five crania were associated with Tomb 809 in the NMNH collection. Accession documents from the Smithsonian note skeletal remains from both

tombs. When observing numbers written on skeletal remains, it is hypothesized that the original accession of Tomb 608 was the result of an inversion of the correct tomb number of 809 (Figure 5). When this mistake is corrected, all six individuals' skeletal remains noted in excavation documents for Tomb 809 are accounted for in the skeletal collection at NMNH.

Table 13 Skeletal remains associated with tombs from Lisht for which there are inconsistencies between osteological and archival data

Tomb Number	Associated Skeletal Remains
529	P256290 – cranium
559	P256237 – cranium and vertebral fragments
590 = 790	P252874 – full skeleton
608 = 809	P256580 – postcranial skeleton
700	P256253 – 256264 crania
759	P252884 – cranium
761	P256282 & P256283 – crania
859	P256351 – cranium
860	P256352 – cranium

Figure 5 Museum tomb number written on radius of 256580 (black circle left) and on left aspect of frontal bone of 256302 (black circle right)

For the remaining seven tombs with inconsistencies, no mention of skeletal remains is present in archival documents or archival documents are not present (Tables 12 & 13). In the case of Tomb 529, one photo is included which shows a view of the landscape with various pits excavated, including 502, 503, 521, 528, 529, and 530. In addition to this photo, excavation notes focus on the structure of the tomb, which

mentions the inclusion of bricks and its close proximity to Tomb 503; however, there is no mention of skeletal remains. For Tomb 559, the only archival document included states “see plan of hillside tombs” with no further information about the burial. Archival documents associated with Tombs 700 and 761 only outline material culture recovered or tomb architecture and no accession numbers or notes suggest any of this material was collected for curation. For Tomb 759, there is no mention of skeletal remains in archival documents, but pottery was recovered and is present in the Met’s digital collection and on view in Gallery 109, “The Middle Kingdom Study Room”. In both Tombs 859 and 860, limited excavation notes are present, but material culture was recovered from both tombs. These various discrepancies in documenting tomb numbers from excavation to curation suggest that provenience data has been lost during the transfer of skeletal remains from the Met to NMNH.

MNI Issues

A number of tombs with skeletal remains represented in the NMNH collection conflict with the number of skeletal remains noted in excavation documents (Table 14). For example, in a few tombs, excavation documents show skeletal remains present in burials, but an exact number of individuals is not provided. Excavation documents from Tomb 503 exemplify the inconsistencies observed in excavation documents with their reference to skeletal remains. They state that skeletal remains were present in multiple chambers, including “three skulls” in chamber A, “eight or more skulls; 2 saved; bones” in chamber C, “four skulls” in chamber F, “six skulls” in chamber G, and “half a male pelvis and half a female pelvis, humeri etc.” in chamber H. From these documents, a minimum of 21 individuals were identified. However, from osteological analysis of Lisht skeletal remains at NMNH, 19 crania could be associated with Tomb 503. While the same person appears to have authored all the notes for excavation of Tomb 503 the documentation is not uniform, particularly for skeletal remains. When comparing the observed skeletal remains in the collection at NMNH versus that expected from excavation documents by the Met, only 49 of the 96 tomb’s excavation documents match observed skeletal remains. In six instances, more skeletal remains were attributed to tombs than excavation documents accounted for. These various inconsistencies in excavation documents highlight their limited credibility in estimating the MNI recovered from tombs excavated at Lisht.

Table 14 Expected versus reality for MNI, tombs represented, and demography of skeletal remains from Lisht

		Tomb Type			Demography					
	MNI	Shaft Tombs	Surface Burials	Unknown	Adult	Non-Adult	Ratio	Female	Male	Ratio
Archive – Expected	493	67	115	1	154	57	2.72	67	62	1.06
Osteological Total – Actual	585	53	40	2	500	176	2.84	208	157	1.32
Individuals from NMNH Associated with Tombs	256	205	49	2	228	28	8.14	111	76	1.46

From osteological analysis, an MNI of 585 individuals represent skeletal remains accessioned from Lisht excavations. This number is 89 individuals more than the expected MNI of 493 based on excavation documents. While there are differences in the MNI between osteological and archival analyses, the distribution of adults to non-adults is roughly the same with 73% (n = 500) of skeletal remains represented by adults and 26% (n = 176) represented by non-adults, which is the same percentage as that estimated from excavation documents. Differences occur in expected and observed distributions of males and females from Lisht. Again, for field sex estimation for Lisht skeletal remains, there is no direct explanation for sex estimates but may be based on grave goods not necessarily skeletal features. These disparities in age and sex distribution between archival and osteological analyses are likely the result of varied expertise needed to estimate sex in skeletal remains. While estimating age-at-death in skeletal remains requires expert knowledge of growth and development patterns in the skeleton, estimates particularly for large categories like adult versus non-adult can be done more easily from general size of remains. From archival remains, males represent 48.1% (n = 62) of the adults recovered while females represent 51.9% (n = 67). From osteological analyses, sex estimates suggest 38.9% (n = 208) of adults were female and 29% (n = 157) were male. Osteological analyses included sex estimates of ambiguous or indeterminate sex, which were not referenced in excavation documents. The age-at-death and sex estimates from archival remains, similar to presence of skeletal remains, was inconsistent. In a number of documents, one skull out of three would have sex estimated without mention of methods or skeletal elements used to estimate sex. Based on archival documents, the site of Lisht is represented by a relatively even share of males than females. In contrast, when osteological analyses are used to estimate sex, females represent a larger percentage of the sample.

Combining these inconsistencies observed in archival versus skeletal samples from Lisht, it is clear that the archaeologists conducting the initial documentation of skeletal remains were not experts at osteological analysis. This lack of expertise resulted in discrepancies in the identification and collection of skeletal remains which impacted the MNI expected. In addition, while estimates for age and sex were made by the initial excavators, those estimates were not accurate, particularly for sex estimates. Accurate

documentation and estimates of skeletal remains in the field are meant to counter the inherent loss of data that results from excavation. Unfortunately, this lack of expertise on the part of excavators during Lisht's excavation have resulted in a loss of information for these skeletal remains.

Loss from Hrdlička's Curation Practices

As the curator of Physical Anthropology at NMNH, Hrdlička had an outsized influence of the skeletal remains that comprise the collection but also the organization and initial research interests for skeletal remains in the collection. Hrdlička's tenure as physical anthropology curator began in 1904 making the skeletal collection from Lisht one of the first large collections he would have organized as curator. From his publications on best practices for collecting and storing skeletal remains, we can gain insight to his ideology surrounding the use of skeletal remains for research and their value to physical anthropology collections. For example, in his "Directions for collecting information and specimens for physical anthropology" he notes that damaged or broken skulls or bones are not useless (Hrdlička, 1904:12). Hrdlička notes that storage of skeletal remains from archaeological sites should be kept associated through marking each element from an individual with their serial number; however, he notes that by doing this each skeleton does not need to be packaged individually (1904:13). While much of Hrdlička's research focused on cranial measurements to formulate a ranking systems of different racial categories (Hrdlička, 1918, 1920; Redman, 2016:194-198), he notes that collecting only skulls is a mistake and limits the potential interpretations from skeletal remains (Hrdlička, 1904:13).

While Hrdlička emphasizes collecting all skeletal elements that represent an individual, his curation philosophy for large skeletal collections did not prioritize individuals (Hrdlicka, 1900). For the preliminary storage of large skeletal collections, he suggests storing each large bone of the body in its own section by bone type and side (e.g., left femora). In this storage system, all skeletal elements of an individual are housed separately, including the skulls (Hrdlicka, 1900:14). This method of storage for skeletal remains has consequences for the study of skeletonized individuals, where all skeletal elements are meant to be accounted for to understand distributions of features to estimate age-at-death, sex, and the presence of pathological conditions. For the Lisht skeletal collection, these consequences are stark, wherein the majority of skeletal remains with associated tombs are restricted to cranial elements. The separation of skeletal elements from Lisht limits the interpretations possible for the demographic composition of Lisht and pathological conditions impacting this archaeological sample.

Loss from the Met's Classification of Art

The curation practices of Hrdlička play a large role in subsequent research potential of skeletal remains from Lisht, but the initial excavations and priorities of the Met also have an influence on their research potential. The Met established the Department of Egyptian Art in 1906 to oversee the numerous objects collected from Egypt, which coincides with their initial excavation expeditions at Lisht (*Egyptian Art - The Metropolitan Museum of Art*, n.d.). Many of the objects that the Met collected and

curated under the Department of Egyptian Art come from mortuary landscapes, including the cemetery sites at Lisht and Thebes. From them, an estimated 26,000 objects are on display in the Met's Egyptian Art Wing (*Egyptian Art - The Metropolitan Museum of Art*, n.d.). During excavation, collection, and final curation of these objects copious documents were created which comprise the archive. Archives are frequently distinguished from the objects they detail. The collection is viewed as material appropriate for study while the archive provides personal records and legal documents for objects that comprise the collection (Anderson, 2004). Because of the distinction between the collection and the archive, these materials are frequently separated with each museum emphasizing various aspects of collection for the archive. For Lisht, excavations have resulted in archaeological collections and archival material all of which are housed in different museums across the United States.

The separation of skeletal and archaeological remains recovered from Lisht is largely the result of museum practices, wherein museums specialize in the curation and exhibition of specific material, which dictates the type of material they should acquire (Anderson, 2004:76). The separation of these variable remains is common practice. In the case of Lisht, the archaeological collection, including excavation documents, maps, photographs, and archaeological finds, including pottery, jewelry, coffins, etc. were sent to the Met, while skeletal remains were sent to NMNH and the Peabody. Of note, the skeletal remains at the Peabody from Lisht represent a trade of objects between the Peabody and Met, as outlined in Chapter 4. These practices by museums of separating and trading material, while meant to ensure their proper storage, curation, and study, results in a loss of data both with regard to provenance and provenience, but also influence the potential interpretations of archaeological sites. As highlighted by the skeletal collection from Lisht, there are numerous stages during which information and material was lost which cumulatively result in the diminished research potential of the Lisht collection, the skeletal remains in particular.

Legacy of Lisht

Comparing the representation of Lisht collections highlights the consequences differential collection and curation have had. Archaeological remains from Lisht are well represented and have had more widespread study of material over the years since their excavation. The Met houses material culture and displays a majority of it through their Egyptian Art exhibits (*Egyptian Art - The Metropolitan Museum of Art*, n.d.). This representation is influenced by the insights prioritized by the Met, particularly understanding elite's mortuary spaces. As shown in Chapter 4, inequity in life is also felt in death through the differential representation of material culture from elite and non-elite mortuary contexts. In the case of elite representation at the Met, emphasis is placed on mortuary goods with whole exhibits dedicated to elites, including Tomb 763 Senebtisi. These exhibits, specifically "Life and Death in Middle Kingdom Egypt", present the collective mortuary accommodations for Senebtisi, including coffins, jewelry, pottery, weapons, etc., that were included with this individual. Through this representation, the Met argues, this exhibit highlights the variable mortuary experiences for different social statuses. Through focusing on four female individuals, one of which is Tomb 763 Senebtisi, this exhibit shares individual representations of elite mortuary contexts to

understand larger patterns of elite mortuary practices during the Middle Kingdom period (*Egyptian Art - The Metropolitan Museum of Art*, n.d.). In contrast, non-elite material culture is largely displayed based on typology or by tomb, wherein the context and individual experience are removed from description. These differential representations, while highlighting the value attributed to elite mortuary spaces for understanding past experiences, also exemplify the lack of importance individuals, specifically the body, pose to producing narratives on mortuary practices for these objects.

The material culture from Lisht has benefited from more widespread study including in publications. Skeletal remains from Lisht have largely gone unstudied in the century since exhumation. Various attempts at studying and documenting the skeletal remains have been made by researchers both affiliated and unaffiliated with NMNH. However, a full report of skeletal remains from Lisht has never been produced and the majority of publications referencing skeletal remains from Lisht uses them for comparison purposes (Gibbon & Buzon, 2016; Irish, 2006; Ullinger et al., 2005) or for specific impairments observed (Dequeker et al., 1997). Where individuals from Lisht are studied, elites have been the subject of much of this work, specifically Senebtisi's mortuary context (Grajetzki, 2014b; Mace & Winlock, 1916). Contrasting the archive's representation of individuals from Lisht with the actual skeletal remains available for study, emphasizes the number of obstacles to producing comprehensive narratives on individuals from Lisht. The loss of information through the separation of skeletal elements and lack of associated provenience data for skeletal remains has an outsized influence on interpretations. However, as this chapter highlights, there is still a wealth of information on demographics of the site which can be learned from this skeletal collection. In addition, by studying the skeletal remains from this site, particularly the 256 individuals reassociated with 95 tombs, which are further outlined in the next chapter, from the site promotes future studies on material culture and mortuary practices by Egyptologists which can further contextualize experiences of individuals from Lisht.

Conclusion

This chapter highlights the consequences of bias and practices inherent in archaeological research. Here, we see that the skeletal collection from Lisht was influenced at a number of stages, including excavation, collection, and curation, limiting possible interpretations. While excavations at Lisht prioritized the cemetery, there is tremendous difficulty in re-associating the skeletal remains resulting from these excavations with materials and tombs they were originally interred with. The preferential collection of specific material by archaeologists, inconsistencies in collected material and curatorial practices have affected our understanding of the people of this area. While these issues are omnipresent, connecting archival and osteological analyses has allowed for a better understanding of the mortuary practices of individuals recovered from Lisht. In total, 95 tombs were reassembled for which greater context is provided for skeletal remains, and therefore a more comprehensive view of these individuals and their lifeways and deaths at Lisht is obtained, which is outlined in Chapter 3. While these results are not wholly representative of the practices at Lisht, the coalescing of these data sets highlights the value in re-visiting legacy collections for reimbuing research potential.

Chapter 3 – Narratives from Lisht

Introduction

The archaeological record from Egypt has largely represented narratives of elites and royals from the Dynastic periods. The cemeteries at Lisht, the focus of this study, are comprised of elite and non-elite burials (Arnold, 2008; Lythgoe, 1907a), promoting the investigation of individual and collective experiences and identities expressed in mortuary practices outside of elite experiences. This mortuary complex formulates the data for this chapter and means for assessing lived experiences of individuals buried at Lisht beginning in the Middle Kingdom period (2030 – 1650 B.C.E.). However, as outlined in Chapter 2, the majority of skeletal remains do not possess provenience data and therefore cannot be associated with specific tombs at the site. This chapter focuses on the individuals for which tombs from Lisht can be associated. From archival and osteological analysis, 256 individuals from the Lisht skeletal collection were associated with 95 tombs. These 256 individuals will be the focus of this chapter to provide greater context for the lived experiences and mortuary practices of individuals from Lisht during the Middle Kingdom period.

Unfortunately, the Middle Kingdom period is a poorly understood aspect of the Dynastic period in Egypt because of a lack of archaeological sites recovered and extensive excavations conducted (Oppenheim et al., 2015:1). Research that has focused on this period has largely been about elites and their experiences as expressed in material culture and mortuary practices. From this work, scholars have suggested that mortuary practices of this period were popularized by elites but circulated down to non-elites, resulting in a relatively common mortuary practice for the period (Oppenheim et al., 2015:218). Using the mortuary site of Lisht, this chapter explores the accuracy of this characterization. Because the mortuary context holds specific meaning for Dynastic Egyptian populations, the combination of osteological data with archaeological insights will provide a holistic understanding of identity expression at Lisht during the Middle Kingdom Period, building on the social persona outlined by Binford (1971) and augmented by Sofaer (2006).

Life and Death in Ancient Egypt

Iconographic and archaeological evidence have provided great insight to life during the Dynastic periods of Egypt. However, these depictions have largely favored elite's experiences, who were responsible for producing the objects, iconography, and texts that produced these insights, resulting in a overrepresentation of elite male experiences (Marshall, 2020; Meskell, 2002; Robins, 2012; Smith, 2003;

Szpakowska, 2020). More recently, archaeological research has focused on representing identities that were ignored by these depictions, particularly women (Li, 2019; Meskell, 2000; Robins, 2012) but also non-adults (Marshall, 2020; Meskell, 2002; Szpakowska, 2020). This recent research has formulated contexts for exploring differential experiences of individuals, including non-adults and women, in Egypt in contrast to narratives presented of elite males of the period. Much of this research has looked across the Dynastic period but there has been an emphasis on sites from the New Kingdom period, including Deir el-Medina (Meskell, 1999, 2000, 2002). Because of the consistency of ideology regarding mortuary practices and identities of ancient Egyptians throughout the Dynastic period (Miniaci & Grajetzki 2015:xi) much of this research will inform expectations for individuals' experiences at Lisht.

Egyptian mortuary practices during the Dynastic period were an important part of social life with the materiality of the mortuary context, including the mortuary structure, assemblage, and body, functioning as an expression of actual and/or aspirational identity for the afterlife (Li, 2019; Meskell, 1999, 2002; Richards, 2005). During the Middle Kingdom period, in particular, broad changes in burial practices and coffin types have suggested that Egyptians of this period were emulating a single normative practice dictated by the state (Oppenheim et al. 2015:218). During the Dynastic period, ideology and religious beliefs surrounding death and the afterlife are evidenced by iconographic, textual, and archaeological evidence. The close connection between Pharaohs and gods or deities meant that from the beginning of the Dynastic period mortuary practices and accommodations for an afterlife were provided for this segment of society. However, the expression of these beliefs' changes throughout the period, particularly with regard to individuals' practices. Through the Dynastic period, mortuary practices become more widespread wherein everyday Egyptians begin incorporating practices previously relegated for elites of society. Across these periods, three main axes of identity are seen as influencing experiences, including age, sex and/or gender, and social status.

Age in Ancient Egypt

Age, chronological and social, played a large role in ancient Egyptian ideology and practices. Autobiographies from the Middle Kingdom period center around three points of life: birth, childhood/youth, and old age (Miniaci & Grajetzki 2015:179), with each of these life stages having defined roles, including labor practices and education (Meskell, 2002). Distinctions were made between adults and non-adults in society during the Dynastic period; however, those distinctions didn't necessarily preclude non-adults from engaging in adult activities.

Mortuary Practices and Age

Distinctions between non-adults and adults in life carry over into burial practices (Meskell, 2002); however, because not many non-adult burials have been recovered these distinctions are not necessarily widespread. While infant mortality was high during ancient Egyptian times, archaeological evidence suggests that overall they received standard mortuary practices except for their locale (Meskell, 2002). During the New Kingdom period, archaeological evidence shows infants separated from adults in mortuary landscapes (Meskell 2002:81). There is also evidence of infants buried in

wooden coffins within house structures, including under house floors (Richards 2005:61), which has been posited to represent keeping these individuals within the "fabric of daily life" (Oppenheim et al. 2015:219). With regard to funerary equipment, infants and children may have been provided with accommodations reflective of their age, including "dolls" and toys (Marshall, 2020; Szpakowska, 2020). Similarly, magical wands have been recovered frequently from mortuary contexts which have been interpreted as protection for these individuals into the afterlife (Szpakowska, 2020).

The mortuary practices of adults largely revolve around their title and role in society (Li 2019:25; Lloyd 2010:477-478). Tombs with multiple interments are used increasingly in the Middle Kingdom period which are largely interpreted as representing husbands and wives, with some non-adults also included (Grajetzki 2007; Oppenheim et al. 2015:219). These multiple interment burials are usually seen for elites of society who have rock-cut or chambered tombs (Meskell 2002:184); however, even surface burials, burials directly on the landscape, have evidence of multiple interments. Wives and children are usually buried with the patriarch of the family. There are instances where women and children are buried on their own, which, in the case of women, has been interpreted as representing single or divorced women (Meskell, 1999, 2002; Robins, 2012). Certain grave goods are considered representative of adulthood, including beer and ceramics (Meskell 2002:81).

Sex and Gender in Ancient Egypt

Research on sex during Dynastic Egypt has shown sex and gender are conceived of as binary categories (male and female) expressed in private, domestic, and public spaces (Li, 2019; Meskell, 1999, 2000; Robins, 2012). To support this dichotomy, Egyptian language accounts for two genders (males and females), which were represented by life course differences in the body, including reproductive function (Li 2019:22). The distinction between males and females lies in physiological differences perceived between males and females. While there is difference between males and females, more recently scholars have argued for more equal experiences (Ayad, 2022; Li, 2019; Robins, 2012), particularly for individuals of the same social standing. This is also supported by the desire for both male and female children for a balanced society (*maat;* Marshall 2020).

Mortuary Practices and Sex and Gender

While there are differences in mortuary practices between men and women these differences are generally in material culture, which scholars have interpreted as representing their social status (Oppenheim et al. 2015:219). Men and women are usually afforded similar burial practices with evidence of men and women buried in shaft and surface tombs. Coffins are used for both men and women with limited correlation to gendered difference. There is evidence of women buried alone or in collective burials (Meskell, 2002; Robins, 2012), which is also seen for males. Where multiple burials are present many are understood to represent husbands and wives (Grajetzki 2007).

Grave goods are dictated by social status more than sex; however, as noted male identity largely dictates mortuary practices and therefore the goods included as well. Grave goods specifically associated with males include wooden staffs which indicate

authority and headrests which scholars suggest represent distinction as the one person in the household with a fixed sleeping place (Oppenheim et al. 2015:219). Where inscriptions are present, they predominantly refer to the patriarch or an individual's relationship to the patriarch of the family (Meskell, 1998b). Women are frequently buried with jewelry including seal amulets which have been interpreted as dowries for the afterlife (Oppenheim et al. 2015:219). Women do have inscriptions, but these are generally reserved for elites of society, for example Senebtisi who is posited to be a courtier from Lisht (Mace & Winlock 1916:34-36).

Marital status is noted as contributing to mortuary practices more than gendered roles or sex. As noted men and women are buried alone and in the case of women, this practice is attributed to their status as single or divorced women (Meskell 2002:102; Robins 2012). Within elite tombs, wives of elite men were afforded significant status. This is suggested to reflect their importance in life and the afterlife to their husbands (Meskell 1998b; Oppenheim et al. 2015:31-32). This is also supported by the emphasis of inscriptions on the titles of heads of household, predominantly representing patriarchs of the family (Richards 2005:23). Inscriptions on linens wrapping the dead have also emphasized older males of the household, signaling a household supply afforded by patriarchs of the family (Riggs 2014:123). While males forefront these representations, these practices also signal increased access for the women in their lives (Meskell, 1998b).

Social Status in Ancient Egypt

During the Dynastic period, society was largely segmented into two large categories, elite and non-elites. Through further study this dichotomy has become more nuanced with additional understandings of elite versus non-elite proposed, including the presence of a middle class (Miniaci & Grajetzki 2015:238; Oppenheim et al. 2015:120; Richards 2005). The main categories of society in ancient Egypt were royals, inner elite, titled elite, non-titled (middle class), peasants and craftspeople, and finally enslaved individuals and servants (Baines & Yoffee 1998; Lloyd 2010:476). While social mobility was possible, men usually attained the highest status, although children and women were expected to contribute to the community like their male counterparts. Most scholars have suggested there was generally equality of the sexes with women contributing to the economy and society by cooking for workmen but also cultivating the land and animals (Lesko, 1994; Meskell, 1998a, 2000; Zakrzewski, 2017). Titles in ancient Egypt denoted a person's rank and roles in society (Li 2019:25; Lloyd 2010:477). However, interpreting titles of men and women is fraught with many women's titles deemed honorific (Li 2019:25) and focuses largely on elites who had titles in life.

Mortuary Practices and Social Status

Mortuary practices in ancient Egypt are directly tied to social status, with the spatial distribution, inclusion of material culture, preservation of the body, and funerary texts varying by social position (Li 2019:27; Lloyd 2010:477; Meskell 2002:80-83; Miniaci & Grajetzki 2015:239; Oppenheim et al. 2015:218; Richards 2005). Proximity to royals of a site, particularly the Pharoah, has been interpreted as indicating higher social standing (Oppenheim et al. 2015:122). During the Middle Kingdom period, there are two

main burial typologies, shaft and surface burials, which are used by elites and non-elites, respectively.

Shaft tombs are chambered or multichambered subsurface structures (Oppenheim et al. 2015:10; Richards 2005:81). In most places, these shaft tombs were rock-cut but in other places they were constructed from mudbrick (Oppenheim et al. 2015:14; Richards 2005:81). Provincial elites were largely buried in rock-cut tombs. Shaft tombs could also be built into the ground of mastabas and temple structures, these were largely used by central government elites (Richards 2005:81). Unfortunately, mastaba superstructures have not survived, but the subterranean chambers indicate that these structures symbolized the elites of society with separate chambers containing burials and grave goods for continuation into the afterlife (Brewer & Teeter 2007:175). Surface burials were dug into the landscape at variable depths and could have coffins present but had no external architecture (Richards 2005:83). The simplicity of these burials meant they were less labor-intensive and largely used by non-elites (Richards 2005:83). Formal burial with coffins and grave goods within a burial ground or cemetery are suggested to be less common for members of the lowest social category during the Middle Kingdom period (Baines & Lacovara 2002). Where material culture is present, it was usually minimal and cheaper in quality and form than those objects associated with elite burial spaces (Oppenheim et al. 2015:219; Richards 2005:83).

Coffin type during the Second Intermediate period (1650 – 1550 B.C.E.) is suggested to correlate to social status, with more ornately or labor intensive coffins restricted to elites and simpler construction used for non-elites (Li 2019:117). However, coffin type and use experienced transitions throughout the Dynastic period. For example, at the beginning of the Old Kingdom period only the highest elites of society were buried in coffins and limited burial equipment was included; however, by the end of the Old Kingdom period, food provisions and coffins began being used by individuals outside of this elite group (Grajetzki 2007). From this point standard coffin types were used until the Middle Kingdom period, around 2000 B.C.E., when coffins become more elaborate and began including inscriptions and decorations (Grajetzki 2007). Throughout this transition, there was use of linens and textiles for wrapping the body. Linens from mortuary contexts have signaled social standing of individuals, for example, "royal linen" was used for royal burials and described as one of the most prized cloths (Riggs 2014:123). Mummification practices were afforded also to elites of society and included the wrapping of the body in linens. However, for non-elites for whom mummification was not accessible, wrapping of the body was still performed and was seen widespread through the Dynastic period, including the Middle Kingdom period (Richards 2005:84).

Grave goods are shown to correlate with social standing. Grave goods frequently recovered from mortuary contexts of ancient Egyptians include, jewelry, furniture, pottery, tools, weapons, canopic jars, figurines, and magical items (Richards 2005:84). Distinctions between quantity and quality of these goods formulates much of the difference between objects recovered from elite and non-elite mortuary contexts. Grave goods, particularly those made specifically for funerary use are thought of as costlier and largely attributed to elites of society (Richards 2005:84). For example, pottery for royal women, “queen’s ware”, particularly during the late Middle Kingdom period, was fine tableware that signaled their high status (Grajetzki 2014:33-34). While quality could

distinguish grave goods, during the Middle Kingdom period, funerary items, including stela (funerary reliefs), were sought regardless of social status and are interpreted by scholars as representing Egyptians' goal of eternal existence into their afterlives (Oppenheim et al. 2015:36). This widespread use of certain objects has underscored the suggestion that during the Middle Kingdom period there was one pattern of mortuary practice that was translated from the elites of society to everyday non-elite Egyptians (Oppenheim et al. 2015:218).

Establishment of Lisht and its Cemetery

The Middle Kingdom period of Egypt marks a transition in Dynastic Egypt from the 1st Intermediate period (2130 – 2030 B.C.E.), during which Upper and Lower Egypt were unified and the boundaries of Egypt became defined in contrast to surrounding cultural groups (e.g., Libyans, Asiatics, and Nubians; Oppenheim et al. 2015:4). This period encompasses the second half of the 11th through the 13th Dynasty, with relative stability in rulers during the 11th and 12th Dynasties. A key feature of the Middle Kingdom period was the movement of the capital from Thebes to Itjtawi (modern day Lisht) by Amenemhat I. Amenemhat I served as the Pharoah in the 11th Dynasty and was succeeded by his son, Senwosret I. During this transition of power, scholars have suggested a coregency between Amenemhat I and Senwosret I (Arnold 2008:13; Oppenheim et al. 2015:8), which provided stability to their reign. Throughout the Middle Kingdom period there were transitions in power dynamics, with the first half of the 12th Dynasty described as decentralized. During this period royal activities were widespread but become centralized in the latter half of the dynasty and into the 13th Dynasty (Oppenheim et al. 2015:306). This transition in power is also corroborated by the movement of the capital from Thebes to Itjtawi.

The importance of the capital Itjtawi waned in 1750 B.C.E. with most royal courtiers spending their time in Thebes and Abydos (Oppenheim et al. 2015:221). However, while the capital was in Itjtawi, a mortuary complex was built for royal and non-royals living near modern day Lisht. The cemeteries at Lisht became particularly important during the 13th Dynasty (Grajetzki 2007). Recent excavations at Lisht have identified seven major mastaba tombs (large scale superstructures with subterranean graves), which are described as being in close proximity to the royal pyramid, deviating from contemporary customs of royal pyramid complexes (Figure 6; Arnold, 2008). Of these seven mastabas, only one contains skeletal remains, Tomb 758 of Senwosret. Mastaba 758 was comprised of a number of additional burial shafts of which four, including Tomb 758, could be associated with skeletal remains and are discussed in this chapter.

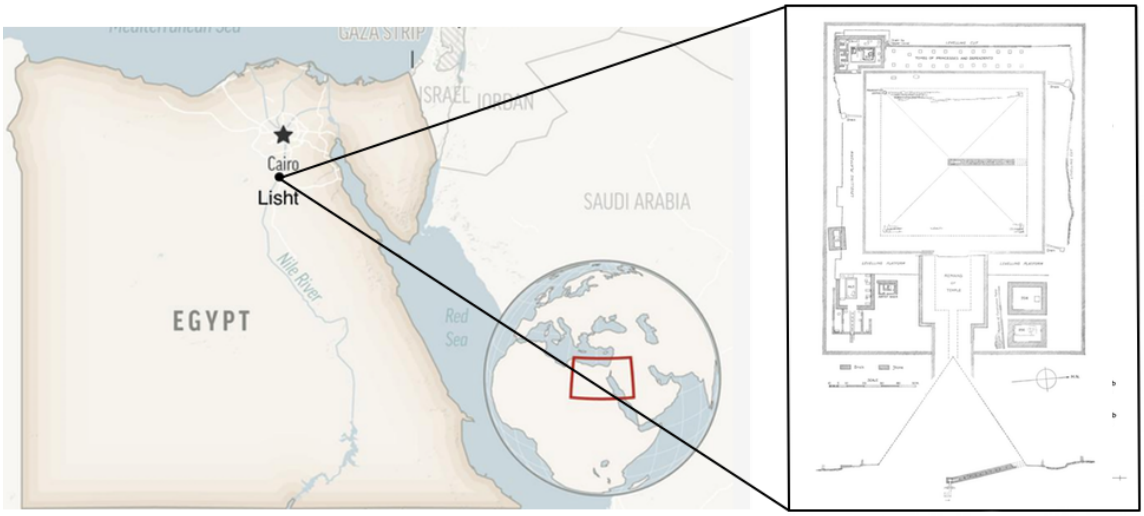


Figure 6 Map of Egypt with Lisht labeled with a black dot (Mace 1922)

Mortuary Practices at Lisht

There is evidence of royal burials at the site of Lisht, including the burial of Intefiquer (Tomb number unknown), Nakht (Tomb 493), and Senwosret (Tomb 758) at the north pyramid complex (Arnold 2008:88; Oppenheim et al. 2015:312). There were two main architectural types of tombs at Lisht North for non-royals; free standing mastabas and temple tombs (Oppenheim et al. 2015:312). These elite, non-royal, burials contrast to contemporary burials which were largely rock-cut tombs (Lloyd 2010:477). The majority of insights from Lisht on elite burial practices come from the non-royal burials, particularly the shaft tombs within mastaba and temple structures. Smaller tombs surrounding the pyramid structure belonged to less distinguished individuals, largely non-elites of society. These tombs include shaft tombs, largely single chamber, and surface burials. Multiple burials were common at Lisht, predominantly in shaft tombs but also in surface burials (Grajetzki 2007; Mace 1922). However, the definition of multiple burials presented by Grajetzki (2007) of tombs where more than one body is placed in a chamber or pit, does not fit for all burials with multiple individuals represented at Lisht. For example, Mastaba 954 described in the *Metropolitan Bulletin* contains multiple interments, but each individual is provided their own space (Figure 7). Similarly, intrusive burials that were interred at a different time than the original interment are not considered multiple burials (Grajetzki 2007), but were seen in a number of tombs from Lisht. Shaft tombs both single and multi-chambered, are considered representative of elite experiences, while surface burials represent non-elites.

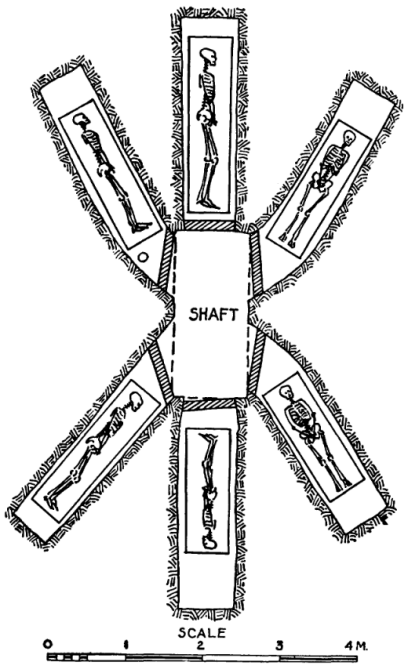


Figure 7 Plan view of burials from Mastaba 954 showing each individual with their own chamber (Mace, 1922)

Across the site coffins and linens were used. Three material types were represented at Lisht, including wooden, reed, and one stone coffin. All coffins resemble box coffins with space to accommodate individual bodies and limited funerary objects. Linens were described only for their presence or absence, but no mention of quality was made in archival documents. Elite burials, including Tombs 758 and 763, include multiple coffins for a single individual. For example Tomb 763, which belonged to Senebtisi, included three coffins; however, only the outer coffin survived excavation (Mace & Winlock 1916). Preservation of wood from Lisht is considered poor in comparison to other Middle Kingdom period sites (Grajetzki 2007) and therefore the representation of wooden coffins from Lisht, predominantly in museums, is limited to a few examples. While preservation was poor, excavators noted the presence of coffins by their wooden fragments, which ideally has provided a more accurate representation of coffin use at the site. Various grave goods were recovered across the tombs excavated, many of which are on display in the Met's Egyptian Art Exhibit and available through open access (metmuseum.org). Here, material culture was used, where associated with tombs and skeletal remains, to provide relative dates and in-depth discussion of burials from Lisht.

Materials

Because this chapter is focused on comparing mortuary contexts across the site of Lisht, only skeletal remains for which tombs at Lisht could be associated are included. Therefore, of the minimum of 585 individuals representing Lisht at NMNH and discussed in Chapter 2, this paper will only focus on 256 individuals. These 256 individuals

represent tombs excavated at Lisht during the first three seasons of excavation (1906 – 1909) and include both individuals housed at the Peabody.

In total, 256 individuals are included in this study representing 95 tombs from Lisht (Table 14). Of these 95 tombs, 53 (56%) represent shaft tombs and 40 (42%) are surface burials. Two tombs, Tombs 559 and 702, do not have any reference to tomb typology and were categorized as unknown. Two other tombs, Tombs 852 and 860, do not have direct reference to tomb typology but do mention material culture from fill, which was frequently used to describe material culture recovered from shaft tombs. Therefore, these two tombs are categorized as shaft tombs. Of the 256 individuals associated with tombs, 40 individuals have postcranial elements represented while the remaining 216 individuals are represented by crania or skulls only. From shaft tombs, 205 individuals were represented; however, 94.1% (n = 193) of these individuals were represented by crania or skulls solely. In contrast, surface burials were represented by 49 individuals of which 55.1% (n = 27) were comprised of postcranial and cranial elements. According to excavation documents, multiple interments were present in 35 of the 53 shaft tombs (66%) and two of the 40 surface burials (5%).

Table 15 Distribution of sex and age across 95 tombs associated with skeletal remains

		Tomb Typology			Coffin Presence		Type of Coffin		
		Shaft	Surface	Unknown	Coffin	No Coffin	Wooden	Reed	Stone
Sex	Male	61	15	0	28	48	23	5	0
	Female	89	21	1	47	64	40	6	1
Age	Adult	188	39	1	89	139	77	11	1
	Young Adult	55	14	0	31	38	28	3	0
	Middle Adult	83	16	0	38	61	32	5	1
	Old Adult	16	8	1	10	15	8	2	0
	Non-adult	17	10	1	9	19	5	4	0
	1 – 4 years	0	2	0	1	1	1	0	0
	5 – 9 years	5	2	1	2	6	1	1	0
	10 – 14 years	7	4	0	6	5	3	3	0
	15 – 19 years	5	2	0	0	7	0	0	0

Methods

In addition to osteological data, archival remains were used where accessible for producing individual's mortuary context. The Metropolitan Museum of Art (Met), which funds and funded initial excavations at Lisht, has archival documents that outline material

culture recovered, funerary architecture, excavators, and in some cases accession numbers of material collected for curation at the Met. They also have copious photographs from excavations and maps of the site. Many duplicate documents, including photographs, from the Met's archive were sent to NMNH following researcher's attempts to study skeletal remains in the intervening century since excavation. These various documents were used to produce mortuary contexts for skeletal remains from Lisht. Correspondence between NMNH and the Met during the initial accession of skeletal remains from Lisht excavations were also insightful for associating skeletal remains with tombs from the site. Archival documents, specifically photographs, were used to understand the type of tomb (e.g., shaft versus surface), number of interments, and inclusion and type of coffin (e.g., reed versus wooden coffin). For the tombs represented by skeletal remains at NMNH and the Peabody, many have excavation documents present, which discuss material culture collected. However, excavation documents were incomplete in their discussion or representation of material culture present and/or recovered and because of my own lack of expertise in material culture, these remains were included sparingly.

For the purposes of this chapter, contrasting elite and non-elite burial practices is structured by tomb typology, e.g., shaft tomb versus surface burial. Within these larger categories of elite and non-elite, differential experience is assessed for age and sex using osteological data. Large scale difference at the site of Lisht is assessed through differences in statistical analyses. However, because statistical analyses reduce the variation in an archaeological sample to outliers (Novak, 2017), statistical analyses will be supplemented by individual characterizations of mortuary practice. For example, while differences between males and females could be represented in statistical relationships, patterns within categories, e.g., elite women, may deviate in ways not registered by statistical analyses. Therefore, these individual analyses will be shared to provide nuance to statistical relationships.

Statistical Analyses

To formulate analyses on differential experiences across age, sex, and social status categories at Lisht, statistical tests specifically chi-square and odds ratios are presented. All statistical analyses were performed using R statistical software. Where completed, chi-square tests included Yates continuity correction to ensure statistical relationships were not the result of the relatively small sample size representing Lisht. If sample sizes represented less than five cases, Fisher's exact tests were used in lieu of chi-square to ensure the accuracy of statistical relationships. Please see Appendix A for tables outlining statistical analyses, including chi-square matrices.

Osteological Analyses

All osteological data collection was done macroscopically using Osteoware to record data points. For the purposes of this chapter, methods for estimating age and sex from skeletal remains are discussed, although further analyses were completed on the skeletal remains from Lisht, including analysis of osteometrics and pathological conditions.

Demography

Age-at-death and sex were assessed where skeletal elements were present that possessed age specific or sexually dimorphic skeletal features. Sex, for example, was assessed predominantly from features of the skull, including the mastoid process, supraorbital sharpness and ridge, nuchal region, and mental eminence of the mandible (Acsádi & Nemeskéri, 1970). For innominate bones, features including the greater sciatic notch, subpubic concavity, and preauricular sulcus were scored from 1 to 5, following Buikstra and Ubelaker (1994; Phenice, 1969). Osteometrics were also used to support and assess sex in skeletal remains, specifically measurements of the scapula, humerus, radius, femur, and tibia (Bass, 1987:156-157, 200, 230-231, 250). Individuals estimated to be between the ages of 15 and 19 at the time of death were assessed for sex where sexually dimorphic features were present.

Age-at-death was assessed in non-adults and adults. For non-adults, dental development and eruption were assessed following Ubelaker (1989) and Moorrees and colleagues (1963). Epiphyseal fusion of skeletal elements was used to estimate age-at-death in non-adults following Cunningham and colleagues (2016). Where possible, measurements were taken of non-adult long bones to support or estimate age-at-death, including the diaphysis of femora, tibiae, and humerii, as outlined by Cunningham and colleagues (2016). Age-at-death for adults focused on degenerative changes and cranial suture closure. The majority of individuals from Lisht were comprised solely of crania and therefore cranial suture closure, specifically of the ectocranial sutures (Meindl & Lovejoy, 1985), comprise the majority of ageable features. In addition, dental wear was assessed to support or estimate age-at-death (Lovejoy, 1985). Because these methods lack precision or are influenced by dietary practices (Faillace et al., 2017), broad age categories were used for adult ages, including young adults (20 – 35 years), middle adults (35 – 50 years), and old adults (50+ years). Where innominate bones were present in adult skeletal remains, degenerative changes at the pubic symphysis and auricular surface were recorded following Brooks and Suchey (1990), Todd (1921), and Lovejoy and colleagues (1985).

Results

From the 256 individuals associated with 95 tombs from Lisht, 89.1% of skeletal remains (n = 228) represent adults, while 10.9% of skeletal remains (n = 28) represent non-adults (<20 years). Of the adults, 111 are estimated to be female while 76 are estimated to be males. As depicted in Table 15, the distribution of males to females at the site is skewed towards females in almost all age categories except for middle (35 – 50 years) and mature (50+ years) adults. Of note is the distribution of young adults (20 – 35 years) by sex. Females represent 63.8% (n = 44) young adults, while males represent 24.6% (n = 17). According to a chi-square test, the distribution of adult age categories by sex is statistically significant ($x^2 = 8.196$, df = 3, p = 0.04; Appendix A Table 33). Multiple burials, following Grajetzki's definition (2007), are represented by 172 individuals from 37 tombs of the 95 associated with skeletal remains. These 37 tombs predominantly represent shaft tombs (n = 35), while two are surface burials (Table 16).

Table 16 Distribution of sexes across age categories from 95 tombs associated with skeletal remains

Category	Male	Ambiguous	Female	Indeterminate	Total	Male:Female Ratio*
Birth – .9 months	-	-	-	-	-	--
1 – 4 years	-	-	-	2	2	--
5 – 9 years	-	-	-	8	8	--
10 – 14 years	-	-	-	11	11	--
15 – 19 years	0	0	1	6	7	0:1
20 – 35 years	17	8	44	0	69	17:44
35 – 50 years	39	19	40	1	99	39:40
50 + years	12	2	11	0	25	12:11
Adult, Age Indeterminate	8	7	15	5	35	8:15
Total	76	36	111	33	256	76:111

Table 17 Distribution of skeletal remains by tomb type, age, sex, and number of interments

			Shaft	**Surface**	**Unknown**	**Total**
Cranial Elements Only	Age	Adult	176	19	1	196
		Non-Adult	17	3	0	20
		TOTAL AGE	**193**	**22**	**1**	**216**
	Sex	Male	55	6	0	61
		Female	83	10	1	94
		Indeterminate	22	0	0	22
		Ambiguous	33	0	0	33
		TOTAL SEX	**193**	**16**	**1**	**210**
Cranial and Postcranial Elements	Age	Adult	12	20	0	32
		Non-Adult	0	7	1	8
		TOTAL AGE	**12**	**27**	**1**	**40**
	Sex	Male	6	9	0	15
		Female	6	11	0	17
		Indeterminate	0	7	1	8
		Ambiguous	0	0	0	0
		TOTAL SEX	**12**	**27**	**1**	**40**
Multiple Burials‡		**Tombs**	**35**	**2**	**0**	**37**
	Age	Adult	156	7	0	163
		Non-Adult	16	2	0	18
		TOTAL AGE	172	9	0	181
	Sex	Male	50	2	0	52
		Female	71	3	0	74
		Indeterminate	21	2	0	23
		Ambiguous	30	2	0	32
		TOTAL SEX	172	9	0	181
Single Burials		**Tombs**	**18**	**38**	**0**	**56**
	Age	Adult	32	32	0	64
		Non-Adult	1	8	0	9
		TOTAL AGE	**33**	**40**	**0**	**73**
	Sex	Male	11	13	0	24
		Female	18	18	0	36

		Indeterminate	1	8	0	9
		Ambiguous	3	1	0	4
		TOTAL SEX	**33**	**40**	**0**	**73**

‡Multiple burials are defined following Grajetzki 2007

Analyses of skeletal remains from associated tombs are organized by tomb and coffin typology: shaft versus surface burial and wooden versus reed coffin (Table 17). These tomb types serve as a proxy for social status, with surface burials attributed to non-elites while shaft tombs are associated with elites. Therefore, the distribution of these typologies highlights the differences, if present, in age and sex by social standing for the site of Lisht. Here, age, sex, coffin presence and typology are outlined to understand how age, sex, and social status intersected to reflect different mortuary experiences at Lisht.

Table 18 Distribution of sexes and ages by coffin presence and type

Demography	Tomb Type		Coffin Type			
	Shaft	Surface	Wood	Reed	Stone	None
Adult	188	39	77	11	1	139
Non-adult	17	10	5	4	0	19
Female	89	21	40	6	1	64
Male	61	16	23	5	0	48

Elite Mortuary Patterns

Shaft Tombs

From the 95 tombs associated with skeletal remains, 53 are categorized as shaft tombs with at least one chamber. A total of 205 individuals are represented by shaft tombs of which 188 are estimated to be adults and 17 are non-adults (<20 years old at the time of death). Table 16 shows the distribution of ages represented in shaft tombs from Lisht. Features assessable for sex were present in 150 individuals from shaft tombs. Females represent 89 individuals while 61 individuals are estimated to be males and 33 individuals possessed features of both male and female and therefore were assigned ambiguous sex.

Coffin Typology

Coffins were present in 20 of the shaft tombs and all were constructed of wood, representing 37.7% of the shaft tombs with skeletal remains (n = 53). From these 20 tombs with coffins, a total of 71 individuals are represented of which 68 are adults and three are non-adults between the ages of six and 13. Of these adults from shaft tombs with wooden coffins, there are 20 males, 35 females, 12 individuals of ambiguous sex, and one individual of indeterminate sex.

Interment Numbers

According to excavation documents, shaft tombs from Lisht frequently include multiple interments with 67.2% (n = 67 shaft tombs with skeletal remains) represented by at least two individuals recovered. However, six of these tombs are not considered multiple burials because separate chambers accommodate single burials, as opposed to multiple individuals interred in a single chamber (Grajetzki 2007). True multiple burials at Lisht represent 66% (n = 35) of shaft tombs associated with skeletal remains (n = 53). Of these shaft tombs with multiple interments, there are 172 individuals represented of which 156 represent adults, including 71 estimated as females and 50 estimated as males. Of note, two of the highest social strata shaft tombs, with architectural structures (e.g., mastaba or temple), Tombs 803 and 805, also included multiple burials. Non-adults represent 16 individuals categorized as multiple interment burials. In contrast, shaft tombs with single burials (n = 18) are predominately represented by adults except for one tomb, Tomb 818, which represents a non-adult (10 – 14 years). Through consulting excavation documents, there are 18 shaft tombs defined as single burials (Grajetzki 2007), which include 32 adults, of which 18 individuals were estimated to be female and 11 individuals were estimated to be male. Two of these burials, Tombs 758 and 763, represent shaft tombs with an architectural structure present (e.g., mastaba).

Non-elite Mortuary Patterns

Surface Tombs

From the 95 tombs associated with skeletal remains, 40 tombs were categorized as surface tombs. A total of 49 individuals were represented by surface tombs of which 39 were estimated to be adults and 10 were non-adults (<20 years old at the time of death). Table 16 shows the distribution of ages represented in surface tombs at Lisht. Features assessable for sex were present in 36 adults from surface tombs. Females were estimated to represent 21 individuals while 15 individuals were estimated to be males and three individuals were estimated to be of ambiguous sex.

Coffin Typology

Coffins were associated with 24 surface tombs (60%; n = 40) and represent 27 individuals from surface tombs (55.1%; n = 49). All three coffin types are represented, wooden, reed, and stone coffins. Surface burials estimated to be male with coffins represent 29.6% (n = 8) of these individuals, while females represent 44.4% (n = 12). Wooden coffins were present in 10 of the surface burials with coffins (41.6%; n = 24), representing 11 individuals. Three of these individuals represent males, five represent females, one represents an individual of ambiguous sex, and two were estimated to be non-adults, one between the ages of one and four and one between the ages of eight and 12. Reed coffins were present in 14 surface burials with coffins (55.6%; n = 24), representing 15 individuals. Five of these individuals represent males, six represent females, and four represent non-adults, one between the ages of six and seven and three between the ages of 10 and 14. One surface burial associated with coffins included a stone coffin for an adult female (3.7%; n = 24).

Interment Numbers

Of the 40 surface burials, four (10%) have multiple interments. One of these four tombs with multiple interments is represented by seven individuals, Tomb 548. The remaining three multiple interment surface burials include two individuals. However, when including excavation documents only two tombs fit Grajetzki's definition for multiple burials (2007), Tombs 548 and 830. In total 18.4% (n = 9) individuals from surface burials were represented by multiple interments, of which 7 were adults and two are non-adults. Of the 7 adults buried with multiple interments, three were estimated to be female and two are estimated to be male. Of the 38 surface burials defined as single burials (Grajetki 2007; n = 40 individuals), 80% (n = 32) were adults and 20% (n = 8) were non-adults with the youngest individual estimated to be one to four years old and the oldest individual estimated to be between 14 and 20 years old. Of the adults in single burial surface tombs 56.3% (n = 18) were estimated to be female and 34.2% (n = 13) were estimated to be males.

Site Based Comparisons

Age differences

The composition of skeletal remains associated with tombs from Lisht disproportionally represents adults from the site. Previous scholarship during the Dynastic period, including the Middle Kingdom period, has suggested the population was comprised of a large portion of non-adults, ~42 – 50% (Baines & Lacovara 2002; Meskell 2002; Toivari-Viitala 2001). Although non-adults comprise a large portion of mortality during the Middle Kingdom period, non-adults are frequently underrepresented in archaeological samples (Baines & Lacovara 2002; Richards 2005). As seen here, only 10.5% of skeletal remains representing non-adults and no fetuses or neonates were represented. The small proportion of non-adult skeletal remains associated with tombs at Lisht is likely the result of different practices, including burial under house floors or near houses, that kept their remains from being recovered from the cemetery site. Alternatively, because neonate and fetal bones do require expertise for identification, the collection of these remains may have been hindered by the excavators who were not likely trained in identifying them.

Statistically significant differences are observed in the mortuary practices for adults and non-adults from this sample (Table 18). Adults buried in shaft tombs represents 82.5% of adults (n = 188), while non-adults buried in shaft tombs represents 60.7% of non-adults (n = 17). Non-adults are represented in surface burials more than adults. 35.7% of non-adults (n = 10) versus 17.1% adults (n = 39) are interred in surface burials and this difference is statistically significant using a Yates' continuity correction chi-squared analysis, ($x^2 = 4.9$, df = 1, p = 0.03; Appendix A Table 29). According to a statistically significant (p = 0.05) odds ratio, non-adults have 2.835 higher odds of burial in a surface tomb than adults with a confidence interval under 1 (0.15 – 0.83). These results suggest that while non-adults were not restricted to interment in surface burials this type of burial had a higher likelihood of representing non-adults at Lisht.

Coffin type does elucidate differences for adults versus non-adults. For both adults and non-adults, the majority of individuals were buried with no coffin, 61% for adults (n = 139) and 67.9% for non-adults (n = 19). Wooden coffins represent the most

common coffin type with 33.8% of adults (n = 77) and 17.9% of non-adults (n = 5) buried in wooden coffins. For adults, reed coffins are rarer with 4.8% of adults (n = 11) buried in them in contrast to 14.3% of non-adults (n = 4) recovered with reed coffins. Using chi-squared analyses, with Yates' continuity correction, coffin typology differences between adults and non-adults were statistically significant ($x^2 = 4.16$, df = 1, p = 0.04; Appendix A Table 34). Because of the small sample of non-adults represented, a Fisher's exact test was also run to support these statistically significant differences and found a statistically significant difference (p = 0.03). These results suggest that non-adults had greater variety in mortuary practices in contrast to adults who were statistically less likely to be recovered from reed coffins at Lisht. Non-adults, on the other hand, were equally represented in wooden and reed coffins.

Differences between multiple versus single interments were observed for shaft tombs with adults exhibiting greater variability in number of interments than non-adults. However, according to a chi-squared test, with Yates' continuity correction, this variation in number of interments was not statistically significant ($x^2 = 0.73$, df = 1, p = 0.39; Appendix A Table 35). Because of the small sample size, a Fisher's exact test was also run and similarly found not statistically significant different between adults and non-adults' representation in multiple versus single interments (p = 0.32). Similarly, differences in adults and non-adults buried with multiple or as single interments in surface burials was not statistically significant according to a chi-squared test, with Yates' continuity correction ($x^2 = 0.10$, df = 1, p = 0.76; Appendix A Table 36). Because of the small sample size, a Fisher's exact test was also run and again found no statistically significant difference between adults and non-adults' representation in multiple versus single interments for surface burials (p = 1). These results suggest no patterning in number of interments by age at Lisht.

Table 19 Statistical Analyses of differences in mortuary practices across adults and non-adults

Differences in Mortuary Practices by Age		Adult		Non-adult		N_T	Statistical Analyses
		Present	N	Present	N		Chi- Square
Tomb Typology	Shaft	188	227	17	27	254	4.9*
	Surface	39		10			
Coffin Typology	Wooden	77	88	5	9	98	4.16*
	Reed	11		4			0.03*†
Interment	Multiple	163	228	18	28	256	0.73
	Single	65		10			0.32†

$_T$ Total sample size
*Statistically significant p value (≤ 0.05)
† Fisher's exact test

Sex differences

The lack of non-adults, particularly fetuses and neonates, makes it difficult to connect Lisht's demographic profile to mortality risks for children. However, the distribution of young adult women, in comparison to young adult men, can elucidate their mortality risks, which may have been exacerbated by pregnancy and childbirth. Miscarriage was depicted in iconography from ancient Egypt usually in combination with

magic or spells to protect pregnant women (Ayad 2022:382; Marshall 2020; Meskell 2002:74; Robins 2012:82; Szpakowska 2020). This evidence suggests that pregnancy was potentially dangerous enough for women to warrant spiritual protections. There was also evidence of high maternal mortality resulting in various members of society caring for infants (Szpakowska, 2015). In addition to miscarriage, iconography from mortuary contexts depicts childbirth as dangerous for women in ancient Egypt (Robins 2012). Young women during the Middle Kingdom period, would have spent most of their twenties pregnant (Ayad 2022; Li 2019; Meskell 2002:74; Robins 2012; Szpakowska 2015) and therefore at a greater risk of death than their male counterparts. The observed differences between young adult females and young adult males at Lisht suggests women were experiencing greater risk of death between the ages of 20 and 35, possibly because of pregnancy and childbirth.

While differences are observed between male's and female's mortuary practices, none of these differences are statistically significant (Table 19). Males and females were similarly distributed across tomb typology at Lisht. Females (n = 89) and males (n = 61) from Lisht buried in shaft tombs represent approximately 80% of the adults, respectively, with sexually dimorphic features. A similar distribution of males and females is present for individuals buried in surface burials, with females observed in 18.9% (n = 21) and males in 19.7% (n = 15) of surface burials. Using chi-squared analyses, with Yates' continuity correction, tomb typology differences were not statistically significant for males or females ($x^2 = 0.01$, df = 1, p = 0.94; Appendix A Table 30). Based on an odds ratio, males have 0.96 higher odds of burial in a shaft tomb; however, the p value (p = 0.91) and confidence interval not equal to 1 (0.49 – 2.19) means this difference is not statistically significant. These results suggest that tomb type, either surface or shaft, was not restricted to either sex at Lisht.

With regard to coffin type, where present wooden coffins were most common. Females recorded with wooden coffins represent 85% (n = 40) of females buried with coffins. Males share a similar distribution with wooden coffins recorded in 82% (n = 23) of male burials with coffins. Reed coffins were observed sporadically across age and sex categories. While reed coffins are used infrequently, the presence of these coffins does not show any preference for sex category. Males with reed coffins represent 17.9% (n = 5) of males buried with coffins, while females with reed coffins represent 12.8% (n = 6) of females buried with coffins. One stone coffin was used for a female adult from the site. Using chi-squared analyses, with Yates' continuity correction, differences between males and females interred in wooden versus reed coffins were not statistically significant ($x^2 = 0.05$, df = 1, p = 0.82; Appendix A Table 37). These results suggest that coffin type use at Lisht was not influenced by sex of the individual interred.

Differences in burial with multiple or as a single interment by sex was observed for shaft and surface burials, but neither were statistically significant. For shaft tombs, differences between males and females with regard to burial with multiple interments or alone was not statistically significant according to a chi-squared test, with Yates' continuity correction ($x^2 = 0.02$, df = 1, p = 0.90; Appendix A Table 38). No statistical significance was found when comparing the presence of males and females in surface burials with multiple versus single burials according to a chi-squared test, with Yates' continuity correction, ($x^2 = 0.17$, df = 1, p = 0.68; Appendix A Table 39). These results

suggest that sex did not determine whether individuals were buried on their own or with other individuals. Drawing on interpretations of multiple burials representing marital status (Grajetzki 2007; Oppenheim et al. 2015:219), these results suggest that men and women at Lisht had relatively similar marital experiences and therefore similar rates of marriage and divorce regardless of social standing.

Table 20 Statistical analyses for differences in mortuary practices for males and females

Differences in Mortuary Practices by Age		Male		Female		N_T	Statistical Analyses
		Present	N	Present	N		Chi- Square
Tomb Typology	Shaft	61	76	89	110	186	0.01
	Surface	15		21			
Coffin Typology	Wooden	23	28	40	47	75	0.05
	Reed	5		6			
	Stone	0		1			
Interment	Multiple - Shaft	50	52	71	74	187	0.02
	Multiple - Surface	2		3			0.17

$_T$ Total sample size
*Statistically significant p value (≤ 0.05)

The Intersection of Social Status

Differences between the types of burial practice, surface versus shaft, are observed, including the presence of multiple burials and coffin type included. For example, shaft tombs, which were associated with elite individuals, were more frequently observed with multiple interments, and included solely wooden coffins (n = 71). While multiple burials are not fully understood, particularly for the Middle Kingdom period (Grajetzki 2007), this patterning may indicate that regardless of social standing, marriage and divorce were widely practiced at Lisht, which fits with larger narratives of the Dynastic period (Brewer & Teeter, 2007; Meskell, 1998b, 2002; Robins, 2012). The lack of differences between males and females and presence of non-adults in multiple interments supports this notion.

In contrast, surface burials, which were associated with non-elites (Baines & Lacovara 2002; Richards 2005), were observed with reed, wooden, and stone coffins, suggesting less uniformity in mortuary accommodations for non-elites at Lisht. This heterogeneity in mortuary practices for surface burials could support the notion of greater wealth and resource variability at Lisht during this period, including increased access to entrepreneurism for non-elites. Men and women are both represented in the "middle class" through entrepreneurial specializations in craft production and farming practices (Miniaci & Grajetzki 2015:178). In addition to social mobility for craftspeople, food foragers and farmers are thought to have more autonomy and access to social mobility because of the importance of their crop cultivation, which was needed by all community members, regardless of status (García, 2014).Therefore, the variation of mortuary practices at Lisht, for surface burials in particular, across ages and sexes suggests potential for differential access or even preference by individuals for mortuary practices

and features. In contrast, the lack of heterogeneity in mortuary practices for elites from Lisht indicates that while there was likely a wide range of wealth, that range did not translate to differences in tomb or coffin type. However, future analyses of material culture and construction of tombs, e.g., single versus multichambered, brick or stone construction, etc., could elucidate differences within the sample of elites and non-elites at Lisht.

No statistically significant differences are present in mortuary practices between sexes suggesting that sex does not have much bearing on mortuary practices across or within either elite or non-elite groups at Lisht. Therefore, any difference between males and females at Lisht is likely the result of different factors. Overall, the lack of difference between males and females (regardless of social status) supports the notion that greater equality was experienced between the sexes (Lesko, 1994; Meskell, 1998b, 2000; Zakrzewski, 2017). Although these results suggest that sex did not have a direct influence on the type of burial an individual was afforded at Lisht, material culture from burials is not accounted for in analyses. A number of grave goods were associated with skeletal remains and tombs from Lisht, including canopic jars, coffins (with and without inscriptions), jewelry, pottery, weapons, etc. While quantities and quality of grave goods were noted for tombs associated with skeletal remains from Lisht and were used to date tombs, wholesale interpretations of material culture were not made. However, future analyses by Egyptologists on the material culture included with burials from Lisht represented by skeletal remains could support or alternatively contradict the notion that sex was not a determining factor in mortuary practices.

In addition, differences between tomb type, shaft versus surface, for adults and non-adults suggests that social status may not be the only factor influencing burial accommodations at Lisht. Non-adults have higher odds of being buried within surface burials than adults. However, the prevalence of non-adults buried with these accommodations may suggest these burials do not solely reflect a lower social standing for non-adults. This notion is supported by the statistically significant difference in adults and non-adults for coffin typology as well. Non-adults had statistically significant variation in their coffin typology in comparison to adults from Lisht. These differences between adults and non-adults could result from an overrepresentation of non-elite, non-adults. Alternatively, these results could signal differential preference in mortuary practices for non-adults, regardless of social standing.

While differences in tomb and coffin typology are statistically significant for adults and non-adults, the small sample size of non-adults likely makes these individuals less representative of larger patterns for non-adults at Lisht. Many scholars have suggested that the burial of non-adults, particularly infants, in or under houses has led to a diminished representation of these individuals in archaeological samples (Meskell, 2002; Richards, 2005). This is likely impacting the representation of non-adults at Lisht too and therefore statistical analyses while significant should be treated with caution.

Individual Mortuary Experiences

Thus far, mortuary practices across the sample (n = 256) have been explored through statistical analyses. However, to provide nuanced examples, two observed typologies of mortuary practices at Lisht will be presented as well. These two examples

will focus on the axes of identity explored, age, sex, and social status and therefore, present examples typical of burials associated with non-elite adult males and females to understand potential variability lost through statistical analyses alone. Intentional emphasis is placed on adults from Lisht because statistical analyses suggest limited difference between males and females, which in-depth analyses could provide additional insight to.

Non-elite Adult Females

From analyses, 21 individuals associated with tombs from Lisht were considered non-elite, adult females. These individuals were largely represented by young (20 – 35 years, n = 8) and middle adults (35 – 50 years, n = 9). A smaller proportion, n = 4, were estimated to be mature adults (50+ years). Their status as non-elite is determined by their burial on the surface with or without coffins. In the majority of burials (n = 12), coffins were present, of which six were reed and five were wooden. Two tombs, Tombs 736 and 825, are presented to highlight the experiences of adult females interred in surface burials at Lisht.

Tomb 736, 33-63-50/N844.0, comprises a female between the ages of 30 and 35 years old at the time of death, approximately 100% complete. This individual was recovered within a previous burial cut for Tomb 726 and was labeled Tomb 736. Photos taken during excavation depict the burial of 736 wrapped in reed matting with a rope and steatite button holding the matting together. The mat and button seal were accessioned by the Met (09.180.767a & b), and the button seal is on display at the museum and dated to the 11th or 12th Dynasty (2030 - 1850 B.C.E.; "Button Seal | Middle Kingdom" n.d.). In archival documents, four layers of linen were described as wrapping the skeleton in addition to the reed matting, but no further evidence of mummification was noted. Slight periodontal disease was present at the molars, predominantly the first and second, in the maxilla and mandible. Periosteal reactions were observed at the right and left tibiae that was circumferential at the midshaft. The fibulae also exhibit healed periosteal reactions that corresponds with bony changes observed on the tibiae. These bone reactions were healed or healing at the time of death. Periosteal reactions can result from exposure to pathogens resulting in infections but also in response to trauma and laborious activities (Roberts, 2019; Weston, 2012). Porosity was present at the sternal articulation of both clavicles that is not present on the corresponding manubrium. The right and left femora exhibit slight marginal osteophyte formation at the left distal articular surface. There was also a circumscribed, small depression at the posterior aspect of the lateral condyle that occurs bilaterally on the femora. At the distal articular surface of the right femur, there was possible osteochondritis dissecans which was not present on the corresponding right tibial articular surface. No trauma or alterations associated with metabolic diseases, e.g., cribra orbitalia or porotic hyperostosis, were observed in the skeletal remains.

Tomb 825, P256388, comprises an old adult (50 – 60 years) female, approximately 100% complete, with postmortem damage at the sacrum and bilaterally at the ilium and postmortem loss of hand bones. According to excavation documents, this individual was buried without material culture in a reed coffin with another burial interred within the burial cut. Pathological conditions were assessed and include four dental abscesses with facial drainage, seven carious lesions (the majority represent non-

carious pulp exposure), porosity bilaterally at the distal articular condyles of the femora and the left anterior calcaneal facet. In addition to these alterations, healed oblique fractures were present on the left third to tenth ribs. Torsion of the proximal tibia was also present bilaterally representing severe genu valgum (Tschinkel & Gowland, 2020). Genu valgum is attributed to vitamin D deficiencies, usually in adult individuals, suggesting this individual was nutritionally stressed during their lifetime. No further metabolic disorders are present in the skeletal remains of this individual.

Non-elite Adult Male

From analyses, 15 individuals associated with tombs from Lisht are considered non-elite, adult males. These individuals were represented by five young adults (20 – 35 years), seven middle adults (35 – 50 years), two mature adults (50+ years), and one individual for which no age specific features were assessable. As with females, these males represent non-elites because of their interment on the surface with or without coffins. In eight of these burials, coffins were present (n = 3 wooden and n = 5 reed). Two tombs, Tombs 519 and 738, are presented to highlight the experiences of adult males interred in surface burials at Lisht.

According to archival documents, Tomb 738 comprises one adult male; however, skeletal remains from two individuals at NMNH, one male (P252881) and one female (P256278), were associated with Tomb 738. P252881 was approximately 100% complete but has postmortem damage and loss at the hand and foot bones as well as the ilium, ribs, and vertebrae. A number of long bones and the cranium exhibit postmortem fractures. Excavation documents suggest this burial was directly at the surface without a coffin and in proximity to Tomb 720. There was no mention of a second individual buried with P252881. Blue glaze beads and linens, covering the individual's legs, were the only burial accommodations noted. P252881 was a middle adult (30 – 39 years) male based on degenerative changes at the auricular surface. Pathological conditions were assessed and include four carious lesions, a healed depression fracture at the right parietal bone, two healed oblique fractures at the left 11th and right 12th ribs. Torsion of the proximal tibia was also present bilaterally representing severe genu valgum (Tschinkel & Gowland, 2020).

Tomb 519, P256562, was comprised of an adult male. This individual was represented by long bones (e.g., humerii, radii, ulnae, femora, and a tibia) representing approximately 40% of their skeletal elements. According to archival documents, this individual's whole skeleton, including their skull, was recovered and they were buried on the landscape with a reed coffin. No further material culture was recovered with this individual. P256562 exhibited a well healed oblique fracture at the right clavicle and distal diaphysis of the right radius. There were changes to the wrist joint's morphology associated with the healed fracture at the right radius.

Experiences Across and Within Axes of Identities

Here, in-depth views of individual mortuary practices, within the larger categories of experience like non-elite women and men, highlight the variability in experiences not visible through statistical analyses when comparing the sexes. For example, contrasting

the two burials of non-elite women shows similarities in type of tomb and locale, including both individuals being buried within or in proximity to other burial cuts. However, difference arises in the presence of material culture between the two women. Overall, material culture was present in seven of the non-elite adult women's burials (n = 21), which could suggest differential social standing for these women, including Tomb 736. The skeletal remains from each individual also show difference in lived experiences that are not visible from descriptive analyses. Skeletal lesions are present in both individuals, but each signal potentially different experiences. Of note, Tomb 825 exhibits metabolic related alterations in the tibiae in the form of genu valgum along with healed fractures at the ribs. Metabolic disorders, particularly vitamin D deficiency, can result in a number of alterations to adult skeletal remains, including genu valgum and secondary fractures (Brickley, Ives, & Mays 2020; Brickley & Mays 2019; Tschinkel & Gowland 2020). Genu valgum was also seen in six other non-elite women, all of which were buried without material culture. The combination of skeletal alterations associated with metabolic disease and no material culture could reflect differential access to resources than other non-elite women buried with material culture. In contrast, the two non-elite males presented suggest similar lived experiences regardless of difference in material culture presence. Trauma was present in both men, one with a healed depression fracture at the crania and both with healed oblique fractures in postcranial elements. The presence of trauma in both men, while not indicative of specific behaviors, could suggest these non-elite men were engaged in risky behavior that left them prone to trauma. For instance, scholars posit that social mobility for craftspeople, foragers and farmers was greater because of the autonomy and importance of their skilled labor; however, particularly farming (Lambert & Welker, 2017), presents increased risk to day to day life. Of the 15 non-elite men represented at Lisht, five exhibit traumatic injuries, of which three possess coffins and/or material culture. Similar to non-elite women, these three individuals with material culture could represent a higher social standing; however, osteological analysis suggests this greater status does not translate to differential experience related to trauma.

Conclusion

The results of statistical analyses of skeletal remains associated with tombs from Lisht show that differences were experienced with regard to mortuary practices. These differences largely revolved around social status for adults, with males and females of the same social standing, e.g., elite males and females and non-elite males and females, afforded similar mortuary contexts. Non-adults, when represented in the archaeological sample, have greater variety in their mortuary contexts suggesting that social status was not the greatest influence on non-adult's burial with or without coffins, type of coffin, or even the tomb typology. However, overall statistical analyses suggest relative homogeneity in tomb and coffin types across age and sex identities at Lisht, supporting the notion presented by other scholars of a standard for mortuary practices (Oppenheim et al. 2015:218). Importantly, when looking more in-depth at individual experiences within large axes of identity, e.g., non-elite men, variation that is lost to statistical analysis is seen. Through combining quantitative and qualitative analyses for the 256 individuals associated with tombs from Lisht, this chapter stresses the importance of recognizing the

"statistical anonymity" (Novak, 2017) that influences interpretations of archaeological data and therefore individual experiences.

This chapter highlights the variety of experiences for people living and dying at Lisht during the Middle Kingdom period. While these results add a great deal of information to the narratives on Lisht, including differences experienced in mortality rates and risks for men and women and mortuary practice heterogeneity for non-adults, there is still a wealth of insight to gain from further research. Material culture from the site, particularly where associated with tombs and skeletal remains pose an opportunity to add further contextualization to the experiences of individuals from Lisht, as shown with the in-depth analyses here. Of note, while social status appears to impact adults' coffin and tomb type, material culture analyses could suggest differential experiences across sexes that did not manifest in the mortuary practices studied here. Osteological analyses, presented here, have provided greater understanding of the experiences of individuals at Lisht; however, future work that includes these analyses can continue developing these narratives. The skeletal remains from Lisht represent one of multiple legacy collections from excavations at Lisht and studying these skeletal remains has reimbued research potential to the individuals that lived there, in turn adding greater value to better studied aspects of the site, including material culture and mortuary architecture which has been the subject of previous publications.

Chapter 4 – Meaning Making from Osteobiography and Object Itinerary

Introduction

Archaeology in Egypt is founded on material resulting from colonial enterprises, as is much of the material curated in Western museums today (Mahmoud, 2016; Riggs, 2018), where ancient Egyptian sites were excavated with the intention of expanding Western collections. This focus on material culture that was deemed suitable for museums has resulted in the preponderance of elite goods and/or duplicates of objects collected in lieu of other supposedly lesser objects and the concomitant overrepresentation of royal and elite goods in narratives of ancient Egypt (Stevenson, 2014). Skeletal and mummified remains have also been impacted by this focus on elites and royals in ancient Egypt, with skeletonized and non-elite remains not excavated, retained, or prioritized in research. This is exemplified in Western institutions where many Egyptian skeletal collections are orphaned or legacy collections. Orphaned and legacy collections are those that were excavated previous to ethical and/or standardized protocols and therefore have never fully been analyzed or reported on (Voss, 2012). These legacy collections, of which the collection from Lisht is one, have come to define archaeological knowledge on ancient Egypt (Riggs, 2010).

In this chapter, two ancient Egyptian skeletons from the legacy collection of Lisht will present a model for understanding how two individuals changed not only during their lives but following their death through the collection, curation, and study of their skeletal remains and the shifting meaning we can derive from them. This chapter integrates methods from both Chapters 2 and 3 and builds on the interpretative implications legacy collections pose. These two people represent individuals who were collected from the same location of the funerary complex at Lisht during the same excavation season. Following their initial collection by the Metropolitan Museum of Art's (Met) Egyptian Expedition, their skeletal and archaeological remains were exchanged along with 15 other skeletonized individuals to the Peabody Museum of Archaeology and Ethnology at Harvard University (Peabody). Combining osteobiography and object itinerary will allow me to produce narratives on the personhood and lived experience of these individuals as well as moments of movement and stillness for their remains through the process of being excavated from Lisht, collected by the Met, and ultimately curated by the Peabody.

Osteobiography

Osteobiography coalesces the information assessable from the skeleton to produce a complex narrative of an individual life (Saul, 1989). The emphasis on a single individual provides an in-depth analysis that is contextualized within the framework of a site or regional study. Osteobiographical methods were frequently used where skeletons were fragmented and little interpretation was possible (Saul, 1989). More recently, osteobiography is being used to explore the social implications of skeletal features including pathological conditions (e.g., Hawkey 1998; Tilley & Oxenham 2011)

resulting in a more contextualized perspective on the individual lived experience. Particularly in archaeological samples where written documents are not available, osteobiography provides a history for individuals that are not, or because of their status in marginalized groups were not, textually recorded (Robb et al., 2019).

Osteobiography's reliance on the skeleton for insights to an individual's history hinges on the understanding of the skeleton as plastic, with biological and social experiences manifesting in the skeleton (Sofaer, 2006). The skeleton, therefore, provides biological and cultural indicators of plastic and fixed identities and experiences that bioarchaeologists use to understand the mutable and immutable identities of the past, not just for the individual but more broadly for a site or sample (Sofaer, 2006; Torres-Rouff et al., 2017; Zuckerman, 2017). This material accumulation of changes in the skeleton provides a primary source of observable adaptations made by the body over the lifespan (Joyce, 2005; Sofaer, 2006; Zuckerman et al., 2014). While some identities are ascribed at birth and therefore frame the self-other identities, such as ethnicity, may require social negotiations and change throughout the lifespan (Meskell, 2007). The fluidity of identity involves social negotiation, and therefore differences between the individual and the larger group or society are explored through osteobiography.

Osteobiographical methods illuminate the complexities of individual lives and the variation within a population at a greater scale (Hosek & Robb, 2019), promoting the ideals of intersectionality theory. However, it is important not to prioritize one specific identity over all others, which can result in interpretive violence to an individual (Meskell, 2007). Osteobiographical research has striven to avoid these harms to people of the past, using an individual's own body to formulate a history of their self-understanding, which can be argued to provide a more democratic history (Robb et al., 2019). Osteobiographical approaches have widened the scope of analysis for skeletonized individuals from contexts with limited documentation to those who produce holistic narratives of people from the past. Following the ethos and methodology outlined by Geller (2019), osteobiographical approaches to studying these individuals from Lisht present an opportunity to cement the legacy of individuals. The skeleton will formulate the majority of data assessed, but the mortuary context, including excavation documentation, will help to contextualize these individuals' experiences within the Middle Kingdom Period (2030 – 1650 B.C.E.) of Egypt.

Object Itinerary

Historically, object biographies are used in social science fields, including archaeology and anthropology, to imagine and trace the agency of objects. Object biographies animate objects to understand the accumulation of connections, values, and significance of objects through different networks (Appadurai 1988:5; Kopytoff 1986). These object biographies combine empirical and theoretical studies of material culture. However, the use of biography has been problematized in recent archaeological work because biography asks objects to be anthropomorphized and therefore subject to a human life course (Joyce & Gillespie 2015:23). Itinerary has been posited in its stead as it removes the constraints of the life course to consider a series of relations that are not necessarily linear or bounded by a beginning or end (Joyce & Gillespie, 2015).

The study of material culture, particularly, in antiquity askes researchers to differentiate between subject and object, which can force a deconstruction of the dichotomy between objects and subjects as discrete entities (Meskell, 2004). Research on object biography and object itinerary have focused on archaeological objects, for example, Iron Age mirrors from Britain and the Gayer-Anderson cat from ancient Egypt (Joy 2009; Meskell 2004:179-182). Much of this work producing object biographies and itineraries, focuses on the materiality of objects, assessing their use or consumption to understand their function and use value for a community. Through assessing the use value and producing a sequence of use for these objects, objects are reexamined through the lens of their cultural context (Joy, 2009; Joyce & Gillespie, 2015), but also presented as influenced by the modern interpretations and/or meanings attributed to these ancient objects (Meskell, 2004).

In Colwell's *A Palimpsest Theory of Objects* (2022), palimpsest theory is presented for understanding the elasticity and context specificity of object meaning(s), which are rewritten and altered through archaeological study. Object itinerary, as outlined by Joyce (2015), enables tracing the life of an object, highlighting the palimpsest nature of objects, that is not bounded by archaeological or archival research but acknowledges the starts and stops to research as a vital aspect of an object's narrative. Here object itinerary is used because while the objects under study are human remains and therefore influenced by a life course, the use of the skeleton after excavation and in curation and research by archaeologists has led to its treatment as an object. Using itinerary instead of biography for skeletal remains in this context affords an understanding of the objective use and disuse of the remains in the past and present as a vital aspect of their narrative beyond the life course. A palimpsest approach to skeletal remains also exposes the inscription of new meaning as negotiating and redefining or augmenting meaning.

The Skeleton as Object

In archaeological research, objects have been described as active and as agents, thus promoting an understanding of the objects as "an index of a person's agency" wherein the formal qualities of the object result in changes to human social relationships. Conceptions of the body as an object were explicitly articulated in Sofaer's *The Body as Material Culture* (2006), where she argues the integration of the social and biological interpretations of the body provides a view of the social practices enacted upon and through the body. Bioarchaeology has aimed to address the humanity within a mortuary context by exploring the embodiment of experience and therefore interpret the individual, through lived experiences embodied in the skeleton (Sofaer, 2006). This work within bioarchaeology has promoted the understanding of the body as situational, inscribed with societal practices, social dynamics, which then provide a means to recover the individual's agency, singularity, and meaning (Zuckerman et al., 2014).

That said, there has been limited problematization of the body as an object for study. The body as an object is inscribed with experiences that help to formulate the life history of an individual but the memories and inscription of memories can be affirmed or challenged by the interactions the body has with external objects, producing more memories (Connerton, 2011). This inscription of memories not only happens during life through contextually specific social practices but also in death through the study and

interpretation of the body by bioarchaeologists. While interpretations of skeletal remains present socially specific values for an individual, community, or population, the collection and curation of skeletal remains signifies an abstraction of the body's original use so that the skeleton is not defined by its function but by the subject (Baudrillard, 2005). This confluence of inscriptions contributes to the palimpsest meanings of the body. The two individuals discussed here, are not only defined by their identity in life but also by their itineraries as well as by the individuals who have studied them in death. The ability to interpret these memories from the body exemplifies the signification of the body and here is harnessed to explore the variable life histories of the individuals and their skeletons.

Ancient Egypt and Death

As mortuary contexts are spaces wherein negotiations and expressions of the identity of the dead and living happen, these spaces and events provide insight into the lived experiences of the dead through their remains, along with the experiences of the living through their mortuary practices (Binford, 1971; Chapman, 2013; Ekengren, 2013; Fowler, 2013). The conception of death in ancient Egypt has changed over time, however the body has remained vital to the preservation of identity into death and the transition into the afterlife. Egyptian mortuary contexts provide various expressions of identity through material, including furniture that can include inscriptions of the individual's name, food goods and jewelry for accommodating the transition in the afterlife (Meskell 1998; Richards 2005; Smith 2003). The inclusion of objects from daily practices served to reinforce the identity of the deceased, which potentially presented the individual as they were in life and may have also projected a social position into afterlife (Grajetski, 2003; Li, 2019; Meskell, 1999, 2002; Robins, 2012).

For Egyptian contexts, the type of burial and variety of material interred in a burial have been used to infer social standing and create general distinctions of elite versus non-elite in archaeology. Within the categories of elite and non-elite, distinctions have also been made between males and females based on material culture (Meskell, 1998b). Male names and identity have been emphasized when observations are made of elite mortuary contexts (Meskell, 1998b). Location and construction have also been analyzed as indicators of social standing, with monumental structures largely associated with elites and royals (Buzon, 2008; Grajetzki, 2014a; Li, 2019; Meskell, 1999, 2002; Richards, 2005).

Ancient Egyptian burial practices stressed the conservation of the body and name of the individual in order to reach the afterlife (Meskell 2002; Richards 2005:84; Robins 2012; Quirke 2015). The inability to provision for death in ancient Egypt would result in the annihilation of the individual from memory (Spencer, 1982). The importance of memory and its preservation for Egyptian identity is shown in the customs and behavior associated with mortuary practices including cultural mummification, the use of coffins, accommodations for the afterlife and mortuary complexes. By the Old Kingdom (2700-2100 B.C.E.), accommodations for the dead in the form of food and material objects were collectively believed to provide for individuals in the afterlife and practiced not just by elites but all Egyptians, when possible (Shaw, 2000). From the Old Kingdom on, mortuary practices became more elaborate, specifically for elites, with the incorporation

of monumental tombs (e.g., mastaba or pyramid) in the Middle and New Kingdom as well as continued ritual practices associated with funerals following burial (Spencer, 1982). Both those burials with complex and large-scale attributes as well as in more intimate personal burials, the material aspects of the mortuary context should articulate the identity of the individual as well as the collective identity of Egyptians.

Coffin use and the preservation of the body following death are hallmarks of Egyptian burials. The body was preserved with mummification techniques and technological interventions which changed through ancient Egypt. Cultural mummification, the removal of organs and storage in canopic jars, was performed to promote decreased decomposition of the body (Riggs, 2014). Elites and the state collectively promoted the ideal that afterlife was only achieved through the preservation of the body (Spencer, 1982). The mummified body served as a substitute for the living body enabling the extension and existence of the individual beyond death for the afterlife (Meskell 2004:119). While mummification was reserved for the most affluent Egyptians, means for preservation of the body are evident in the wrapping of the body with linens and the use of coffins across social groups (Ezzamel, 2004; Riggs, 2014). This extension of the body and its importance is exemplified by the representation of the body in a number of different funerary objects, in addition to the mummified or wrapped body. Canopic jars, shabtis, and statuettes act as mimesis, signifying the individual as they were in life for the afterlife (Meskell 2004:119; Riggs 2014). This conception of the body as vital in life and death supports the notion that mortuary spaces will provide important contextual details about the two ancient Egyptians from Lisht discussed here.

The Peabody's Collection from Lisht

The two individuals of interest here were curated by the Peabody beginning in 1934, 33-63-50/N844.0 and 33-63-50/N849.0. During excavations between 1906-1908 at Lisht, two female, adult individuals were recovered from burials numbered in the 700's. In 1933, these two individuals were transferred to the Peabody, as a part of an object trade, which was negotiated between Herbert E. Winlock, from the Egyptian Expedition funded by the Met, who directed initial excavations at Lisht and the curators at the Peabody. The skeletal remains traded from Lisht represent complete burials with crania and postcrania present. Archival documents from trade negotiations and excavations at Lisht of these two individuals are housed at the Peabody. The NMNH and Met also possess archival documents about the excavations and skeletal remains recovered from Lisht, including for these two individuals housed at the Peabody. Archival documents include accession cards, trade correspondence, and lists of objects traded, including descriptions of skeletons and mummies shipped to the Peabody. Here, I will explore the collection, curation, and interpretation of these two skeletonized individuals from Lisht.

The Trade

Correspondence between Drs. Earnest A. Hooton, Curator for the Peabody, Donald Scott, Director of the Peabody, and Herbert E. Winlock, Director of excavation at Lisht for the Egyptian Expedition Fund and eventually Director of the Met, begins in 1931. Over the course of fourteen letters Heresenes's Anthropoid Coffin from the Peabody is transferred to the Met and in exchange seventeen skeletons and/or mummies

are sent to the Peabody. The first correspondence from Winlock to Hooton outlines Winlock's acknowledgment of Hooton's initial request for skulls stored at Luxor and informs him that the skulls could not be delivered until the following autumn, at the earliest. In correspondence on February 12, 1932, Winlock shares that the anthropoid coffin was sent on February 9, 1932, to the Met from the Peabody. In Winlock's response on February 17, 1932, he acknowledges receipt of the "mummy case" and states that the skulls will be leaving Egypt in May 1932 and should arrive by June or July of that same year. However, by January 1933, the Peabody has not received the case of skeletal remains, a fact acknowledged in the correspondence between Hooton and Scott. In a letter to Winlock on April 20, 1933, Scott accepts the skeletal material offered by Winlock for the "mummy case" suggesting a change in the traded material may have occurred. Scott follows this letter with another one four days later requesting individuals with hair preserved. On July 12, 1933, Winlock sends a letter outlining the original agreement of sixteen skeletal remains to be sent, including ten complete skeletons and six skulls, as exchange for the "mummy case". Further in the letter he notes that seventeen individuals are being sent, twelve complete skeletons and five crania. In this correspondence, Winlock states that the first of seven skeletons are dateable and are from known excavations; however, the remaining five individuals' information is vague. Winlock askes Hooton to provide the Met with information on the skeletal remains including the number given by the Peabody Catalogue, age of the individual, and any remarks on injuries, diseases, etc. which might be of interest archaeologically. In a later letter, January 18, 1934, Winlock notes that the Met possesses the coffins of the mummies that were exchanged and therefore understanding who was interred, including age and sex, are of paramount interest to the Met. The remains discussed at length in these correspondences arrive at the Peabody on August 5, 1933.

In exchange for the human remains owned by the Met, the Peabody sent the anthropoid coffin of Heresenes. The anthropoid coffin of Heresenes, dates to the late period of the Saite Dynasty 26 (664 – 525 B.C.E.) and was originally part of the collection at the Old Boston Museum, which closed in 1903. The mummified remains of Heresenes were kept in Egypt at the Luxor Museum. The Met provided the coffin with a new accession number, 33.5a, b. The coffin is currently on display in Gallery 130 and the Met describes the coffin on their website as follows:

> "Traces of a polychrome diadem are visible on the headdress, which may have been the only painted area of this wooden coffin. The wig was shaped to fit the face, which was made separately from a finer piece of wood. The style of the delicate facial features, as well as the type of inlaid eyes, made of glass, suggest that the face is considerably older than the rest of the coffin, and perhaps was made originally for a coffin of the New Kingdom and reused anciently. An offering formula is inscribed on the front of the coffin for [Heresenes], a woman from a priestly family. (*Anthropoid Coffin of Heresenes | Late Period, Saite*, n.d.)"

The skeletal remains sent to the Peabody in exchange for this anthropoid coffin include seventeen individuals, four of which are represented solely by their skulls. These individuals originate from various Egyptian sites, including Thebes, Lisht, Meir, Akhmim and span the Dynastic to Roman periods (2000 B.C.E. – C.E. 200). The majority of individuals sent to the Peabody had names attributed, likely from coffins associated with them, and positions in society, including house-mistresses, steward, servant, and prince's son. Two of these individuals were from Lisht, with catalog numbers designated by the Peabody of 33-63-50/N844.0 and 33-63-50/N849.0, for which osteobiography and object itineraries are outlined below.

Studying the burials 33-63-50/N844.0 and 33-63-50/N849.0 presents the opportunity to explore differences in their lived experiences and their treatment in death, both in the past and present. Because these individuals have been treated as objects since their excavation and my first encounter with them was as objects, object itineraries are presented before osteobiographies. Presenting these individuals first as objects highlights the distance created by researchers through the collection and curation of human remains as well as the opportunity osteological analyses, specifically osteobiographies, provide for reimbuing the cultural and biological features of these individuals to interpret their lived experiences.

Methods

Skeletal analyses are combined with archival analyses of material from the Lisht legacy collection. Macroscopic osteological analyses were completed of skeletal remains at the Peabody to assess age-at-death, sex, stature, and pathological conditions. Age-at-death for each individual was estimated from degenerative changes at the innominate bones (Brooks & Suchey, 1990; Lovejoy, Meindl, Mensforth, et al., 1985; Lovejoy, Meindl, Pryzbeck, et al., 1985; Meindl et al., 1985). Sex was estimated from morphological features in the innominate bones, sacrum, and skull following Buikstra and Ubelaker (1994). Stature was derived from long bone measurements and calculated based on regression formulae from ancient Egyptian skeletal samples (Raxter et al., 2008). Pathological conditions, including dental, metabolic, and infectious disease and trauma, were recorded where present following protocols outlined by Roberts and Connell (2004). From these data points, osteobiographies are produced to outline the life histories accessible in their skeletal remains.

To produce object itineraries for each individual, close readings were completed of archival remains, particularly correspondence between the Peabody and Met and photographs from the excavations. Accession cards and excavation documents were compared to estimate where individuals were interred and eventually exhumed. The Met's website has open access photographs and descriptions of material culture recovered from excavations of Lisht (*Open Access*, n.d.). These open access archaeological remains include details on the period the material dates to, tombs recovered from, excavators of the material, publications by the Met which discuss the object, and associated material culture. Where noted as accessioned in excavation documents or accession cards, material culture was cross-referenced on the Met's website to compile material represented in burials. These various data points were coalesced to

produce object itineraries for each individual and to trace the use and disuse of the skeletal remains following their interment and exhumation at Lisht. Analysis of archival documents include close reading of the various correspondence and curation documents housed at the Peabody. Digitized documents were provided by the Peabody of correspondence and accession details for the skeletal remains traded by the Met. These archival documents possess accession numbers for skeletal remains which were cross referenced with accession numbers assigned by the Met. Archival documents from the NMNH also discussed skeletal remains included in the trade between the Met and Peabody.

Individual 33-63-50/N844.0

Object Itinerary

Individual 33-63-50/N844.0 was originally given Met accession number 09.180.767 and was described as "skeleton of a man from the lower class." This individual was recovered during excavations by the Met's Egyptian Expedition in 1907-1908. This individual was recovered within a previous burial cut for Pit 726 and was labeled Pit 736 in the North Cemetery at Lisht. While maps are present from the excavations at Lisht, Pits 726 and 736 are not identified. However, burials attributed to the 700's are concentrated in the northwest area surrounding a mastaba (Pit 758). Photos taken during excavation depict the burial of 736 wrapped in reed matting with a rope and steatite button holding the matting together. As noted, archival documents suggest earlier archaeologists estimated that this individual was male. The mat and button seal were accessioned by the Met (09.180.767a & b), and the button seal is on display at the museum and accessible from the museum's website and dated to the 11th or 12th Dynasty (2030 - 1850 B.C.E.; "Button Seal | Middle Kingdom" n.d.). In archival documents, four layers of linen are described as wrapping the skeleton in addition to the reed matting, but no further evidence of mummification was noted. In March 2022, osteological analysis was conducted by the author.

Osteobiography

The skeletal remains from Pit 736 represent one individual who was recovered fully articulated. This individual was well preserved, with limited weathering of cortical bone and approximately 100% of the skeletal elements represented. Desiccated tissue was present on skeletal elements suggesting skin was preserved likely through natural mummification that is characteristic of the environment in Egypt (Riggs, 2014). There was postmortem damage in the form of fracturing, particularly at the innominate bones, scapulae, and ribs. These elements were glued together in most cases, prior to observations in March 2022. Based on features of the innominate bones, including the degeneration of the auricular surface, and cranium, my analyses estimate this individual to be a female between the ages of 30 and 35 years old at the time of death. Stature for the individual from Pit 736 was estimated to be 152.4 cm based on the combination of bicondylar length of the femur and maximum length from the lateral tibia (Raxter et al., 2008). Slight to moderate calculus was present on the posterior dentition of the maxilla and mandible, particularly along the lingual surface in the mandible. Slight periodontal

disease was present at the molars, predominantly the first and second, in the maxilla and mandible. Periosteal reactions were observed at the right and left tibiae that was circumferential at the midshaft. The fibulae also exhibit healed periosteal reactions that corresponds with bony changes observed on the tibiae. These bone reactions were healed or healing at the time of death. Periosteal reactions can result from exposure to pathogens resulting in infections but also in response to trauma and laborious activities (Roberts, 2019; Weston, 2012). Porosity was present at the sternal articulation of both clavicles that was not present on the corresponding manubrium. The right and left femora exhibit slight marginal osteophyte formation at the left distal articular surface. There was also a circumscribed, small depression at the posterior aspect of the lateral condyle that occurs bilaterally on the femora. At the distal articular surface of the right femur, there was possible osteochondritis dissecans which was not present on the corresponding right tibial articular surface. No trauma or alterations associated with metabolic diseases, e.g., cribra orbitalia or porotic hyperostosis, were observed in the skeletal remains.

Individual 33-63-50/N849.0

Object Itinerary

Individual 33-63-50/N849.0 was originally given Met accession number 08.200.45c and was originally described as a "House-mistress" who belonged to the Court of King Amenemhat I. Her coffin possessed an inscription with her name, Senebtisi. This individual was recovered during excavations by the Met's Egyptian Expedition in 1907-1908 and labeled as from Pit 763. The burial was recovered from within a mastaba (Pit 758) that contained a number of subsidiary shaft tombs of which 763 was one. Based on inscriptions on a variety of material from the Mastaba Pit 758, this structure was likely built for Senwosret who may have been a well-documented vizier (Arnold 2008:77). A total of sixteen subsidiary shafts were inside the tomb enclosure (Arnold 2008:77). The grave cut for Senebtisi ran beneath the mastaba wall and was described as constructed as close as possible to the mastaba. Based on material and the tomb complex, Pit 763 was dated to the Late 12th or Early 13th Dynasty (1859 – 1770 B.C.E.) and possibly during the reign of Amenemhat III but funerary goods provide a conflicting picture (Arnold 2008:78; Grajetzki 2014:17-35; Quirke 2015). Senebtisi was the only undisturbed burial from these shaft tombs that comprise Mastaba 758. Dozens of surface burials were also surrounding the tomb enclosure wall, including Pit 736 (Arnold 2008:78).

The excellent preservation and lack of disturbance to Pit 763 resulted in Senebtisi's mortuary context being well-documented including being featured in a publication that centered her tomb, "The Tomb of Senebtisi at Lisht" (Mace & Winlock 1916). In this book, Winlock describes the burial as surprising because "… in view of the value of the objects which it contained, was the cheapness of the tomb itself." The burial was shallow in comparison to other burials in the mastaba and the grave was roughly and inaccurately cut (Mace & Winlock 1916:8). Of note, the burial was not oriented in the normative north-south direction, but instead oriented east-west. Mace and Winlock suggest this is the result of the architecture of Mastaba 758 (1916). Senebtisi was buried with three coffins, only one of which was well preserved and is currently on view in the Met (Figure 8). The outer most coffin, which did not survive, had a vaulted lid with an

inscription down the middle and was likely made of sycamore, a wood type that may have contributed to its decomposition (Grajetzki 2014:21). While this coffin was poorly preserved, decorations were visible on the long sides of the coffin and *wedjat* eyes are recorded on the front of the coffin (Grajetzki 2014:21). Senebtisi's body was placed within a poorly preserved anthropoid coffin and appears to have been laid on her left side, which was characteristic of the 12th Dynasty (Mace & Winlock 1916:20). Along with these coffins, linen wrappings covered her body and linens were placed within her body following mummification (Grajetzki 2014:23).

Figure 8 Outer coffin (middle) of Senebtisi, currently on display at the Metropolitan Museum of Art 08.200.45 (Outer Coffin of Senebtisi | Middle Kingdom, n.d.)

The inscriptions associated with her coffin and burial suggest this individual was a woman, which was confirmed by analyses by Dr. Smith (Smith 1916). Mummification is clear from viscera present in canopic jars recovered from her tomb and manipulation of the body as outlined by Smith (Grajetzki 2014:23; Mace & Winlock 1916:22). Smith notes that there was a large incision, 21 cm, at the "left Poupart's ligament" above the iliac crest, from which the viscera were likely removed (Smith 1916). The organs appear to have been removed through this incision and the body then stuffed with linen cloth, powdered wood, and resin. The brain was not removed and no packing was present in the mouth or nose (Smith 1916). In excavation notes and *Metropolitan Bulletins* that outline the find and excavation of Senebtisi's burial, pitch was described as laid over the body to promote preservation with layers ranging from approximately 2 centimeters thick at the feet and 5 centimeters thick at the neck.

Senebtisi was buried with a variety of material goods, which are also now housed at the Met, including jewelry, over two hundred pieces of pottery, and weapons. Of the jewelry recovered, a variety of necklaces, collars, and wig rosettes are noted with tube-shaped, drop-shaped, and gold beads that were made only for use in death (Grajetzki 2014:24). She was also buried with a beaded apron or kilt around her waist inscribed with her name, Senebtisi, which Grajetzki describes as a royal garment, symbolizing Upper and Lower Egypt (2014:28). At her wrists and ankles, armlets and anklets were found that were comprised of faience beads and wooden bars. Along with this jewelry adorning her body, weapons, including a double staff, a mace, bows, and a scepter, were recovered

from her second coffin. Interestingly, within her anthropoid coffin a copper dagger was found, an item that is largely attributed to burials of royal women during the late Middle Kingdom (13th - 14th Dynasty; Grajetzki 2014:29).

In July 1933, her skeleton was transferred to the Peabody. The body of the individual was described as belonging to a woman about fifty years old at the time of death. She was described as under four feet and eight inches in height. While much has been made of Senebtisi's tomb and the material recovered with her body (Arnold 2008; Grajetzki 2014; Hayes 1953; Mace & Winlock 1916), there is limited discussion of her body itself. No other studies or analyses of her skeletal remains were noted following her accession into the Peabody's collection. In March 2022, osteological analyses were conducted by the author.

Osteobiography

One individual is represented by skeletal remains for 33-63-50/N849.0. This individual was moderately preserved with no weathering affecting cortical bone, however postmortem loss resulted in only slightly more than half of the skeletal elements represented. The radii, ulnae, tibiae, and fibulae were all missing postmortem, and the skull is fragmented. Photos from excavation show the legs present suggesting that the loss of these elements could have happened following exhumation, potentially during transport. Resin described in excavation notes is confirmed by brown staining across skeletal and dental elements. Based on features of the innominate bones, including the sub-pubic angle and greater sciatic notch, and skull, including the supraorbital ridge this individual was estimated to be female. Degeneration of the auricular surface suggests this individual was between the ages of 40 and 44 at the time of death, but the pubic symphysis suggests a larger range, between the ages of 38 and 48 years at the time of death. Stature for the individual from Pit 763 was estimated to be 142.2 cm based on the bicondylar length of the femur (Raxter et al., 2008). Dental disease was limited to four linear enamel hypoplasia in two mandibular molars and one upper canine and slight (3 – 4 mm alveolar loss) periodontal disease at the right maxillary first and second molars. Porotic hyperostosis was present at the parietal bones that indicates a severe response that was well healed at the time of death. There was also bilateral pitting and porosity at the zygomatic bones. Porosity was present at the sacral facet and right ilium at the auricular surface, but no further evidence of joint alterations was noted in the hip. A schmorl's node, small depression on the superior and/or inferior vertebral body, was present at the superior body of the third lumbar vertebra.

Integrating Person with Object

Burials 33-63-50/N844.0 and 33-63-50/N849.0 present the opportunity to explore differences in experiences in life and death as well as differences in the use of skeletal remains by archaeologists in the intervening century since excavation. Both individuals were buried in the same location at Lisht but were afforded very different mortuary accommodations. Osteological analyses suggest that these burials both represent adult women from Lisht who lived during different periods of the 12th Dynasty. These two individuals represent the extremes of social status, elite vs. non-elite, presenting an opportunity to compare both the lived experience and treatment in death and beyond of

these individuals. Similarly, this difference in social status can lend to interpretations and value attributed to these individuals post exhumation.

Object Use

Within the Met's Egyptian Art Exhibit, both of these individual's funerary objects are on display. For 33-63-50/N844.0, the button seal recovered from the reed coffin is displayed in Exhibit 109, "The Middle Kingdom Study Room" (*Museum Map*, n.d.). This exhibit includes thousands of objects dated to the Middle Kingdom period between 1980 and 1550 B.C.E. from archaeological excavations at Lisht, Abydos, and Thebes. The goal of this exhibit is to display objects as if they were in a storeroom, wherein objects are displayed by typology (e.g., scarabs, beads, axes, seals etc.). No individual description of the burial is provided and the seal from Pit 736 is displayed alongside seals, gold, scarabs, and beads from other burial pits from Lisht, including LNP 478, LNP 486, LNP 487, LNP 522, and LNP 774. Of which, LNP 522 was recorded as possessing the burial of a non-adult "infant", according to archival documents. No skeletal remains from the Peabody or NMNH could be associated with this burial. In contrast, Senebtisi's burial is included in Exhibit 113, "Life and Death in Middle Kingdom Egypt". This exhibit displays female tombs to demonstrate the ways social status is reflected in burial practices, with Senebtisi exemplifying a member of the royal court (*Museum Map*, n.d.). Within this exhibit, Senebtisi's full mortuary context is represented with her jewelry, including diadem, beads, bracelets, necklaces, anklet, amulet, and apron, displayed alongside her coffin, pottery, and weapons, including a ceremonial dagger and mace, and staff and scepter. In addition to this exhibit focused on her mortuary context, her jewelry has even been replicated for purchase in the Met's store, highlighting the value both intellectually and monetarily her funerary goods hold for the Met's Egyptian Art Exhibit.[3]

While these individuals represent different individual and likely different societal experiences of the 12th Dynasty, most of their skeletal elements were collected and curated by the Met. Of the skeletons and mummified individuals included in the trade between the Met and Peabody, 33-63-50/N844.0 represents the only lower status individual represented by more than their skull. The inclusion of this individual is interesting because many of the skeletal remains collected from Lisht comprise skulls and disarticulated postcranial elements. Articulated individuals represent only 19.1% of the individuals from NMNH and Peabody (n = 49/256) that were associated with specific tombs from Lisht. Senebtisi represents an undisturbed high-status tomb from Lisht; however, modern emphasis has been placed on the mortuary goods recovered and features of this individual's burial instead of the individual's body and experiences. The inclusion of Senebtisi's skeletal remains in this trade with the Peabody emphasizes this focus on the grave goods and not Senebtisi as an individual. However, the trade of skeletal remains for a coffin between the Peabody and Met also serves as acknowledgment of the strengths and expertise of these respective museums and their curatorial staffs. The trade of skeletal remains, particularly high-status individuals from various Egyptian sites, suggests the Met regarded these objects as lesser than their

[3] https://store.metmuseum.org/catalogsearch/result/?q=seneb

containers seeking to use material of the dead to understand them instead of drawing on the dead themselves.

Funerary Accommodations

Both individuals were provided solitary burials, but these differed greatly. 33-63-50/N844.0 (Pit 736) was a surface burial recovered in the vicinity of the mastaba for Senwosret and was possibly buried after disuse of the mastaba. This individual was provided a coffin made of reed suggesting preservation of the body was important; however, there was no evidence of mummification processes further confirming the individual's lower social standing. In comparison, the funerary material accompanying 33-63-50/N849.0 (Pit 763) has provided greater understanding for the individual's position in society, including the individual's name: Senebtisi. The mortuary context, including location within Senwosret's mastaba, material culture, and evidence of mummification, suggest Senebtisi was an important person in society and likely served in court in some capacity. Although 33-63-50/N844.0 and 33-63-50/N849.0 were buried on their own, 33-63-50/N849.0 was directly associated with individuals buried within Senwosret's mastaba. 33-63-50/N844.0, although buried within the burial cut for Pit 726 could not be associated with individuals recovered from Pit 726 or any others in the vicinity.

Pit 726 was a multichambered shaft tomb with four chambers; skeletal remains were recovered in three chambers according to excavation documents from the Met. Excavation documents state Pit 726 contained a minimum of ten individuals of variable preservation, which in combination with the placement of Pit 736 above Pit 726 suggests these burials were used at different points of the 12th Dynasty. There is evidence of familial reuse of burial spaces in the Middle Kingdom period further signifying the way that memory is associated with mortuary spaces (Richards, 2005). Nevertheless, for Pit 736 there is no evidence of association between this burial cut and the individuals buried in Pit 726. Unfortunately, no skeletal remains housed at NMNH or Peabody were associated with Pit 726.

Pit 763 was associated with fifteen other burials from within the mastaba (Pit 758) but had its own chamber (Figure 9). Of these tombs, a minimum of nineteen individuals were noted by excavators and plundering of pits was noted in four of these burials: 753, 754, 755 and 758. Pit 763 was described as the only undisturbed pit (Arnold 2008:77,81). Notably, the main tomb complex was attributed to Usertesen-Senwosret, an official of the Late 12th Dynasty because of inscriptions on blocks and a gray granite statue recovered from the tomb (Arnold 2008:77). Within the main tomb complex, there was also a cult building and priests' house and all the burials were attributed to relatives or retainers of the owner of the tomb complex, likely Usertesen-Senwosret (Arnold 2008:78).

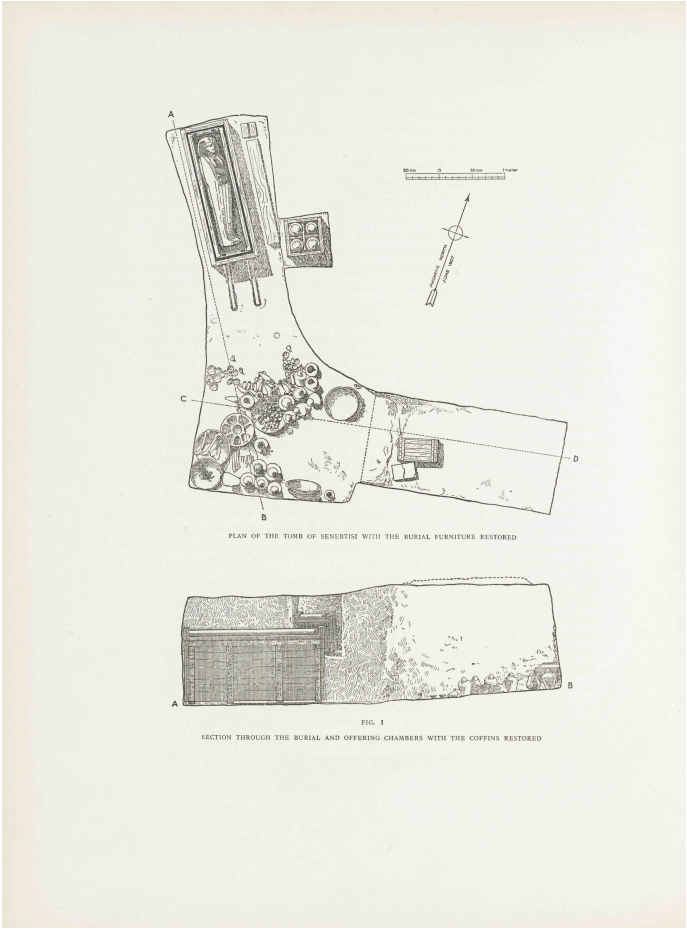


Figure 9 Map of Tomb 763, Senebtisis, showing material culture recovered (Mace & Winlock 1916:6)

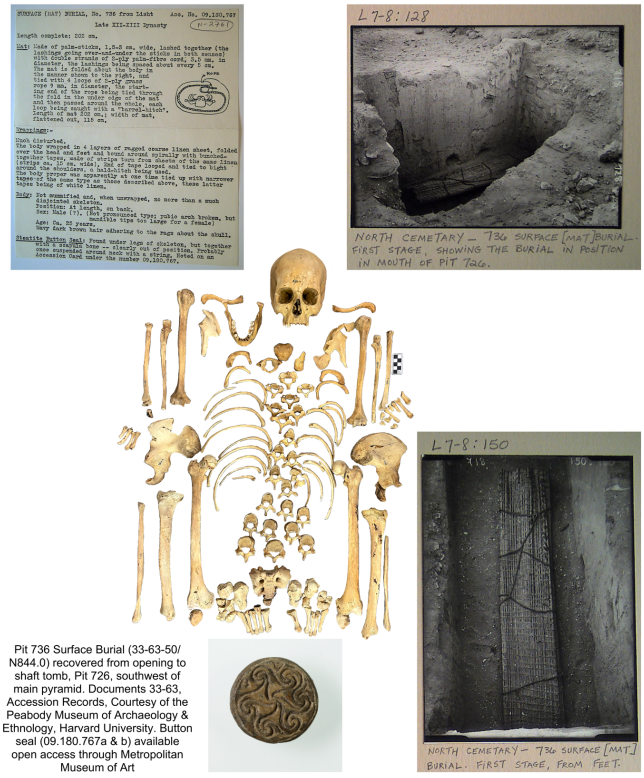
The funerary accommodations for Senebtisi, Pit 763, are consistent with those for elite individuals including in such things as the presence of inscriptions to identify the owner of the mortuary materials (Figure 10). Similarly, placement in a mastaba with other elite individuals supports Senebtisi's elite status. Senebtisi's burial was recovered from an underground rock-cut chamber that was accessible from a shaft that was approximately 7 meters deep (Grajetzki 2014:21). This, in combination with the funerary goods included with Senebtisi and evidence of mummification, are indicative of Senebtisi's elite social standing and the fact that this individual was likely not royalty, although some have argued for Senebtisi being a queen (Grajetzki 2014:35).

Figure 10 Representation of material culture, archival documents, and skeletal remains from Pit 763 (33-63, Accession Records, Courtesy of the Peabody Museum of Archaeology & Ethnology, Harvard University)

Senebtisi's tomb was one of the only undisturbed tombs from Lisht, which has warranted greater contextualization of her tomb by researchers over the years (Grajetzki 2014; Hayes 1953; Mace & Winlock 1916). However, less consideration has been made for individuals like the individual from Pit 736, for whom limited material culture was present. The lack of study of non-elite individuals furthers the divide between these social groups. In the case of Pit 736 and 763, these individuals were buried near one another and although it is likely that their lives never directly connected, much can be made of their accommodations in death.

Pit 736, on the other hand, does not present any evidence to suggest this individual belonged to an elite social group (Figure 11). While surface burials are acknowledged in discussion of the mastaba (Arnold, 2008), of which Pit 736 is one, these burials likely represent an earlier period of the 12th Dynasty, and the accommodations were consistent with a lower social standing. Surface burials recovered in close proximity to the mastaba include those numbered in the 600's, 700's, and 800's. Tombs with these numbers represent the first three seasons of excavation (1906-1909) and total 236 tombs excavated. Of these tombs from Lisht, excavation documents note that 125 tombs contained skeletal remains and 50 of those represent chambered or multi-chambered tombs, while 72 were described as surface burials. One of these burials was described as an unfinished pit and the remaining burials' archival documents do not reference burial type. From these surface burials, wood and reed matting coffins were recovered from 36.

Wood coffins were the most common with 21 of these surface burials described as having wooden coffins and 12 with reed coffins or mats. One surface burial of an adult female was provided a stone wall which covered the burial. Two tombs' archival documents indicate the surface burials were wrapped in cloth only, no coffin was provided and a further 33 surface burials had no mention or no coffin present.



Pit 736 Surface Burial (33-63-50/ N844.0) recovered from opening to shaft tomb, Pit 726, southwest of main pyramid. Documents 33-63, Accession Records, Courtesy of the Peabody Museum of Archaeology & Ethnology, Harvard University. Button seal (09.180.767a & b) available open access through Metropolitan Museum of Art

Figure 11 Representation of material culture, archival remains, and skeletal remains from Pit 736 (33-63, Accession Records, Courtesy of the Peabody Museum of Archaeology & Ethnology, Harvard University)

Preservation of the body

Mummification, in particular, has been interpreted by scholars as a means for veneration. The transformation of the body in death, for ancient Egyptians, served not only to preserve their bodies for the afterlife but also enacted a magical transformation to a god-like status in death (Riggs 2014:89). The presence of skeletonized individuals from ancient Egyptian contexts has led to differential treatment of individuals by archaeologists and museums alike. The preservation of skin or soft tissue has largely resulted in individuals labeled as mummified and afforded accommodations reserved for antiquities (Riggs 2014:101). Skeletons, on the other hand, were treated as anatomical collections and therefore stored and studied in different ways than individuals deemed mummified (Riggs 2014:101). This othering of skeletonized individuals further dichotomizes mummification practices and the emphasis on elite individuals from ancient Egyptian contexts. However, for both Pit 736 and 763, accommodations for preserving the body were present suggesting that both individuals were treated as simulacra of the living. In the case of Senebtisi, three coffins, linen wrappings, canopic jars, and material

evidence of mummification in the body demonstrated the practices undertaken to preserve their body. For Pit 736, linens were noted as wrapped around the body, but no mummification practices were engaged in. While different presentations of preservation were recorded in these two individuals, the wrapping noted for both individuals signal the importance of wrapping across social strata. As Riggs notes, textile wrappings not only serve as a barrier to the environment but also facilitate human interaction with the divine making wrapping signal restricted knowledge and value attributed to the body by ancient Egyptians (2014:22-24). This mimesis of the body would have extended the individual into the afterlife promoting their existence beyond death cementing their legacy in memory (Meskell 2004:119; Riggs 2014:101). This notion of legacy was directly tied to preservation of the body and in elite circles, inscriptions of names. As such, these two individuals from Lisht exemplify the practices associated with preserving their legacy in death and the differential access to legacy afforded to individuals in elite versus non-elite circles of ancient Egypt.

Osteological Differences

Observations of 33-63-50/N844.0 and 33-63-50/33-63-50/N849.0 in March 2022 were of the skeletonized individual with limited to no desiccated tissue observed on the skeletal elements. In initial notes produced by Dr. Smith there is no discussion of the completeness of Senebtisi's (33-63-50/N849.0) body (Smith 1916), but the foot bones and a variety of long bones, including the radii, ulnae, tibiae, and fibulae were missing upon my observation. Archival documents, particularly photographs from excavations, show Senebtisi's skull and lower leg suggesting damage to her skeleton occurred post excavation. It is possible that some of these skeletal elements were recovered and lost over the course of her use as an object post exhumation. There is evidence of postmortem alterations in both individuals, including reconstruction of Senebtisi's cranium which was intact in excavation photos but had been fragmented and glued back together before observation in March 2022.

Pathological conditions were limited in both individuals. Dental disease, for example, was represented by periodontal disease for both individuals and was slight where present, some 3 – 4 mm of alveolar loss. Four instances of linear enamel hypoplasia were observed in 33-63-50/N849.0 suggesting Senebtisi underwent some form of stress, possibly periods of malnutrition (Kinaston et al., 2019). Dental health was documented in ancient Egyptian texts and depicted in iconography, indicating the health of dentition was important to Egyptians and could result in intervention (Ebbell, 1937; Ghalioungui, 1987), which has been corroborated by osteological evidence (Austin 2022; Forshaw 2009; Forshaw 2010; Massingham & Power 2022). Older individuals from ancient Egyptian sites were noted as exhibiting higher rates of dental disease, including antemortem tooth loss and carious lesions (Austin 2022). The lack of carious lesions and antemortem tooth loss in these two individuals could reflect their age. 33-63-50/N844.0 and Senebtisi were estimated to be adults with 33-63-50/N844.0 slightly younger between 30-35 years while Senebtisi is estimated to be between 40 – 44 years old at the time of death. The age of these individuals also distinguishes the degenerative changes observed in their skeletal remains from rates of joint disease seen in skeletal remains from Nubians and Egyptians dated to the Middle Kingdom period (Austin 2017; Schrader

2022). 33-63-50/N844.0 was on the younger end of a middle adult and therefore may not have lived long enough to acquire the degenerative changes, including carious lesions and joint alterations, expected for an individual of their status and age. However, in Senebtisi's case, the limited evidence of degeneration in combination with their age estimate between 40 and 44 years at the time of death, suggests a life with limited stresses from activity. In studies of other Middle Kingdom sites, individuals in Senebtisi's age range were found to exhibit higher rates of joint disease, particularly osteoarthritis. However, when social status was accounted for, a lower social standing corresponded with high rates of osteoarthritis (Austin 2017).

Degenerative changes observed in Senebtisi's skeleton, include a schmorl's node on the third lumbar and porosity and a sacral facet on the right innominate bone. Senebtisi's (33-63-50/N849.0) position in society as a member of Senworset's court likely precluded her from any strenuous activity and resulted in the limited degenerative changes. Schmorl's nodes result from vertical herniation of the intervertebral disc which produce depressions on the surface of vertebral bodies (Pfirrmann & Resnick 2001; Plomp et al., 2015; Junghanns & Schmorl 1971). The aetiology of schmorl's nodes is multifactorial with strain and trauma as well as genetic predispositions contributing to their presence (Mok et al. 2010; Plomp et al. 2015; Samartzis et al. 2016). Clinical studies of schmorl's nodes have found they can result in pain, particularly when centrally located on the vertebral body and the vertebrae affected correlate with sex, with women more likely to exhibit schmorl's nodes at thoracic and lumbar vertebrae (Faccia & Williams, 2008).

General indicators of stress, including periostosis in 33-63-50/N844.0 and porotic hyperostosis in Senebtisi's parietal bones were recorded. Healing was noted in both individuals indicating they were able to overcome the stressors causing these observed skeletal lesions. The presence of porotic hyperostosis in the parietal bones is multifactorial as well, but is typically associated with iron deficiency and/or bacterial infection, but may also result from inheritance, including diseases such as sickle cell anemia and thalassaemia (Brickley 2018; Oxenham & Cavill 2010; Stuart-Macadam 1989; Walker et al. 2009). These lesions are frequently associated with childhood and therefore suggests that these two individuals were possibly nutritionally deficient or suffering from an infectious agent prior to adulthood.

Personhood

Identity, as expressed in the mortuary context, is a complex combination of the perception of the individual by the living and experienced and projected identity of the dead (Chapman, 2013; Fowler, 2013; Meskell, 2007). Contributing to this complexity is the interpretations made by modern researchers from the incomplete archaeological record (Li 2019:25). The fluidity of identity results in private and public identities that are interlocking and respond to the cultural environment (Cho et al., 2013; Crenshaw, 1990; DeWitte & Yaussy, 2021). These variable identities that comprise an individual will largely be lost to time; however, in some instances iconography and the skeleton can be combined to understand aspects of an individual's identity. For ancient Egyptian identities, elites and royals of society dictated the documentary evidence of their social practices (Li 2019; Meskell 2002; 1998; Robins 2012; Smith 2003). Therefore, the

majority of identities, for which iconography or textual evidence is available is restricted to those of a higher social standing. This differential representation is highlighted for 33-63-50/N844.0 and 33-63-50/N849.0, for which the lived experience and social identity of 33-63-50/N849.0 can be more clearly outlined because of their mortuary accommodations and the numerous funerary goods recovered, particularly inscriptions.

Titles for ancient Egyptians function as indicators of an individual's status or occupation (Li 2019:25). No title or inscription was associated with 33-63-50/N844.0 that can shed light on the individual's lived experience. In contrast, 33-63-50/N849.0's burial included the title of "house-mistress" or "lady of the house". The exact meaning of this title is debated within Egyptology (Li, 2019; Robins, 2012), including as it pertains to Senebtisi (Grajetzki 2014:34-35). "Lady of the house" typically meant a married woman (e.g., Mrs.), but arguments have been made for it to mean "owner of a house" (Johnson 2009; Robins 2012:99), and/or a married woman who provided her husband an heir (Toivari-Viitala, 2001). From Li (2019:157-160), in Theban women with the title "lady of the house" the title indicated a baseline personal rank in society that accompanied variable amounts of social capital. Because Senebtisi was an elite individual, based on mortuary context, more experiences can be accessed from her title. Elite "ladies of the house" are thought to have supervised a number of staff and activities performed in the home, including baking, craft production, grain storage, brewing, and tending to animals (Li 2019:29; Robins 2012:101). While elite women of childbearing age would also provide children they would largely rely on staff to raise those children (Robins 2012:101). Senebtisi's skeletal remains, specifically the lack of joint alterations, supports their role as delegating work instead of performing it themself. These skeletal alterations largely represent childhood stressors and when present in adults have been attributed to the individual's ability to overcome those stressors (Wood et al., 1992). Therefore, the presence of linear enamel hypoplasia and healed porotic hyperostosis in Senebtisi's skeletal remains, while indicative of stressors in childhood, may also reflect the buffering this individual's elite status afforded.

For 33-63-50/N844.0, no title exists to provide insight to this individual's rank or occupation in society. Combining the osteological analysis with the mortuary context; however, provides insight to potential experiences. As an adult woman in ancient Egypt, marriage and divorce were common practice with textual evidence from the later New Kingdom period suggesting divorces left woman vulnerable to poverty (Meskell 2002:101). 33-63-50/N844.0's burial along could indicate this individual was single or divorced (Meskell 2002:102). In ancient Egypt, having children was a priority for adults and therefore, 33-63-50/N844.0 would likely have had children, for whom they would be responsible for raising (Meskell 2002:74; Robins 2012:106). Based on 33-63-50/N844.0's mortuary context, a surface burial with only a seal included and no additional interments, we can assume this individual was not an elite in society nor likely married at the time of death. The inclusion of the seal and reed coffin suggest at least some accommodations were made, potentially by the individual's son(s) (Meskell 2002:101). The inclusion of seal amulets during the Middle Kingdom period have been interpreted as doweries for women into their afterlives (Oppenheim et al. 2015:219). Therefore, inclusion of this seal could have provided 33-63-50/N844.0 with financial support for their marriage into the afterlife. Periosteal reactions in the lower legs in

addition to porosity at the knee joint could suggest 33-63-50/N844.0 was engaging in activities exposing the individual to diseases or trauma. Periosteal reactions, particularly at the tibia and fibula, can result from exposure to pathogens resulting in infections (Roberts, 2019); however, trauma and activity are frequently associated with these lesions (Pilloud & Schwitalla, 2020; Weston, 2012). Women of a lower social standing likely had active lives, performing tasks of their own or for an elite individual's household. These tasks could include the domestic activities outlined above, including baking, brewing, grain storage, and/or caring for animals (Li, 2019; Robins, 2012), that Senebtisi would have hired staff to perform. Healing observed in periosteal reactions indicates 33-63-50/N844.0 survived the initial stimuli causing these reactive changes in the skeleton. Similar to Senebtisi, this healing in 33-63-50/N844.0 suggests that both individuals potentially had resources that afforded some protection from their environment although they were likely exposed to and engaged in very different activities.

Conclusion

Archaeological research on ancient Egypt has resulted in various representations of life, with the majority of evidence coming from elite mortuary spaces. This representation of ancient Egyptians is imagined through interpretations of archaeological material (Riggs 2014:42), which have promoted the longevity of legacy for Egyptians as a society. However, this imagining of ancient Egypt is built upon the biases inherent in archaeology and the archaeologists. Museum collections from Egyptian archaeological sites represent the bias inherent in the samples from which interpretations are made. The prioritization of pottery, jewelry, and materials from elite mortuary spaces has promoted the centering of elites and their material in narratives on ancient Egypt. As shown here, two burials similar in many regards, but distinguished by their social standing and therefore mortuary accommodations, highlight the emphasis on elite goods in the literature and museum exhibits. Pit 763, Senebtisi's mortuary accommodations, are valued more than those of Pit 736 by the collectors, archaeologists, and museums. This value attribution was not only signaled at the level of researchers but then also signified to audiences at the Met visiting the Egyptian exhibits, thereby reinforcing these cultural attitudes. Senebtisi's material culture and mortuary context are provided a full exhibit, Exhibit room 113, in which these mortuary goods are exemplified as characteristic of elite women. Material culture from Pit 736, on the other hand, is represented alone and among other similar material culture exemplifying Lisht's archaeological finds.

Riggs (2010:1148) argues these exhibits highlight the role Egyptian archaeological collections have as a form of "voyeuristic viewing" made specifically for westerners to perceive Egypt through museums. However, in the case of the Met, this view into ancient Egypt is focusing on elites in society. Further dichotomizing the value of archaeological objects on display is the biological nature of these remains. Skeletal remains are neither included in nor frequently referenced in exhibits as an ethical statement; however, mummified individuals have largely represented corporeal examples of ancient Egyptians in museums (Riggs, 2017). This objectification of mummified remains has more recently been problematized with museums calling for the use of the term mummified individuals because museum visitors have not recognized their exhibit

as representing real people. Similarly, the separation of the individuals from Pits 736 and 763, specifically the skeleton, from their mortuary context removes the person from discussion and interpretation limiting our understanding of the individual outside of their material culture. The trade of these skeletal remains between the Met and Peabody along with the representation of mortuary contexts from Lisht within the Met, signify the value attributed to human remains for understanding the landscapes altered for these bodies. However, by re-visiting these individuals and associating their skeletal remains with their mortuary contexts, we can access new insights to these two women's experiences during the Middle Kingdom in Egypt.

Chapter 5 – Legacies from Lisht

Introduction

Archaeological excavation is inherently destructive, which has formulated much of the impetus for standardization in recording archaeological sites. However, intrinsic in this recording is human error and bias which affect all our actions. Errors of analysis are built into our standards along with changing ethical considerations which frame the ability of (bio)archaeologists to study and interpret archaeological samples, including skeletal remains. This dissertation has highlighted the errors and biases that have influenced the research products accessible from the legacy skeletal collection from Lisht. Through three chapters, the various processes impacting an archaeological collection, including excavation, documentation, collection, curation, analysis, and exhibit, are considered for the Lisht legacy skeletal collection to formulate the implications (bio)archaeological research holds for understanding people of the past.

A fundamental component of this work is the intersection of power dynamics for individuals recovered from Lisht that were experienced in life and in death. Through this dissertation various levels of oppression and privilege are explored both during these individuals lives and death. For example, in Chapters 3 and 4, in-depth discussions of Middle Kingdom individuals' identities as expressed in their mortuary context and skeletons are presented, while Chapters 2 and 4 emphasize the ramifications of archaeological and curatorial priorities and their implications for research with legacy skeletal collections. Harnessing intersectionality theory, this dissertation expands the representation of Middle Kingdom period Egyptians while also addressing the role biases on the part of researchers hold for those interpretations. Through studying the skeletal collection from Lisht, this dissertation has also explored the shifting meanings these people and their burials served for understanding the past and larger narratives of ancient Egypt. Here, concluding thoughts from these chapters are coalesced to understand how archaeological research on Lisht and collections like it can move forward to promote more holistic representations.

Palimpsest of Lisht

In studying the legacy skeletal collection from Lisht, this dissertation has highlighted the overlapping meanings this collection has for the past, present, and future. In Colwell's *A Palimpsest Theory of Objects* (2022), the value of palimpsest theory is presented for understanding the elasticity and context specificity of object meaning(s). A palimpsest approach exposes the inscription of new meaning as negotiating and redefining or augmenting meaning. However, these new meanings are only feasible because of the previous work from which this new meaning gains credibility (Colwell, 2022; Duara, 1988). This elasticity of meanings makes meaning the product of interpretation (Colwell, 2022) and therefore inherently limited in their scope. While archaeologists have prominently debated and theorized meanings of objects (Colwell, 2022; Hodder, 2012; Ingold, 2007b; Kopytoff, 1986; Meskell, 2004), until more recently, skeletal remains have been neglected from these discussions (Sofaer, 2006).

This dissertation, I argue, highlights the palimpsest nature of legacy collections and human remains specifically. Using osteobiography in Chapters 3 and 4, individual experience in life was depicted for individuals from Lisht. This analysis used the materiality of human remains to discuss social experiences related to age, sex, and social status producing new meanings for and knowledge of ancient Egypt. This accumulation of meaning from the Lisht skeletal remains (e.g., experiences related to the age estimates for Pit 736 and Pit 763 – Senebtisi) is cyclically reinforced by standardized methods of analysis. For example, standard osteological methods were used for both osteobiographies to estimate sex. Standards for analyzing skeletal remains represent methods deemed appropriate for bioarchaeological study; however, these standards, for example estimating sex, have more recently been critiqued for their personal biases and minimization of experience to binaries (Agarwal & Wesp, 2017). While seriation of sexually dimorphic and age-related features, used in these analyses, is meant to alleviate inaccuracy in estimates for archaeological samples these analyses are reliant on designated extremes of expression which can be subject to interpretation. These limitations underpin all interpretations, including my own, that were produced; however, with each new study and collection of data points there is thought to be an increase in accuracy and validity of these methods.

In addition to the palimpsest of methodological approaches, the more obvious constraint but also value to the study of the Lisht legacy collection comes from the previous interpretations of material from ancient Egypt along with the intended meanings attributed by ancient Egyptians. Chapter 3 addresses the validity of previous scholarly arguments for Middle Kingdom mortuary practices as representing a solitary custom. However, by juxtaposing statistical analyses of skeletal remains associated with tombs from Lisht (n = 256) with individual in-depth descriptions of mortuary experiences, this notion of one collective mortuary practice is challenged. In particular, Chapter 3 highlights the anonymity that arises from statistical analyses, which reduces individual experience to patterns and outliers (Novak, 2017). Chapter 4 builds on the discussion in Chapter 3, showing the ramifications of statistical anonymity for museum representation of individuals from Lisht. Through my interpretation of the two individuals from Lisht (Pit 736 and Pit 763 – Senebtisi) differential experiences for middle adult (35 – 50 years) women are provided, including differences in day-to-day house duties. However, through juxtaposing osteobiography with object itinerary this information superscribes museum representations of these individuals, which has focused on their objects to provide narratives. This prioritization of the material buried with these two individuals, over the individuals themselves, has influenced the meanings attributed to these individuals' and the larger meanings for the people from Lisht and Middle Kingdom Egyptians (Oppenheim et al., 2015). Using object itinerary, Chapter 4 highlights the emphasis of elites in representations of Lisht by the Met, which reinforces the study and interest in these experiences over others of ancient Egypt.

While individual objects, like those from Pits 736 and 763, enable an in-depth discussion of variable attributions of an object in life and posthumously, much of archaeological research aims at understanding ideological patterns and practices of a collective. Chapter 2, *The Legacy of Lisht,* provides examples of the ways archaeologists and curators can hide, reveal, erase, and/or emphasize material resulting in the knowledge

produced and disseminated from the Lisht legacy collections collectively (Colwell, 2022). By contrasting the archival and osteological record, this chapter provides new understandings of the demographic composition (e.g., sex and age distributions) at Lisht but also the ramifications of past priorities of excavation and curatorial practices on those interpretations. Again, previous meanings of the Lisht collection have influenced the potential meanings presented here. For example, the curatorial practices of Hrdlička, specifically the value attributed to storing skeletal remains by element instead of by individual, has made reassembling the majority of skeletal remains (56%, n = 329 museum numbers) improbable. At both the object and collection level practices by researchers have prioritized narratives produced through their preferential gaze, which collectively provide the means for mapping the overlaps, changes, and gaps in meaning attributed to this legacy collection. This mapping is clearly traceable in the shifting definitions of legacy for ancient Egyptians in life and posthumously.

Legacy of Egyptians

Ancient Egyptians have been represented by museums in varying capacities over the last century (Stevenson, 2014). Their representation changes based on the institution exhibiting their cultural practices or artifacts; however, emphasis and interest has concentrated on three major icons of Egypt: pyramids, pharaohs, and mummified individuals. These three icons from Egypt all represent elite practices or mortuary spaces, which has perpetuated narratives and representations of elite experiences from ancient Egyptians to the public. While mortuary contexts are overrepresented in Egypt's archaeological record, the concept of legacy, as outlined in Chapter 2, was a vital aspect of Egyptian culture during the Dynastic period. Death and the afterlife were conceived of and part of people's daily lives from childhood, with Egyptians, both young and old, engaging with mortuary spaces to facilitate this continuation of life after death (Szpakowska, 2020). The ability to maintain one's identity into the afterlife was an important feature of the mortuary space but also the ideology surrounding death and legacy of Egyptians. The planning and construction of the mortuary space happened previous to death and depending on the magnitude of accommodations, for example in the case of Pharaohs, could have occurred decades before death (Oppenheim et al. 2015:5). Although accommodations for the dead varied by rank, all Egyptians considered their deaths and would have had some mortuary rituals performed (Brewer & Teeter 2007:98). A key feature of these accommodations and their ability to transform an individual into their afterlife was the preservation and maintenance of these spaces, which translated to the accumulation of material and preservation of the body in the mortuary space. This accumulation of material served to represent and provide for the individual(s) into the afterlife. While an idea of permanence is presented in this ideology of an afterlife, Egyptians were aware that permanence was not possible. Bodies decay (Riggs, 2014), looters frequently disturbed mortuary spaces in antiquity (Oppenheim et al., 2015:56; Parcak, 2015; Stevenson, 2016), and burials (Grajetski, 2003; Grajetzki, 2007b; Meskell, 2002) and sites were reused. While permanence by Egyptians was known to breakdown over time, there was still abundant pomp and circumstance dedicated to it within mortuary practices and spaces.

When contrasting the permanence desired by Egyptians with actualized permanence through museum representation, can these representations be reconciled? Would ancient Egyptians see their mortuary spaces, as represented by museums, as a continuation of their legacy? While these are unanswerable questions, they point again to the palimpsest nature of the (bio)archaeological record and melding of different interpretations (Colwell, 2022). The shifting meaning of legacy and the ability to represent the assumed meaning of ancient Egyptians to the modern-day public shows the translation of meaning and preferential role interpretation plays in those representations of meaning. I argue that using intersectionality theory promotes a framing of these differential meanings as a product of the varying experiences of privilege and oppression for these objects, which in the case of this dissertation focused on skeletal remains. This is starkly shown in Chapter 4, wherein the comparison of Pit 736, a non-elite woman from Lisht, and Pit 763, that of Senebtisi likely a member of the royal court at Lisht, shows the prioritization and valuation of specific materials by the Met, which favored Senebtisi's mortuary space.

For the site of Lisht, the curation of material by the Met has facilitated the dissemination of knowledge on this sites importance and the objects recovered which formulate this knowledge. However, the representation of these objects and how this knowledge is prioritized is not equal with regard to individual experiences. In particular, the commodification of material culture recovered from Lisht, specifically Senebtisi's jewelry puts a direct valuation to this material that is not afforded other material from this site. This commodification of a funerary object shows the shifting value we have for people's sacred spaces. The object included in Senebtisi's and Pit 736's burials were meant to be carried into their afterlives affording them capital, status, or resources for the next life. For example, Pit 736's steatite bead is thought to afford her a dowry for marriage in her afterlife (Oppenheim et al. 2015:219). However, the understanding of the value of these objects is dependent on the display by the Met and their own valuation. For example, the display of Senebtisi's mortuary goods in one space the "Life and Death in Middle Kingdom Egypt" gallery in contrast to the mortuary goods from non-elite individual's grave goods in "The Middle Kingdom Study Room" gallery space highlights the value the Met places on these objects and the interpretations they deem warrant greater display. Through osteobiography, presented in Chapter 4, the woman represented by Pit 736 is integrated back with her mortuary context and, while in contrast to Senebtisi's (Pit 763) mortuary context seems simple, this analysis shows Pit 736 provides valuable insights to non-elite women's experiences. The ability to reassemble and therefore recontextualize this non-elite adult woman within the larger narratives of non-elite women of the Middle Kingdom period highlights the gaps in knowledge promoted by the form of representation and prioritization by museums, the Met being the example here. In revisiting the legacy collection from Lisht, this dissertation identified gaps in interpretations and produced new knowledge on these individuals, as exemplified in the comparative discussions in Chapter 3 of non-elite men and women and in Chapter 4 of Pit 736 and Pit 763, Senebtisi.

The Underrepresentation of Skeletons

This dissertation shows that re-interrogating the legacy narratives produced by museums' interpretations from the archaeological record of Egypt, with the lived experiences, as read in the skeletons, of everyday ancient Egyptians can elucidate the inequity in legacy for non-elites of the Dynastic period. Museums' production of knowledge on ancient Egypt largely comes from archaeological excavations of the early 20th century, which aimed at contributing material culture for exhibits (Stevenson, 2014, 2019). However, as many of these excavations were of mortuary spaces, a number of skeletal remains and mummified individuals have also been excavated. Unfortunately, a variety of factors have resulted in these finds relegated to legacy or orphaned collections. As noted in Chapter 2, archaeological research and archaeologists alike have been considering the crisis of curation that has resulted from the accumulation of archaeological finds. One key component of this discussion, which has also been one of the larger obstacles to addressing this crisis, is the quantity of archaeological finds attributed to legacy or orphaned collections. These collections, because of either their long curation or excavation before modern standards for documentation were implemented, have not been afforded the same level of analysis as other archaeological collections, and there is even a distinction made in the interpretative value of mummified versus skeletonized individuals.

Mummified individuals have been employed in popular culture for villains in movies giving these individuals a new magical connotation, which has also been harnessed by museums to draw visitors. This emphasis by museums on largely elite practices and mortuary spaces has also influenced the relevance of certain groups for study. While museums display a large number of objects from their collections to the public through exhibits, there is a wealth of material kept in storage (Redman, 2016). These stored objects are largely restricted to study by qualified researchers. Therefore, the curation of knowledge by museums that is accessible to the general public formulates the majority of representations society has for people of the past, particularly ancient Egyptians. This view can lead to the characterization of these people as distinct from us or even supernatural, which we see with mummified individuals (CNN, n.d.). This distinct treatment of mummified individuals is also seen in their display in many museums until very recently (Ferrell, 2022). Skeletonized individuals, on the other hand, were infrequently displayed suggesting a differential meaning attributed to these individuals based on their level of preservation. The differing value attributed to mummified versus skeletonized individuals has likely contributed to the underrepresentation of the Lisht skeletal collection, which is comprised of minimally preserved mummified individuals but a plethora of skeletonized individuals.

Chapters 2 and 3 revisit the archival and osteological record from Lisht following the relative neglect of these remains in the century since their exhumation. While both the skeletal and archaeological collections have been used in research, and in the case of objects, displayed by the Met, the knowledge accessible from the human remains has consistently been underrepresented. These chapters show the ramifications of studying skeletal remains from a legacy collection, like Lisht, are reciprocal. For instance, Chapter 2 shows the underrepresentation of skeletal remains can be traced to excavation and curation, wherein priorities of initial excavators resulted in differential documentation

and potentially collection of skeletal remains. Additionally, Hrdlička's own research interests, which revolved around defining the white male in contrast to "other" races, along with his understanding of "best" curatorial practices for the National Museum of Natural History led to the separation of skeletal elements and disarticulation of individuals from Lisht (Hrdlička 1900; 1904; 1918). These two separate interpretive lenses resulted in the underrepresentation of experiences from Lisht shared in Chapter 3.

As intersectionality theory posits, the intersections of privilege and oppression at identities can make experiences more or less visible. I argue here that these same intersections of privilege and oppression can be applied to objects use and disuse. Through this dissertation, the legacy collection from Lisht has been studied not only to gain insight to the experiences of individuals who lived and died there but also for the implications the status of legacy collection has had for interpretations and overall study of this collection. The results of these studies show that narratives on Lisht, previous to these analyses, have fore fronted material culture and architecture from the site to produce knowledge on Egyptians buried there (Arnold 2008; Hayes 1953; Oppenheim et al. 2015). Through these studies, Egyptologists and researchers have formulated understandings of the individuals from Lisht that have left the actual individuals out of the discussion. From this previous research on material culture and architecture at Lisht, we know interpretations have favored elites who are well represented by these features of mortuary spaces (Arnold 2008; Lythgoe 1907; 1907a; 1907b; Oppenheim et al. 2015). This emphasis on the materials, particularly material created specifically for an individual, has at the very least resulted in gaps in potential knowledge from the site but likely resulted in misinterpretations of individuals from Lisht.

The interpretive value of human remains particularly in contrast to mummified individuals in the archaeological record of Egypt, has shifted over time. However, we can see how human remains are still seen as ancillary to the material recovered from the individual. For example, publications on human remains from Lisht have either been relegated to appendices of reports (Smith, 1916) or formulated comparative data sets (Gibbon & Buzon, 2016; Irish, 2006). This dissertation shows that this privileging of material culture and questions of comparison have suppressed the understanding of individual experience accessible from the skeletal remains. These results support the incorporation of intersectional analyses not only for understanding large-scale cultural processes and therefore experiences of the past but also the ways power dynamics oppress or privilege interpretations accessible today. The insights presented in Chapter 3 on mortuary practices from Lisht represent the first study focused solely on human remains from the Lisht legacy collection. Similarly, the results from Chapter 2 share the discrepancies between archival and osteological data regarding the minimum number of individuals represented. While these studies represent initial analyses, the accumulation of data points that formulate interpretations of the people from and on the site of Lisht have cascading impacts on the narratives produced and disseminated.

Experiences Lost

Social representations of ancient Egyptians present another palimpsest feature of this dissertation. Objects, iconography, and textual evidence from *The Book of the Dead* (Brewer & Teeter, 2007) and autobiographies and legal documents (Ayad, 2022; Lehner,

2015) have provided a great deal of insight to general meanings attributed to mortuary practices. Scholars have drawn on this material to understand experiences and access identities of Egyptians from the past (Ayad, 2022; Li, 2019; Meskell, 2004; Robins, 2012; Szpakowska, 2020). Chapters 3 and 4 similarly harness this material, for example titles used both in mortuary spaces and in everyday life provide an understanding of individuals day-to-day experiences, including their domestic and public facing duties. These resources were what formulated the larger expectations of social roles, including children, enslaved individuals, scribes, housemistresses, etc. While these resources facilitate discussions of identities and in conjunction with osteological analysis, as shown in this dissertation, promote in-depth understandings of individual lived experiences both data sets are inherently incomplete. This incompleteness is the largest hinderance to intersectionality theories application in bioarchaeological studies. Inherently, the (bio)archaeological record is not representative (Novak, 2017; Wood et al., 1992) and therefore any discussion of identities experienced, as interpreted from human remains, are not wholly representative either.

Biases and gaps in knowledge characterize the (bio)archaeological record and therefore inform the interpretations accessible. Chapter 3 highlights the imbalance in representations of elites and non-elites, men and women, children and adults from ancient Egyptian material, iconography, and texts. The prioritization, both during the Dynastic period of Egypt and in studies of this period, of elite male narratives has framed what is possible to understand about elite males but also anyone outside of this group. While Chapter 4 highlights the products of comparative analyses, particularly in using osteobiography, discussions of difference mean that underrepresented experiences and/or identities, like non-elite women, are defined in contrast to a better-defined experience(s), like elite women.

In addition to gaps in the (bio)archaeological record, the skeleton presents only certain experiences and/or identities of the individual (Gowland 2017). Changes over the life course dictate the perceptions of self and performance of identities (Gowland 2017), resulting in differential experiences for individuals at the intersections of identities (e.g., young woman vs. old woman vs. female children; Cooper 2015; Crenshaw 1990; McCall 2005). This nesting of experiences for an individual (Gowland 2015) represents an accumulation of meanings conceived of and presented by the individual for which individuals outside the individual can challenge, support, or erase these meanings (Colwell, 2022). Therefore, parsing this commingling of experiences is difficult (Gowland 2015) and can result in inconsistencies and gaps in meanings acquired by and assigned to the individual or a collective. Complicating this parsing of experience further is the non-contemporaneity of the contemporaneous (Novak, 2107). Articulated by Novak (2017), different generations experience events differently and this will limit the application of blanket, generalized narratives to the whole of an archaeological sample, which is already representing large time scales. While bioarchaeology presents an opportunity to study shifting meanings attributed to and by individuals, it is important to keep in mind these limitations to analysis, understanding that representations of the past will inherently be incomplete because of the samples upon which we base our interpretations (Novak, 2017; Wood et al., 1992).

Value Added

From this dissertation new insights to the lives of ancient Egyptians living at Lisht have been gained. As presented in Chapter 2, the skeletal remains associated with the site of Lisht that are housed in the United States represents a minimum of 585 individuals. Of these individuals the majority represent adults, with ~40% of these adults estimated to be female and ~30% estimated to be male. When comparing these results with other sites, the distribution of adults to non-adults represented at Lisht fits results from other sites. Small numbers of non-adults, particularly infants, are seen in skeletal samples from Egypt, largely because of the mortuary practices afforded these individuals (Meskell, 2002; Richards, 2005).

More specific analyses were possible on 256 individuals from the skeletal collection of Lisht. In Chapter 3, comparison between adults and non-adults, males and females, and elites and non-elites from Lisht show statistically significant and not statistically significant differences. Importantly, males and females were not found to exhibit statistically significant differences in tomb typology or coffin use at Lisht. This lack of statistically significant difference between males and females suggests that sex was not a determining factor in mortuary practices. This similarity observed between males and female mortuary contexts indicates their experiences, particularly with regard to marriage, were not influenced by sex. Although differences between men and women were not found in mortuary practices, there were differences in representation of young adult males and females. As discussed in Chapter 3, the statistically significantly different prevalence of young adult females to males is likely the result of differential experiences during this period of life. For women, particularly in Dynastic Egypt, young adulthood would be characterized as a period during which women would likely have had many pregnancies and therefore an increased risk of miscarriage and death (Meskell, 2002; Robins, 2012; Szpakowska, 2015, 2020). Upon in-depth analysis of non-elite women from Lisht, differences arise between and within axes of identity. Women, for example, exhibit different skeletal lesions than their male counterparts. This also coincides with different mortuary accommodations, including material culture, which challenges the lack of statistical significance observed in Chapter 3 for the mortuary features analyzed.

While sample size of non-adults from Lisht (n = 180) and those associated with tombs (n = 28) are small in comparison to the adult skeletal remains (n = 500 total, n = 228 associated with tombs) represented, the mortuary practice differences were still found to be significant. Of note, variability of the mortuary context was seen more in non-adults than adults. These results likely indicate that social status was not the greatest influence on mortuary practices for non-adults at Lisht. A similar heterogeneity was observed in surface burials, which are associated with non-elites. However, there was no statistical significance in these differences suggesting that non-elites represented through surface burials had variable mortuary experiences within this larger category. These differences in mortuary practices for surface burials could confirm the notion that non-elites during the Middle Kingdom had access to greater social mobility through entrepreneurship (García, 2014; Shaw, 2004). Overall the relative homogeneity in tomb and coffin types from Lisht when comparing age and sex of skeletal remains supports the notion that during the Middle Kingdom period a standardized mortuary practice was prescribed by elites (Oppenheim et al., 2015:218).

A goal of this research was to provide greater understanding of the individuals recovered from excavations at Lisht. Through this research I've produced a foundation of knowledge on the skeletal remains upon which other researchers can build. This work compliments work already conducted and currently being conducted by the Met on the site of Lisht (Oppenheim et al., 2015). Ideally, narratives produced from this dissertation will add and challenge the palimpsest of interpretations and characterizations of Lisht and the Middle Kingdom period more generally. However, as shown throughout this dissertation, biases on the part of researchers and archaeologists have promoted solitary narratives and/or perspectives on the site of Lisht and Egypt. While my research has aimed to address some of these biases head on, the research priorities of this work have inherently limited the scope of analysis. For example, while the skeletal remains are an understudied feature of the Lisht legacy collection and the focus in this dissertation, a variety of features are not addressed in this study. My own emphasis on skeletal remains means that, while discussed where possible, material culture is not foregrounded in analyses. While this prioritization of the skeletal remains means this aspect of the Lisht legacy collection is better understood; however, future analyses that incorporate and build on my analyses could add greater nuance and understanding to differences (either statistically significant or not).

Drawing back to palimpsest theory, the revisiting of legacy collections, as shown here, contributes to larger narratives promoting negotiations and new interpretive meanings of the past. This research has shown that while these interpretations are not necessarily wholly representative, they provide necessary building blocks for producing holistic narratives of the past. In conjunction with intersectionality theory, thinking of the study of legacy collections within the context of oppression and privilege for lived and posthumous experience highlights the shifting meaning of this collection and considerations for the future. Therefore, we should consider the value of intersectionality theory not only in exposing previously invisible lived experiences of individuals from Egypt, but also for looking at the ways those identities meanings can shift posthumously through museum representation and research conducted by various scholars, including myself.

Future research

While this research has produced new knowledge on Lisht and the individuals that occupied this Middle Kingdom period site, this research has promoted further exploration of the site. My own research focus on skeletal remains was explored in this dissertation. In addition to methods and results of osteological analyses present in this dissertation, additional data points were also collected that are not presented here, including pathological conditions and non-metric traits where present. Future research on Lisht will incorporate these findings to understand how disease affected the lived experiences of individuals already explored and expressed in their mortuary practices as shared in Chapter 3. Non-metric analyses will be incorporated into osteological data already analyzed to understand if and how non-locals are represented in the legacy skeletal collection from Lisht. In addition to these supplementary data points, in-depth analyses are planned of individuals from the site. Because of the homogeneity in burial practices observed across males and females from Lisht but the relative heterogeneity seen for non-

elites from the site, further osteobiographical analyses, like those presented in Chapters 3 and 4, could provide greater nuance to experiences within these larger categories. While studying skeletal remains presents researchers with an incomplete and inaccessible record of identities an individual experienced in their life, exploring those accessible provides greater insight to possible differences individuals experienced, as outlined in Chapter 4. Continued osteobiographical analyses of individuals from Lisht, particularly of non-elites, could elucidate patterns that are not accessible from statistical analyses adding greater contextualization to those individuals previously homogenized by quantitative analyses, as highlighted in Chapter 3.

As noted, this research has focused on the skeletal remains from Lisht. While this study has added necessary knowledge to the Lisht legacy collection, including these results in future studies could be greatly informative to the site. Chapter 3 outlines the benefits of future studies considering different aspects of the mortuary context, including the number of chambers and material constructing shaft tombs. These future studies could potentially elucidate differences between male and female elites that were not present in the tomb or coffin type studied here. In addition to these aspects of the burial, material culture and spatial location of burials at the site of Lisht could add greater depth in understanding how age, sex, and social status intersected to influence mortuary practices at Lisht. Lastly, comparative analyses between other contemporary sites are suggested to further contextualize the mortuary practices at Lisht. A great wealth of analysis for ancient Egyptian archaeological samples has been completed and, in some cases, the skeletal collection from Lisht has already been included in comparisons (Dequeker et al., 1997; Gibbon & Buzon, 2016; Irish, 2006; Ullinger et al., 2005). However, future studies, specifically aimed at the demographic and disease prevalence differences could be informative for the varied experiences already uncovered here.

Conclusion

This dissertation has exposed variable biases from the initial excavations of the archaeological site of Lisht all the way to the current research conducted by the author. These variable biases have all influenced the potential insights gained from Lisht and present a model for understanding the limitations but also the potentials for studying legacy collections. This is particularly important for archaeological contexts for which a wealth of iconographic and textual evidence in addition to archaeological research has formulated a well contextualized history. While much of this research is focused on the implications legacy collections present for our understanding of past peoples, this dissertation has also highlighted the value in revisiting these collections. This dissertation has not only identified obstacles for future researchers that may incorporate data collected for this dissertation, but also uncovered variable experiences of individuals recovered from Lisht. The legacies of Lisht that this dissertation has produced will ideally continue to grow with future research promoting more and more holistic understandings of the Middle Kingdom period and individuals that lived and died at Lisht.

References

Acsádi, G., & Nemeskéri, J. (1970). Determination of sex and age from skeletal finds. *History of Human Life Span and Mortality. Akadémiai Kiadó, Budapest*.

Agarwal, S. C., & Wesp, J. K. (2017). *Exploring Sex and Gender in Bioarchaeology*. University of New Mexico Press.

Ames, K. (2007). The archaeology of rank. *Handbook of Archaeological Theories*, 487–513.

Amsel-Arieli, M. (2012). Cabinets of Curiosity (wunderkammers). *History Magazine*, *13*, 40–42.

Anderson, G. (2004). *Reinventing the Museum: Historical and Contemporary Perspectives on the Paradigm Shift*. Rowman Altamira.

Anthropoid Coffin of Heresenes | Late Period, Saite. (n.d.). The Metropolitan Museum of Art. Retrieved March 3, 2023, from https://www.metmuseum.org/art/collection/search/546709

Appadurai, A. (1988). *The social life of things: Commodities in cultural perspective* (7th. ed). Cambridge university press.

Arnold, D. (2008). *Middle kingdom tomb architecture at Lisht*. Metropolitan Museum of Art ; Yale University Press.

Austin, A. (2015). Accounting for Sick Days: A Scalar Approach to Health and Disease at Deir el-Medina. *Journal of Near Eastern Studies*, *74*(1), 75–85. https://doi.org/10.1086/679412

Austin, A. (2022). Dental health and dentistry in ancient Egypt: Possible evidence for dental filling and extraction at Deir el-Medina. *International Journal of Paleopathology*, *38*, 95–106. https://doi.org/10.1016/j.ijpp.2022.06.005

Austin, A. E. (2017). The Cost of a Commute: A Multidisciplinary Approach to Osteoarthritis in New Kingdom Egypt: The Cost of a Commute. *International Journal of Osteoarchaeology*, *27*(4), 537–550. https://doi.org/10.1002/oa.2575

Ayad, M. F. (Ed.). (2022). *Women in ancient Egypt: Revisiting power, agency, and autonomy*. The American University in Cairo Press.

Baines, J. (2007). *Visual and written culture in ancient Egypt*. Oxford University Press.

Baines, J., & Lacovara, P. (2002). Burial and the dead in ancient Egyptian society: Respect, formalism, neglect. *Journal of Social Archaeology*, *2*(1), 5–36. https://doi.org/10.1177/1469605302002001595

Baines, J., & Yoffee, N. (1998). *Order, Legitimacy, and Wealth in Ancient Egypt and Mesopotamia. In Feinman, G., and Marcus, J.(eds.), Archaic States (pp. 199-260). Santa Fe, NM: School of American Research*.

Bass, W. M. (1987). *Human osteology: A laboratory and field manual* (Vol. 2). Missouri Archaeological Society.

Battle-Baptiste, W. (2017). *Black Feminist Archaeology*. Routledge. https://doi.org/10.4324/9781315096254

Baudrillard, J. (2005). *The system of objects*. Verso.

Berman, L. M. (1985). *Amenemhet I*. Yale University.

Binford, L. R. (1971). Mortuary practices: Their study and their potential. *Memoirs of the Society for American Archaeology*, 6–29.

Blackmore, C. (2011). How to queer the past without sex: Queer theory, feminisms and the archaeology of identity. *Archaeologies*, *7*, 75–96.

Bowry, S. (2014). Before museums: The curiosity cabinet as metamorphe. *Museological Review*, *18*, 30–42.

Brewer, D. J., & Teeter, E. (2007). *Egypt and the Egyptians* (2. ed., 1. publ., repr). Cambridge University Press.

Brickley, M. B. (2018). *Cribra orbitalia* and porotic hyperostosis: A biological approach to diagnosis. *American Journal of Physical Anthropology*, *167*(4), 896–902. https://doi.org/10.1002/ajpa.23701

Brickley, M. B., & Mays, S. (2019). Metabolic disease. In *Ortner's identification of pathological conditions in human skeletal remains* (3rd Edition, pp. 531–566). Elsevier.

Brickley, M., Ives, R., & Mays, S. (2020). *The bioarchaeology of metabolic bone disease* (2nd ed.). Elsevier.

Brickley, M., & McKinley, J. I. (2004). Guidelines to the standards for recording human remains. *IFA Paper*, *7*.

Brooks, S., & Suchey, J. M. (1990). Skeletal age determination based on the os pubis: A comparison of the Acsádi-Nemeskéri and Suchey-Brooks methods. *Human Evolution*, *5*(3), 227–238.

Buikstra, J. E. (1987). Recent approaches to the archeological study of mortuary practices. *Reviews in Anthropology*, *14*(4), 321–325. https://doi.org/10.1080/00988157.1987.9977844

Buikstra, J. E., & Beck, L. A. (Eds.). (2020). *Bioarchaeology: The contextual analysis of human remains.* (1st Edition). ROUTLEDGE.

Butler, J. (2014). *Gender trouble: Feminism and the subversion of identity : Tenth Anniversary Edition*. http://public.ebookcentral.proquest.com/choice/publicfullrecord.aspx?p=180211

Button Seal | Middle Kingdom. (n.d.). The Metropolitan Museum of Art. Retrieved March 3, 2023, from https://www.metmuseum.org/art/collection/search/557145

Buzon, M. R. (2008). A Bioarchaeological Perspective on Egyptian Colonialism in Nubia during the New Kingdom. *The Journal of Egyptian Archaeology*, *94*, 165–181.

Byrnes, J. F. (2017). Injuries, impairment, and intersecting identities: The poor in Buffalo, NY 1851–1913. In *Bioarchaeology of Impairment and Disability* (pp. 201–222). Springer.

Carnes, N. (2019). *Queer community: Identities, intimacies, and ideology*. Routledge.

Chapman, R. (2013). Death, burial, and social representation. In L. N. Stutz & S. Tarlow (Eds.), *The Oxford Handbook of the Archaeology of Death and Burial* (pp. 47–57).

Cho, S., Crenshaw, K. W., & McCall, L. (2013). Toward a Field of Intersectionality Studies: Theory, Applications, and Praxis. *Signs*, *38*(4), 785–810. https://doi.org/10.1086/669608

Clarke, A. Y., & McCall, L. (2013). Intersectionality and social explanation in social science research. *Du Bois Review*, *10*(2), 349–363.

CNN, I. R. (n.d.). *Don't say "mummy": Why museums are rebranding ancient Egyptian remains*. CNN. Retrieved March 8, 2023, from

https://www.cnn.com/style/article/mummies-museums-name-change-intl-scli-scn/index.html

Cole, E. R. (2009). Intersectionality and research in psychology. *American Psychologist*, *64*(3), 170–180. https://doi.org/10.1037/a0014564

Colwell, C. (2022). A Palimpsest Theory of Objects. *Current Anthropology*, *63*(2), 129–157. https://doi.org/10.1086/719851

Conkey, M. W. (2007). Questioning Theory: Is There a Gender of Theory in Archaeology? *Journal of Archaeological Method and Theory*, *14*(3), 285–310. https://doi.org/10.1007/s10816-007-9039-z

Conkey, M. W., & Gero, J. M. (1997). Programme to practice: Gender and feminism in archaeology. *Annual Review of Anthropology*, *26*(1), 411–437.

Connerton, P. (2011). *The spirit of mourning: History, memory and the body*. Cambridge University Press.

Cooper, B. (2015). *Intersectionality* (L. Disch & M. Hawkesworth, Eds.; Vol. 1). Oxford University Press. https://doi.org/10.1093/oxfordhb/9780199328581.013.20

Crenshaw, K. (1989). Demarginalizing the intersection of race and sex: A black feminist critique of antidiscrimination doctrine, feminist theory and antiracist politics. *U. Chi. Legal f.*, 139.

Crenshaw, K. (1990). Mapping the Margins: Intersectionality, Identity Politics, and Violence against Women of Color. *Stanford Law Review*, *43*, 1241–1300.

Cunningham, C., Scheuer, L., & Black, S. M. (2016). *Developmental juvenile osteology* (Second edition). Elsevier/AP, Academic Press is an imprint of Elsevier.

Dequeker, J., Ortner, D. J., Stix, A. I., Cheng, X.-G., Brys, P., & Boonen, S. (1997). Hip Fracture and Osteoporosis in a XIIth Dynasty Female Skeleton from Lisht, Upper Egypt. *Journal of Bone and Mineral Research*, *12*(6), 881–888. https://doi.org/10.1359/jbmr.1997.12.6.881

DeWitte, S. N., & Yaussy, S. L. (2021). Bioarchaeological Applications of Intersectionality. In C. M. Cheverko, J. R. Prince-Buitenhuys, & M. Hubbe (Eds.), *Theoretical Approaches in Bioarchaeology* (pp. 45–58). Routledge.

Dowson, T. A. (2000). Why queer archaeology? An introduction. *World Archaeology*, *32*(2), 161–165.

Duara, P. (1988). Superscribing Symbols: The Myth of Guandi, Chinese God of War. *Journal of Asian Studies*, *47*(4), 778–795. https://doi.org/10.2307/2057852

Ebbell, B. (1937). *The Papyrus Ebers: The greatest Egyptian medical document*. Levin & Munksgaard.

Egyptian Art—The Metropolitan Museum of Art. (n.d.). Retrieved March 3, 2023, from https://www.metmuseum.org/press/general-information/2010/egyptian-art

Ekengren, F. (2013). Contextualising Grave Goods. Theoretical Perspectives and Methodological Implications. *The Oxford Handbook of the Archaeology of Death and Burial*, 173–192.

Ezzamel, M. (2004). Work Organization in the Middle Kingdom, Ancient Egypt. *Organization*, *11*(4), 497–537. https://doi.org/10.1177/1350508404044060

Faccia, K. J., & Williams, R. C. (2008). Schmorl's nodes: Clinical significance and implications for the bioarchaeological record. *International Journal of Osteoarchaeology*, *18*(1), 28–44. https://doi.org/10.1002/oa.924

Faillace, K. E., Bethard, J. D., & Marks, M. K. (2017). The applicability of dental wear in age estimation for a modern American population. *American Journal of Physical Anthropology*, *164*(4), 776–787. https://doi.org/10.1002/ajpa.23318

Ferrell, J. (2022, May 10). *Discover Real Egyptian Mummies And A Walk-In Tomb At This Bay Area Museum*. Secret San Francisco. https://secretsanfrancisco.com/rosicrucian-egyptian-museum/

Forshaw, R. (2010). Were the dentists in ancient Egypt operative dental surgeons or were they pharmacists? *Pharmacy and Medicine InAncient Egypt Proceedings of the Conferences Held in Cairo (2007) and Manchester (2008)*, 72–77.

Forshaw, R. J. (2009). Dental health and disease in ancient Egypt. *British Dental Journal*, *206*(8), Article 8. https://doi.org/10.1038/sj.bdj.2009.309

Fowler, C. (2013). Identities in transformation. Identities, Funerary Rites and the Mortuary Process. *The Oxford Handbook of the Archaeology of Death & Burial, Oxford*, 511–526.

Franklin, M. (2001). A Black feminist-inspired archaeology? *Journal of Social Archaeology*, *1*(1), 108–125.

Franklin, M. (2020). Enslaved Household Variability and Plantation Life and Labor in Colonial Virginia. *International Journal of Historical Archaeology*, *24*(1), 115–155. https://doi.org/10.1007/s10761-019-00506-x

Franklin, M., & Wilson, S. M. (2020). A Bioarchaeological Study of African American Health and Mortality in the Post-Emancipation U.S. South. *American Antiquity*, *85*(4), 652–675. https://doi.org/10.1017/aaq.2020.58

Friberg, Z., & Huvila, I. (2019). Using object biographies to understand the curation crisis: Lessons learned from the museum life of an archaeological collection. *Museum Management and Curatorship*, *34*(4), 362–382. https://doi.org/10.1080/09647775.2019.1612270

Frieman, C. J., & Janz, L. (2018). A Very Remote Storage Box Indeed: The Importance of Doing Archaeology with Old Museum Collections. *Journal of Field Archaeology*, *43*(4), 257–268. https://doi.org/10.1080/00934690.2018.1458527

García, J. C. M. (2014). Recent Developments in the Social and Economic History of Ancient Egypt. *Journal of Ancient Near Eastern History*, *1*(2), 231–261. https://doi.org/10.1515/janeh-2014-0002

Geller, P. (2019). The Bioethos of Osteobiography. *Bioarchaeology International*, *3*(1). https://doi.org/10.5744/bi.2019.1000

Geller, P. L. (2008). Conceiving sex: Fomenting a feminist bioarchaeology. *Journal of Social Archaeology*, *8*(1), 113–138. https://doi.org/10.1177/1469605307086080

Geller, P. L. (2016). *The bioarchaeology of socio-sexual lives*. Springer.

Ghalioungui, P. (1987). *The Ebers papyrus: A new English translation, commentaries and glossaries*. Academy of Scientific Research & Technology.

Gibbon, V. E., & Buzon, M. R. (2016). Morphometric Assessment of the Appendicular Skeleton in the New Kingdom and Napatan Components from Tombos in Upper Nubia: Morphometrics of Tombos Appendicular Skeletons. *International Journal of Osteoarchaeology*, *26*(2), 324–336. https://doi.org/10.1002/oa.2424

Gilchrist, R. (2000). Archaeological biographies: Realizing human lifecycles,-courses and-histories. *World Archaeology*, *31*(3), 325–328.

Goodman, A. H., Thomas, R. B., Swedlund, A. C., & Armelagos, G. J. (1988). Biocultural perspectives on stress in prehistoric, historical, and contemporary population research. *American Journal of Physical Anthropology*, *31*(S9), 169–202. https://doi.org/10.1002/ajpa.1330310509

Gowland, R. (2006). Ageing the past: Examining age identity from funerary evidence. *Social Archaeology of Funerary Remains*, 143–154.

Gowland, R. (2017). Growing Old: Biographies of Disability and Care in Later Life. In L. Tilley & A. A. Schrenk (Eds.), *New Developments in the Bioarchaeology of Care: Further Case Studies and Expanded Theory* (pp. 237–251). Springer International Publishing. https://doi.org/10.1007/978-3-319-39901-0_12

Gowland, R. L. (2015). Entangled lives: Implications of the developmental origins of health and disease hypothesis for bioarchaeology and the life course: DOHaD, BIOARCHAEOLOGY, AND THE LIFE COURSE. *American Journal of Physical Anthropology*, *158*(4), 530–540. https://doi.org/10.1002/ajpa.22820

Grajetski, W. (2003). *Burial customs in ancient Egypt: Life in death for rich and poor*. Bristol Classical Press.

Grajetzki, W. (2007a). Box Coffins in the Late Middle Kingdom and Second Intermediate Period. *Egitto e Vicino Oriente*, *30*, 41–54.

Grajetzki, W. (2007b). Multiple Burials in ancient Egypt to the end of the Middle Kingdom. In W. Grajetzki & S. Grallert (Eds.), *Life and Afterlife in Ancient Egypt durig the Middle Kingdom and Second Intermediate Period* (Vol. 7, pp. 16–34). GHP Egyptology.

Grajetzki, W. (2014a). *Tomb Treasures of the Late Middle Kingdom*. University of Pennsylvania Press. http://www.jstor.org/stable/j.ctt5hjksp

Grajetzki, W. (2014b). *Tomb treasures of the late Middle Kingdom: The archaeology of female burials* (First edition.). University of Pennsylvania Press. https://doi.org/10.9783/9780812209198

Hawkey, D. E. (1998). Disability, compassion and the skeletal record: Using musculoskeletal stress markers (MSM) to construct an osteobiography from early New Mexico. *International Journal of Osteoarchaeology*, *8*(5), 326–340.

Hayes, W. C. (1953). *The scepter of Egypt: A background for the study of the Egyptian antiquities in the Metropolitan Museum of Art*. Metropolitan Museum of Art.

Hill Collins, P. (2014). *Black feminist thought: Knowledge, consciousness, and the politics of empowerment*.

Hodder, I. (2012). *Entangled: An archaeology of the relationships between humans and things*. Wiley-Blackwell.

Hosek, L., & Robb, J. (2019). Osteobiography: A Platform for Bioarchaeology Research. *Bioarchaeology International*, *3*(1), 1–15. https://doi.org/10.5744/bi.2019.1005

Hrdlicka, A. (1900). Arrangement and Preservation of Large Collections of Human Bones for Purposes of Investigation. *The American Naturalist*, *34*(397), 9–15.

Hrdlička, A. (1904). *Directions for collecting information and specimens for physical anthropology*. U.S. Government Printing Office.

Hrdlička, A. (1918). Physical Anthropology: Its scope and aims; its history and present status in America. *American Journal of Physical Anthropology*, *1*(2), 133–182. https://doi.org/10.1002/ajpa.1330010201

Hrdlička, A. (1920). *Anthropometry*. Wistar institute of anatomy and biology.
Ingold, T. (2007a). Materials against materiality. *Archaeological Dialogues*, *14*(1), 1–16.
Ingold, T. (2007b). Materials against materiality. *Archaeological Dialogues*, *14*(01), 1. https://doi.org/10.1017/S1380203807002127
Insoll, T. (Ed.). (2007). *The Archaeology of Identities: A Reader*. Routledge/Taylor & Francis Group.
Irish, J. D. (2006). Who were the ancient Egyptians? Dental affinities among Neolithic through postdynastic peoples. *American Journal of Physical Anthropology*, *129*(4), 529–543. https://doi.org/10.1002/ajpa.20261
Johnson, J. H. (2009). The Social, Economic and Legal Status of Women in Ancient Egypt. *The Life of Meresamun; A Templesinger in Ancient Egypt*.
Joy, J. (2009). Reinvigorating object biography: Reproducing the drama of object lives. *World Archaeology*, *41*(4), 540–556. https://doi.org/10.1080/00438240903345530
Joyce, R. A. (2005). Archaeology of the body. *Annu. Rev. Anthropol.*, *34*, 139–158.
Joyce, R. A., & Gillespie, S. D. (Eds.). (2015). *Things in motion: Object itineraries in anthropological practice*. School for Advanced Research Press.
Junghanns, H., & Schmorl, G. (1971). *The human spine in health and disease*. Grune & Stratton.
Kersel, M. M. (2015). An Issue of Ethics? Curation and the Obligations of Archaeology. *Journal of Eastern Mediterranean Archaeology and Heritage Studies*, *3*(1), 77–79. https://doi.org/10.5325/jeasmedarcherstu.3.1.0077
Kinaston, R., Willis, A., Miszkiewicz, J. J., Tromp, M., & Oxenham, M. F. (2019). The Dentition: Development, Disturbances, Disease, Diet, and Chemistry. In J. E. Buikstra (Ed.), *Ortner's Identification of Pathological Conditions in Human Skeletal Remains (Third Edition)* (3rd Edition, pp. 749–797). Academic Press.
Kopytoff, I. (1986). The cultural biography of things: Commoditization as process. *The Social Life of Things: Commodities in Cultural Perspective*, *68*, 70–73.
Lambert, P. M., & Welker, M. H. (2017). Traumatic injury risk and agricultural transitions: A view from the American Southeast and beyond: LAMBERT AND WELKER. *American Journal of Physical Anthropology*, *162*(1), 120–142. https://doi.org/10.1002/ajpa.23103
Lamp | Middle Kingdom-Second Intermediate Period. (n.d.). The Metropolitan Museum of Art. Retrieved August 8, 2023, from https://www.metmuseum.org/art/collection/search/546706
Legacy. (2023, April 5). https://dictionary.cambridge.org/us/dictionary/english/legacy
Lehner, M. (2015). Labor and the Pyramids The Heit el-Ghurab "Workers Town" at Giza. In P. Steinkeller & M. Hudson (Eds.), *Labor in the Ancient World* (Vol. 5, pp. 397–522). ISLET-Verlag.
Lesko, B. S. (1994). Rank, roles, and rights. *Pharaoh's Workers: The Villagers of Deir El Medina*, 15–40.
Lewis, M. (2007). *The bioarchaeology of children: Perspectives from biological and forensic anthropology*. Cambridge University Press.
Li, J. (2019). *Women, Gender and Identity in Third Intermediate Period Egypt: The Theban Case Study.* Routledge.
Lloyd, A. B. (Ed.). (2010). *A companion to ancient Egypt*. Wiley-Blackwell.

Lovejoy, C. O. (1985). Dental wear in the Libben population: Its functional pattern and role in the determination of adult skeletal age at death. *American Journal of Physical Anthropology*, *68*(1), 47–56.

Lovejoy, C. O., Meindl, R. S., Mensforth, R. P., & Barton, T. J. (1985). Multifactorial determination of skeletal age at death: A method and blind tests of its accuracy. *American Journal of Physical Anthropology*, *68*(1), 1–14.

Lovejoy, C. O., Meindl, R. S., Pryzbeck, T. R., & Mensforth, R. P. (1985). Chronological metamorphosis of the auricular surface of the ilium: A new method for the determination of adult skeletal age at death. *American Journal of Physical Anthropology*, *68*(1), 15–28.

Lythgoe, A. M. (1907a). The Egyptian Expedition. *The Metropolitan Museum of Art Bulletin*, *2*(7), 113–117. JSTOR. https://doi.org/10.2307/3253292

Lythgoe, A. M. (1907b). The Egyptian Expedition. *The Metropolitan Museum of Art Bulletin*, *2*(4), 60–63.

Lythgoe, A. M. (1907c). The Egyptian Expedition. *The Metropolitan Museum of Art Bulletin*, *2*(10), 163–169.

Lythgoe, A. M. (1908). The Egyptian Expedition. *The Metropolitan Museum of Art Bulletin*, *3*(5), 83–86.

Lythgoe, A. M. (1909). The Egyptian Expedition. *The Metropolitan Museum of Art Bulletin*, *4*(7), 119–123.

Mace, A. C. (1908). The Egyptian Expedition: III. The Pyramid of Amenemhat. *The Metropolitan Museum of Art Bulletin*, *3*(10), 184–188.

Mace, A. C. (1922). Excavations at Lisht. *The Metropolitan Museum of Art Bulletin*, *17*(12), 4. https://doi.org/10.2307/3254276

Mace, A. C., & Winlock, H. E. (1916). *The tomb of Senebtisi at Lisht* (Vol. 1). The Metropolitan Museum of Art.

MacFarland, K., & Vokes, A. W. (2016). Dusting Off the Data: Curating and Rehabilitating Archaeological Legacy and Orphaned Collections. *Advances in Archaeological Practice*, *4*(2), 161–175. https://doi.org/10.7183/2326-3768.4.2.161

Mahmoud, S. M. S. (2016). Nationalization and Personalization of the Egyptian Antiquities: Henry Salt a British General Consul in Egypt 1816 to 1827. *International Journal of Culture and History*, *3*(2), 29. https://doi.org/10.5296/ijch.v3i2.7357

Marquardt, W. H., Montet-White, A., & Scholtz, S. C. (1982). Resolving the Crisis in Archaeological Collections Curation. *American Antiquity*, *47*(2), 409–418. https://doi.org/10.1017/S0002731600061308

Marshall, A. (2020). The child's experience of daily life in ancient Egypt. In *Children in Antiquity* (pp. 167–177). Routledge.

Massingham, S., & Power, R. K. (2022). Interventive dental therapy in Ancient Egypt (ca. 2686 BCE – AD 323): A critical review. *International Journal of Paleopathology*, *38*, 64–75. https://doi.org/10.1016/j.ijpp.2022.06.003

McCall, L. (2005). The complexity of intersectionality. *Signs: Journal of Women in Culture and Society*, *30*(3), 1771–1800.

McKinley, J. I. (2004). Compiling a skeletal inventory: Disarticulated and co-mingled remains. *Guidelines to the Standards for Recording Human Remains*, 14–18.

Meindl, R. S., & Lovejoy, C. O. (1985). Ectocranial suture closure: A revised method for the determination of skeletal age at death based on the lateral-anterior sutures. *American Journal of Physical Anthropology*, *68*(1), 57–66.

Meindl, R. S., Lovejoy, C. O., Mensforth, R. P., & Walker, R. A. (1985). A revised method of age determination using the os pubis, with a review and tests of accuracy of other current methods of pubic symphyseal aging. *American Journal of Physical Anthropology*, *68*(1), 29–45. https://doi.org/10.1002/ajpa.1330680104

Meskell, L. (1998a). An archaeology of social relations in an Egyptian village. *Journal of Archaeological Method and Theory*, *5*(3), 209–243.

Meskell, L. (1998b). Intimate archaeologies: The case of Kha and Merit. *World Archaeology*, *29*(3), 363–379.

Meskell, L. (1999). *Archaeologies of social life: Age, sex, class et cetera in ancient Egypt*. Wiley-Blackwell.

Meskell, L. (2000). Re-em (bed) ding sex: Domesticity, sexuality, and ritual in New Kingdom Egypt. *Archaeologies of Sexuality*, 253–262.

Meskell, L. (2002). *Private Life in New Kingdom Egypt*. Princeton University Press.

Meskell, L. (2004). *Object worlds in ancient Egypt: Material biographies past and present*. Berg.

Meskell, L. (2007). Archaeologies of identity. *The Archaeology of Identities. A Reader. London: Routledge*, 23–43.

Miniaci, G., & Grajetzki, W. (2015). *The world of Middle Kingdom Egypt, 2000-1550 BC: Contributions on archaeology, art, religion, and written sources*.

Mok, F. P. S., Samartzis, D., Karppinen, J., Luk, K. D. K., Fong, D. Y. T., & Cheung, K. M. C. (2010). ISSLS Prize Winner: Prevalence, Determinants, and Association of Schmorl Nodes of the Lumbar Spine With Disc Degeneration: A Population-Based Study of 2449 Individuals. *Spine*, *35*(21), 1944. https://doi.org/10.1097/BRS.0b013e3181d534f3

Moorrees, C. F., Fanning, E. A., & Hunt Jr, E. E. (1963). Age variation of formation stages for ten permanent teeth. *Journal of Dental Research*, *42*(6), 1490–1502.

Muller, J. L., & Butler, M. S. (2018). At the Intersections of Race, Poverty, Gender, and Science: A Museum Mortuary for Twentieth Century Fetuses and Infants. In P. K. Stone (Ed.), *Bioarchaeological Analyses and Bodies: New Ways of Knowing Anatomical and Archaeological Skeletal Collections* (pp. 71–88). Springer International Publishing. https://doi.org/10.1007/978-3-319-71114-0_5

Museum Map. (n.d.). The Metropolitan Museum of Art. Retrieved March 4, 2023, from https://maps.metmuseum.org

Name Panels from the Inner Wall of Senwosret I's Pyramid Complex | Middle Kingdom. (n.d.). The Metropolitan Museum of Art. Retrieved August 8, 2023, from https://www.metmuseum.org/art/collection/search/590946

Novak, S. A. (2017). Corporeal Congregations and Asynchronous Lives: Unpacking the Pews at Spring Street: Corporeal Congregations and Asynchronous Lives. *American Anthropologist*, *119*(2), 236–252. https://doi.org/10.1111/aman.12883

Open Access. (n.d.). The Metropolitan Museum of Art. Retrieved March 3, 2023, from https://www.metmuseum.org/about-the-met/policies-and-documents/open-access

Oppenheim, A. A. (n.d.). *Egypt in the Middle Kingdom (ca. 2030–1650 B.C.) | Essay | The Metropolitan Museum of Art | Heilbrunn Timeline of Art History*. The Met's Heilbrunn Timeline of Art History. Retrieved April 29, 2023, from https://www.metmuseum.org/toah/hd/mking/hd_mking.htm

Oppenheim, A., Arnold, D., Arnold, D., & Yamamoto, K. (2015). *Ancient Egypt Transformed: The Middle Kingdom*. Metropolitan Museum of Art.

Oxenham, M. F., & Cavill, I. (2010). Porotic hyperostosis and cribra orbitalia: The erythropoietic response to iron-deficiency anaemia. *Anthropological Science*, *118*(3), 199–200. https://doi.org/10.1537/ase.100302

Parcak, S. (2015). Archaeological looting in Egypt: A geospatial view (case studies from Saqqara, Lisht, and el Hibeh). *Near Eastern Archaeology*, *78*(3), 196–203.

Parker Pearson, M. (2012). *The archaeology of death and burial* (Repr). The History Press.

Pfirrmann, C. W., & Resnick, D. (2001). Schmorl nodes of the thoracic and lumbar spine: Radiographic-pathologic study of prevalence, characterization, and correlation with degenerative changes of 1,650 spinal levels in 100 cadavers. *Radiology*, *219*(2), 368–374.

Phenice, T. W. (1969). A newly developed visual method of sexing the os pubis. *American Journal of Physical Anthropology*, *30*(2), 297–301.

Pilloud, M. A., & Schwitalla, A. W. (2020). Re-evaluating traditional markers of stress in an archaeological sample from central California. *Journal of Archaeological Science*, *116*, 105102. https://doi.org/10.1016/j.jas.2020.105102

Plomp, K., Roberts, C., & Strand Vidarsdottir, U. (2015). Does the correlation between schmorl's nodes and vertebral morphology extend into the lumbar spine?: Schmorl's Nodes and Vertebral Morphology. *American Journal of Physical Anthropology*, *157*(3), 526–534. https://doi.org/10.1002/ajpa.22730

Quirke, S. (2015). Understanding death: A journey between worlds. *Ancient Egypt Transformed: The Middle Kingdom*, 218–249.

Raxter, M. H., Ruff, C. B., Azab, A., Erfan, M., Soliman, M., & El-Sawaf, A. (2008). Stature estimation in ancient Egyptians: A new technique based on anatomical reconstruction of stature. *American Journal of Physical Anthropology*, *136*(2), 147–155. https://doi.org/10.1002/ajpa.20790

Redman, S. J. (2016). *Bone rooms: From scientific racism to human prehistory in museums*. Harvard University Press.

Richards, J. (2005). *Society and Death in Ancient Egypt: Mortuary Landscapes of the Middle Kingdom*. Cambridge University Press.

Ricoeur, P. (2004). *Memory, history, forgetting*. University of Chicago Press.

Riggs, C. (2010). Ancient Egypt in the museum: Concepts and constructions. In A. B. Lloyd (Ed.), *A Companion to Ancient Egypt* (2nd ed., Vol. 2, pp. 1129–1153). Blackwell.

Riggs, C. (2014). *Unwrapping Ancient Egypt: The shroud, the secret and the sacred*. Bloomsbury Publishing.

Riggs, C. (2017). The body in the box: Archiving the Egyptian mummy. *Archival Science*, *17*(2), 125–150. https://doi.org/10.1007/s10502-016-9266-8

Riggs, C. (2018). Loose bodies: Reserve collections, curatorial reservations, and the ancient Egyptian dead. In M. Brusius & K. Singh (Eds.), *Museum Storage and Meaning: Tales from the Crypt* (pp. 253–262). Routledge.

Robb, J., Bigazzi, R., Lazzarini, L., Scarsini, C., & Sonego, F. (2001). Social "status" and biological "status": A comparison of grave goods and skeletal indicators from Pontecagnano. *American Journal of Physical Anthropology: The Official Publication of the American Association of Physical Anthropologists*, *115*(3), 213–222.

Robb, J., Inskip, S., Cessford, C., Dittmar, J., Kivisild, T., Mitchell, P., Mulder, B., O'Connell, T., Price, M., Rose, A., & Scheib, C. (2019). Osteobiography: The History of the Body as Real Bottom-Line History. *Bioarchaeology International*, *3*(1), 16–31. https://doi.org/10.5744/bi.2019.1006

Roberts, C. A. (2019). Infectious Disease: Introduction, Periostosis, Periostitis, Osteomyelitis, and Septic Arthritis. In J. E. Buikstra (Ed.), *Ortner's Identification of Pathological Conditions in Human Skeletal Remains* (3rd Edition, pp. 285–319). Elsevier.

Robins, G. (2012). *Women in ancient Egypt*. Gay Robbins.

Ruengdit, S., Troy Case, D., & Mahakkanukrauh, P. (2020). Cranial suture closure as an age indicator: A review. *Forensic Science International*, *307*, 110111. https://doi.org/10.1016/j.forsciint.2019.110111

Ryan, J. M. (2020). Queer theory. *Companion to Sexuality Studies*, 79–94.

Samartzis, D., Mok, F. P. S., Karppinen, J., Fong, D. Y. T., Luk, K. D. K., & Cheung, K. M. C. (2016). Classification of Schmorl's nodes of the lumbar spine and association with disc degeneration: A large-scale population-based MRI study. *Osteoarthritis and Cartilage*, *24*(10), 1753–1760.

Saul, F. P. (1989). *Osteobiography: A Maya example*.

Schrader, S. A. (2022). The embodiment of colonial strategy: Osteoarthritis in ancient Nubia. *International Journal of Osteoarchaeology*, *32*(4), 746–758. https://doi.org/10.1002/oa.3098

Shaw, I. (2000). *The Oxford history of ancient Egypt*. Oxford University Press.

Shaw, I. (2004). Identifying New Kingdom craftsmen through archaeology and texts. *GRAFMA Newsletter*, *7–8*.

Smith, G. E. (1916). Appendix. Notes on the Mummy. In A. C. Mace & H. E. Winlock, *The Tomb of Senebtisi at Lisht* (pp. 119–121). The Metropolitan Museum of Art.

Smith, S. T. (2003). *Wretched Kush: Ethnic Identities and Boundries in Egypt's Nubian Empire*. Taylor and Francis. http://ebookcentral.proquest.com/lib/ucm/detail.action?docID=182749

Sofaer, J. (2011). Towards a Social Bioarchaeology of Age. In S. C. A. B. A. Ph.D M. Sc & B. A. G. B. S. Ph.D M. A. (Eds.), *Social Bioarchaeology* (pp. 283–311). Wiley-Blackwell. http://onlinelibrary.wiley.com/doi/10.1002/9781444390537.ch10/summary

Sofaer, J. R. (2006). *The body as material culture: A theoretical osteoarchaeology*. Cambridge University Press.

Spencer, A. J. (1982). *Death in ancient Egypt*. Penguin (Non-Classics).

Sterling, K. (2015). Black Feminist Theory in Prehistory. *Archaeologies*, *11*(1), 93–120. https://doi.org/10.1007/s11759-015-9265-z

Stevenson, A. (2014). Artefacts of excavation. *Journal of the History of Collections*, *26*(1), 89–102. https://doi.org/10.1093/jhc/fht017

Stevenson, A. (2016). Conflict antiquities and conflicted antiquities: Addressing commercial sales of legally excavated artefacts. *Antiquity*, *90*(349), 229–236. https://doi.org/10.15184/aqy.2015.188

Stevenson, A. (2019). *Scattered finds: Archaeology, Egyptology and museums*. UCL Press.

Stevenson, A., Libonati, E., & Baines, J. (2017). Introduction—object habits: Legacies of fieldwork and the museum. *Museum History Journal*, *10*(2), 113–126. https://doi.org/10.1080/19369816.2017.1328780

Stratton, S. (2016). "Seek and you Shall Find." How the Analysis of Gendered Patterns in Archaeology can Create False Binaries: A Case Study from Durankulak. *Journal of Archaeological Method and Theory*, *23*(3), 854–869. https://doi.org/10.1007/s10816-016-9290-2

Stuart-Macadam, P. L. (1989). Nutritional deficiency diseases: A survey of scurvy, rickets, and irondeficiency anemia. *Reconstruction of Life from the Skeleton*, 201–222.

Szpakowska, K. (2015). Hidden voices: Unveiling women in ancient Egypt. In S. L. James & S. Dillon (Eds.), *A Companion to Women in the Ancient World* (1st Edition, pp. 25–37). Wiley-Blackwell.

Szpakowska, K. (2020). "Child in the nest": Children in Pharaonic Egyptian religion and rituals. In *Children in Antiquity* (pp. 283–298). Routledge.

The Combahee River Collective, T. C. R. C. (2011). A Black Feminist Statement. In B. Guy-Sheftall (Ed.), *Words of Fire: An Anthology of African-American Feminist Thought* (pp. 232–240). The New Press.

Tilley, L., & Oxenham, M. F. (2011). Survival against the odds: Modeling the social implications of care provision to seriously disabled individuals. *International Journal of Paleopathology*, *1*(1), 35–42.

Todd, T. W. (1921). Age changes in the pubic bone. *American Journal of Physical Anthropology*, *4*(1), 1–70.

Toivari-Viitala, J. (2001). *Women at Deir el-Medina: A Study of the Status and Roles of the Female Inhabitants in the Workmen's Community during the Ramesside Period*.

Torres-Rouff, C., Knudson, K. J., Barberena, R., Boutin, A. T., DeWitte, S. N., Nystrom, K., Scott, R. E., Zakrzewski, S., Torres-Rouff, C., & Knudson, K. J. (2017). Integrating identities: An innovative bioarchaeological and biogeochemical approach to analyzing the multiplicity of identities in the mortuary record. *Current Anthropology*, *58*(3), 381–409.

Trinkaus, K. M. (1995). Mortuary behavior, labor organization, and social rank. In *Regional approaches to mortuary analysis* (pp. 53–75). Springer.

Truth, S. (2011). When Woman Gets Her Rights Man Will Be Right. In B. Guy-Sheftall (Ed.), *Words of Fire: An Anthology of African-American Feminist Thought* (pp. 37–38). The New Press.

Tschinkel, K., & Gowland, R. (2020). Knock-knees: Identifying genu valgum and understanding its relationship to vitamin D deficiency in 18th to 19th century northern England. *International Journal of Osteoarchaeology*, *30*(6), 891–902. https://doi.org/10.1002/oa.2919

Ubelaker, D. H. (1989). *Human skeletal remains: Excavation, analysis and interpretation* (Vol. 2). Taraxacum Press.

Ullinger, J. M., Sheridan, S. G., Hawkey, D. E., Turner, C. G., & Cooley, R. (2005). Bioarchaeological analysis of cultural transition in the southern Levant using dental nonmetric traits. *American Journal of Physical Anthropology*, *128*(2), 466–476. https://doi.org/10.1002/ajpa.20074

Voss, B. L. (2000). Feminisms, queer theories, and the archaeological study of past sexualities. *World Archaeology*, *32*(2), 180–192.

Voss, B. L. (2012). Curation as research. A case study in orphaned and underreported archaeological collections. *Archaeological Dialogues*, *19*(2), 145–169. https://doi.org/10.1017/S1380203812000219

Waddell, W. G. (1980). *Manetho: Vol. The Loeb Classical Library*. Harvard University Press.

Walker, P. L., Bathurst, R. R., Richman, R., Gjerdrum, T., & Andrushko, V. A. (2009). The causes of porotic hyperostosis and cribra orbitalia: A reappraisal of the iron-deficiency-anemia hypothesis. *American Journal of Physical Anthropology*, *139*(2), 109–125. https://doi.org/10.1002/ajpa.21031

Wason, P. K. (2004). *The archaeology of rank*. Cambridge University Press.

Watkins, R. (2012). Variation in health and socioeconomic status within the W. Montague Cobb skeletal collection: Degenerative joint disease, trauma and cause of death. *International Journal of Osteoarchaeology*, *22*(1), 22–44. https://doi.org/10.1002/oa.1178

Weston, D. A. (2012). Nonspecific Infection in Paleopathology: Interpreting Periosteal Reactions. In *A Companion to Paleopathology* (pp. 492–512). Wiley-Blackwell. https://doi.org/10.1002/9781444345940.ch27

White, C. D. (2005). Gendered food behaviour among the Maya: Time, place, status and ritual. *Journal of Social Archaeology*, *5*(3), 356–382.

Wilczak, C. A., & Dudar, C. J. (Eds.). (2020). *Osteoware Software Manual Volume 1* (Vol. 1). Smithsonian Institution. https://www.dropbox.com/s/wouic8gmvneqpjv/Osteoware_Support_and_Software_Guides.7z?dl=0

Winlock, H. E. (1909). The Egyptian Expedition. *The Metropolitan Museum of Art Bulletin*, *4*(11), 199–203.

Wood, J. W., Milner, G. R., Harpending, H. C., Weiss, K. M., Cohen, M. N., Eisenberg, L. E., Hutchinson, D. L., Jankauskas, R., Cesnys, G., Česnys, G., & others. (1992). The osteological paradox: Problems of inferring prehistoric health from skeletal samples [and comments and reply]. *Current Anthropology*, *33*(4), 343–370.

Zakrzewski, S. (2017). Skeletal Morphology and Social Structure in Ancient Egypt: Hierarchy, Gender, Body Shape, and Limb Proportion (4000-1900 BC). In H. Klaus, A. Harvey, & M. Cohen (Eds.), *Bones of Complexity: Bioarchaeological Case Studies of Social Organization of Skeletal Biology* (pp. 111–140). University Press of Florida.

Zuckerman, M. K. (2017). Mercury in the Midst of Mars and Venus. *Exploring Sex and Gender in Bioarchaeology*, 223.

Zuckerman, M. K. (2020). Gender in Bioarchaeology. In C. M. Cheverko, J. R. Prince-Buitenhuys, & M. Hubbe (Eds.), *Theoretical Approaches in Bioarchaeology* (pp. 28–44). Routledge/Taylor & Francis Group.

Zuckerman, M. K., Kamnikar, K. R., & Mathena, S. A. (2014). Recovering the 'body politic': A relational ethics of meaning for bioarchaeology. *Cambridge Archaeological Journal*, *24*(3), 513–522.

Appendix A

Table 21 Chi-square comparison of tomb typology represented by osteological versus archival data sets

Tombs Expected	Osteological	Archival	Total
Shaft	53 40.58	67 79.42	120
Surface	40 52.42	115 102.58	155
Total	93	182	275

Table 22 Chi-square comparison of individuals represented by tomb typology in archival versus osteological data sets from Lisht

Count Expected	Osteological	Archival	Total
Shaft	205 191.69	358 371.31	563
Surface	49 62.31	134 120.69	183
Total	254	492	746

Table 23 Chi-square comparison of postcranial elements collected from shaft tombs in archival versus osteological data sets

Count Expected	Postcranial Present – Shaft Tomb	Postcranial Absent – Shaft Tomb	Total
Archive	58 39.08	9 27.92	67
Osteo	12 30.92	41 22.08	53
Total	70	20	120

Table 24 Chi-square comparison of postcranial elements collected from surface burials in archival versus osteological data sets

Count Expected	Postcranial Present – Surface Burial	Postcranial Absent – Surface Burial	Total
Archive	112 103.13	3 11.87	115
Osteo	27 35.87	13 4.13	40
Total	149	16	155

Table 25 Chi-square comparison of multiple versus single interment burials represented in the archival versus osteological data set

Count Expected	Multiple Interments	Single Interment	Total
Archive	45 46.97	11 9.03	56
Osteo	33 31.03	4 5.97	37
Total	78	15	93

Table 26 Chi-square comparison of postcranial elements collected from multiple versus single interment burials represented in the osteological data set

Count Expected	Present	Absent	Total
Multiple	6 30.94	192 167.06	198
Single	34 9.06	24 48.94	58
Total	40	216	256

Table 27 Chi-square comparison of postcranial elements collected in adult versus non-adult burials

Count Expected	Postcranial Present	Postcranial Absent	Total
Adult	32 35.62	196 192.38	228
Non-adult	8 4.38	20 23.62	28
Total	40	216	256

Table 28 Table 27 Chi-square comparison of multiple interments represented in adult versus non-adult burials

Count Expected	Multiple Interments	Single Interment	Total
Adult	163 161.76	64 65.24	227
Non-adult	18 19.24	9 7.76	27
Total	181	73	254

Table 29 Chi-square comparison of ages represented by shaft versus surface burials

Count Expected	Shaft Tomb	Surface Burials	Total
Adult	188 183.21	39 43.79	227

Non-adult	17 21.79	10 5.21	27
Total	205	49	254

Table 30 Chi-square comparison of sexes represented by shaft versus surface burials

Count Expected	Shaft Tomb	Surface Burials	Total
Male	61 61.29	15 14.71	76
Female	89 88.71	21 21.29	110
Total	150	36	186

Table 31 Chi-square comparison of sexes represented by postcranial elements

Count Expected	Postcranial Present	Postcranial Absent	Total
Male	15 13.01	61 62.99	76
Female	87 18.99	94 92.01	111
Total	32	155	187

Table 32 Chi-square comparison of sexes by multiple versus single interments

Count Expected	Multiple Interments	Single Interment	Total
Male	56 58.12	20 17.88	76
Female	87 84.88	24 26.12	111
Total	143	44	187

Table 33 Chi-square comparisons of adult age categories across sexes

Count Expected	Female	Male	Total
Young Adult (20 – 35 years)	44 36.0753	17 24.9247	61 32.80
Middle Adult (35 – 50 years)	40 46.7204	39 32.2796	79 42.47
Old Adult (50+ years)	11 13.6022	12 9.39785	23 12.37
Adult (20 – 80 years)	15 13.6022	8 9.39785	23 12.37
Total	110	76	186

	59.14	40.86	

Table 34 Chi-square comparison of ages represented by wooden versus reed coffins

Count Expected	Wooden Coffin	Reed Coffin	Total
Adult	77 74.39	11 13.61	88
Non-adult	5 7.61	4 1.39	9
Total	82	15	97

Table 35 Chi-square comparison of age represented by multiple versus single interments in shaft burials

Count Expected	Multiple Interments – Shaft Tomb	Single Interment – Shaft Tomb	Total
Adult	156 157.74	32 30.26	188
Non-adult	16 14.26	1 2.74	17
Total	172	33	205

Table 36 Chi-square comparison of ages represented by multiple versus single interments in surface burials

Count Expected	Multiple Interments – Surface Burial	Single Interment – Surface Burial	Total
Adult	7 7.16	32 31.84	39
Non-adult	2 1.84	8 8.16	10
Total	9	40	49

Table 37 Chi-square comparison of sexes represented by wooden versus reed coffins

Count Expected	Wooden Coffin	Reed Coffin	Total
Male	23 23.84	5 4.16	28
Female	40 39.16	6 6.84	46
Total	63	11	74

Table 38 Chi-square comparison of sexes represented by multiple versus single interments in shaft tombs

Count Expected	Multiple Interments – Shaft Tomb	Single Interment – Shaft Burials	Total
Male	50	11	61

	49.21	11.79	
Female	71 71.79	18 17.21	89
Total	121	29	150

Table 39 Chi-square comparison of sexes represented by multiple versus single interments in surface burials

Count Expected	Multiple Interments – Surface Burials	Single Interment – Surface Burials	Total
Male	2 2.08	13 12.92	15
Female	3 2.92	18 18.08	21
Total	5	31	36