

# UC Irvine

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Atlas of Chiefdoms and Early States

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How did polities arise and evolve? As the title suggests, this is an atlas of chiefdoms and early states, aiming toward a cumulative compendium. It is released into the public domain. The data and case studies invite further theoretical synthesis, reanalysis, and revision of knowledge by multiple approaches, the better to address questions about the structure and dynamics of states and chiefdoms. The materials themselves will be updated on this site by occasional installments accompanied by electronic data files available at the publication website. Please communicate with the author when using them, both to enliven cross-disciplinary dialogue and because data may be modified as additional information becomes available.

The selection of political formations coded here has been chosen for geographical and organizational diversity, focused on evidence available for clusters of social formations with limited interaction with the modern world system. The coding is designed to facilitate the testing of hypotheses about scale and the complexity of government control. All the cases are primarily agricultural, cases economically focused on pastoralism or maritime resources being set aside for the moment because of the difficulties in assessing the territories actually exploited and populations actually involved. There are some areas of the world, for example the northern Andes of South America, which we would like to include, but in which the evidence is inadequate and will remain so for the foreseeable future. There are other areas, e.g., Formative Mexico, where there is adequate evidence, but time has not yet permitted careful assessment and coding. This is a preliminary effort, and any comments or suggestions will be gratefully received. My thanks go to the generations of advanced anthropology students in our seminar on the 'Origins of States' at the University of Michigan, who over the years helped in the gathering and assessment of this evidence. The final coding is my responsibility.

Certain initial practical criteria define this initial selection of cases. My own interests focus on pre-state political formations and early states (Wright 1977, 1984), and so I have focused on polities generally termed complex chiefdoms (Earle 1987) or paramountcies (Taylor 1975) and primary states (Wright 1977). However, within the chosen areas, when a simple chiefdom or chieftancy or a second or third generation early state is well documented, I have included it. I have not yet included any early empires (Sinopoli 1994), even though they would expand our range of political scales, because of the difficulties of acquiring reliable data even on the developed later empires. How, for example, does one measure the 'area' of a polity which closely controls only certain strategically important central areas – either productive and densely settled areas or areas critical to access and communications – and ignores much of its 'territory'?

The attributes selected for coding among the vast number one could imagine arise also from my long-standing interests in attempts by central organizations at control of population and production (Wright 1969, 1973). Such organizations would seek information, labor, and products from the units they attempt to control and would in turn send information, people and products to these units. There must also necessarily be communication between basal units and various intermediate units (Ashby 1956). These

units are spread over an area and there are distance-related and time-related costs to moving information, people and material items. We therefore expect the size and complexity of the central controlling units to be related to the size and distribution of what they seek to control. Some attributes in the following list relate to the size or mass or density of the areas or populations supposedly controlled; other attributes relate to the size and complexity of the controlling organization. The cases and attributes are thus quite different from those used in Peregrine's (2001) data base. The following attributes are coded for each polity:

**Area:** Square kilometers of land used for any form of food production, within the bounds of the area from which tribute is mobilized.

**Population:** An estimated count of all people. For the ethnohistorically and ethnographically known formations, estimates made when polities were still independent are very approximate. However, estimates made after colonization, though more precise, are already affected by new conditions. The use of such late estimates is indicated in the following summaries. For the archaeologically known cases, the estimates are based on site areas recorded in surveys and housing densities recorded in excavations. The particular approach used is indicated in each case.

**Population density:** This is simply the second divided by the first.

**Units:** These are the 'basal organizational units' as defined by Johnson (1982, 1987), the social units within which decisions about food production, marriage, socialization etc. are commonly made. These local self-regulating units, dealing with issues which the central organizations rarely need to worry about, vary from case to case. The administrative burden on central authorities can be reduced by increasing the size of basal unit. When nucleated villages are the norm, the size of basal unit is taken to be the modal size of the smallest class of villages.

**Local community centralization:** This refers to the often archaeologically evident dispersion of people in local communities into (1) smaller hamlets, or (2) the clustering of people into larger villages. Such variation might affect the ability to control local units in various ways.

**Specializations of local units:** If some local units produce things that other local units do not produce but need, then there has to be exchange between them. We are not concerned here with 'social exchange' of gifts symbolizing alliance, etc. Also, we are here not interested simply in the existence of specialized producers within units. If every unit has its herders or potters, then exchange of such sustenance goods would not be a problem. We are interested in unit specializations requiring exchange between units.

**Local exchange:** The pattern of exchange between local units can involve (1) irregular reciprocal exchange or barter, (2) simple local markets, (3) administered market, or (4) administered redistribution. If exchange is handled by locally self-regulated markets, administrative burdens are likely to be minimal. If exchange is mediated by higher authorities, perhaps by 'chiefly redistribution,' then the central apparatus must be large

enough to deal with the decisions required. If markets are administered to collect revenue, administrative burden is increased.

**Higher administrative segments:** Number of active segments of a central administration. Sometimes there are none, chiefship being indivisible. Sometimes ritual, judicial decision, exchange, or military issues may be vested in particular organizations. Ritual segments are almost universally specialized and are not counted. Some segments, often the military, are constituted when the situation demands, often from other permanent hierarchies

**Levels of decision-making in the most complex permanent segment:** We are interested in the actual hierarchy of decision making activities, not in named hierarchies of roles, which can be fantastical constructions. Different segments of the central apparatus can have different structures of actual decision-making. Some of these are situational, adopted for limited times, as is often noted in military conflict. We are here interested in enduring structures. The most complex hierarchies of actual decision-making are often found in segments for the extraction of tribute in goods or labor, which are patterned in settlement, and sometimes specifically described in indigenous administrative texts or travelers' accounts.

**Administrative complexity:** This is the sum of administrative segments and decision-making, the previous two variables.

**Mobilization by central unit:** Here we are concerned with local resources for the material support of the central apparatus, in which resources are made available to decision-makers. The patterns involve (0) simple 'tithing,' that is, with a proportion of goods passed up a hierarchy, (1) simple 'tithing' with 'corvée,' that is, with a proportion of goods or 'corvée' with labor being passed up a hierarchy, (2) tithing is supplemented by the assignment of productive estates and/or labor directly to officers, (3) mobilization involves a separate specialized activity as with 'tribute officials' or 'tax farmers'.

**Total complexity:** This is the product of specializations of local units, local exchange, and administrative complexity.

There are problems with trying to code these attributes which arise from viewing the results of dynamic processes as a slice of time. In the dynamic world of 'political formations' (as opposed to images, both theirs and ours, of static 'polities') local units are constantly changing – growing, shrinking, fissioning, rebelling, etc. – and central units are adjusting to both their own internal crises and to changing local units. Political formations collapse and are reintegrated (Anderson 1994, Marcus 1992). Assessments based on travelers or ethnographers observations probably represent points in time, but often not the same points in time. A paramount's control apparatus may be observed by several early travelers or an ethnographer, while total population may be from later colonial censuses after 'pacification.' Assessments based on archaeological evidence, in contrast, represent a palimpsest of sites – former settlements – occupied very varying times through an archaeological period. I try to note these problems in presenting specific cases.

## General References

Anderson, David

1994 "Factional Competition and the Political Evolution of Mississippian Chiefdoms," in the Southeastern U.S. In E. Brumfiel and J. Fox, editors, *Factional Competition and Political Development in the New World*, pp.61-76. Cambridge: Cambridge University Press.

Ashby, William Ross

1956 *Introduction to Cybernetics*. New York: Willey.

Earle, Timothy K.

1987 "Chiefdoms in Archaeological and Ethnohistorical Perspective," *Annual Review of Anthropology*, 16: 279-308.

Johnson, Gregory

1982 "Organizational Structure and Scalar Stress," In C. Renfrew, M. Rowlands, and B. Seagraves, eds., *Theory and Explanation in Archaeology*, pp. Academic Press.

1987 "The Changing Organization of Uruk Administration on the Susiana Plain," In F. Hole, Ed., *The Archaeology of Western Iran*. Washington: Smithsonian Institution Press.

Marcus, Joyce

1992 "Dynamic Cycles of Mesoamerican States," *National Geographic Research and Exploration* 8:392- 411.

Peregrine, Peter

2001 *Outline of Archaeological Traditions*. New Haven, CT: Human Relations Area files.

Sinopoli, Carla

1994 "The Archaeology of Empires," *Annual Review of Anthropology* 23:159 -80.

Taylor, Donna C.

1975 *Some Locational Aspects of Middle Range Hierarchical Societies*. PhD dissertation, City University of New York. Ann Arbor: University Microfilms.

Wright, Henry T.

1969 "The Administration of Rural Production in an Early Mesopotamian Town," *University of Michigan Museum of Anthropology Anthropological Papers* 38. Ann Arbor.

1977 "Recent Research on the Origin of the State," *Annual Review of Anthropology* 6:379-397.

1984 "Pre-state Political Formations," in *The Evolution of Complex Societies: The Harry Hojier Lectures for 1982* (Ed. T.K. Earle). Malibu: Undena Press. [Reprinted in 1994 as pp 67-84 in *Chiefdoms and Early States in the Near East* (eds. Gil Stein and Mitchell Rothman) Madison: Prehistory Press.]

## Case Studies

**Hawaii polities of the Central Pacific.** These formations are known through traditional history, travelers and missionaries accounts, colonial ethnographic and population studies, and archaeological landscape studies.

Kirch, Patrick V.

1985 *Feathered Gods and Fishhooks*. Honolulu: University of Hawaii Press. (DU 624.65 K571: G) Recent general Hawaiian archipelago overview.

Homman, Robert

1976 *The Formation of Primitive States in Pre-Contact Hawaii*. Unpublished Ph.D. Dissertation, Department of Anthropology, University of Arizona. Ann Arbor: University Microfilm.

Stannard, David

1989 *Before the Horror*. Honolulu: Social Science Institute, University of Hawaii. (Radical upward revisions of pre-contact Hawaiian populations.) [GN 875 H3 S731]

**Kaua'i** (Late 18<sup>th</sup> c. AD): A small paramount chiefdom on the westernmost of the major Hawaiian islands.

Earle, T.K.

1977 *Economic and Social Organization of a Complex Chiefdom*. *Anthropological Papers* No. 63, Museum of Anthropology, University of Michigan [Classic study of irrigation and political control in northern Kaua'i] [GN2 M67 No. 63]

Wichman, Frederick B.

2003 *Na Pua Ali'i o Kaua'i: Ruling Chiefs of Kaua'i*. Honolulu: University of Hawaii. (Useful compendium of traditional historical narratives.) [DU 627 W531]

**Area:** 1200 square km., the area of the island. It is assumed that coasts, marshes, valleys, and forested hills were all exploited. Lagoons are not included.

**Population:** 54,000 is Lt. Kings assessment based in a house count during a coastal survey of the main island of Hawaii in 1778. 40,000 is Nordyke's 1979 estimate in Stannard 1989. However, Stannard himself argues for 82,000.

**Population density:** 33 people/km. using Norykes's estimate.

**Units:** 50 ahupuas grouped in five districts.

**Local centralization:** 1: Primarily farmsteads and hamlets.

**Specializations:** 2: Each ahupua had lagoon and valley resources, but some areas had fishponds as well.

**Local exchange:** 1: There seems to be no record, but local barter seems likely.

**Higher administrative segments:** 1: Chiefs are unspecialized.

**Decision-making levels:** 2: Paramounts and their councils and District chiefs.

**Mobilization by central unit:** 1 Tithing and corvée.

**Hawai'i** (Late 18<sup>th</sup> c. AD): A large paramountancy on the easternmost and largest of the major Hawaiian islands prior to Kamehameha's state foundation.

**Area:** 6400 square km., the area of the island, 10,200 square km., less the 3800 of Mauna Loa and Kilauea in the interior, high and largely covered with recent lava flows, and not used except for mining stone and for ritual.

**Population:** 150,000 is Lt. Kings assessment based in a house count from a coastal survey in 1778. 120,000 is Nordyke's 1979 estimate in Stannard 1989. However, Stannard himself argues for 400,000.

**Population density:** 19 people/km. using Nordyke's estimate.

**Units:** 60 ahupuas in six districts.

**Local centralization:** 1: Primarily farmsteads and hamlets.

**Specializations:** 3: There were units with and without access to the sea. Some of the former had water sources which could sustain taro, others did not.

**Local exchange:** 2: Handy records local exchange in markets.

**Higher administrative segments:** 1: While ritual was specialized, all other decision making activities seems to have been combined. #4 (Excel code was 2)

**Decision-making levels:** 2 as above.

**Mobilization by central unit:** 1 Tithing and corvée.

**Malagasy Polities of Madagascar.** These formations are known through traditional history, travelers accounts, colonial ethnographies and censuses, and archaeological surveys and small excavations.

**Anosy** (17<sup>th</sup> c. CE): A small paramountcy of the southeast coast of Madagascar.

Flacourt, Etienne

1661 [1995] *Histoire de la Grande Ile* [Recent edition edited and with notes by Claude Allibert. Paris: INALCO and Karthala.] [DT 469 M31 F49]

Rakotoarisoa, J.A.

1998 *Mille ans d'occupation humaine dans le Sud-Est de Madagascar: Anosy...* Paris, France: L'Harmattan. [DS 469 M274 R35]

Wright, Henry T. J.A. Rakotoarisoa, G. Heurtebize, and P. Vérin

1993 "The Evolution of Settlement System in the Efaho River Valley: A preliminary report on archaeological reconnaissances of 1983-86," *Indo-Pacific Prehistory Association Bulletin* 12: 2-20. (Archaeological summary.) [GN 871 B86]

**Area:** 400 square km., Including the Efaho valley from the coast to its headwaters, not including the steep forested hills around it.

**Population:** 6,800, based on sizes of sites surveyed and on Flacourt's map

**Population density:** 17 people/km.

**Units:** 28, taking the size of smallest villages as the basal unit size.

**Local centralization:** 2: Nucleated fortified villages.

**Specializations:** 1: All known villages have access to both rice fields and hills suitable for dry farming. None are oriented to the sea.

**Local exchange:** 2: Local markets.

**Higher administrative segments:** 1: Chiefs are unspecialized.

**Decision-making levels:** 2: Paramounts and their councils and District chiefs.

**Mobilization by central unit:** 1: Tithing and corvée.

**Andrantsay** (Late 18<sup>th</sup> c. CE) is paramountcy at the southwestern extremity of the Central Highlands, visited and described by the French merchant Nicholas Mayeur in 1771 and 1777. Our understanding profits from detailed geographical and historical studies by Raison and Marchal and by a recent meticulous full coverage archaeological survey of the western Andrantsay by Crossland. Andrantsay was conquered by the armies of the Merina state founder Andrianampoinimerina in 1809

Mayeur, Nicholas

1777 [1913] "Voyage au Pays d'Ancove," *Bulletin de l'Academie Malgache* 12/1: 139-76.

Crossland, Zoë

2003 *An Archaeological survey in Vakinankaratra*. Ann Arbor: University Microfilm International. (Detailed study of the core area of the western part of the Andrantsay polity.)

Marchal, Jean-Yves

1967 "Contribution a l'étude historique du Vakinankaratra - Évolution du peuplement dans la cuvette d'Ambohimambola, sous-préfecture de Betafo," *Bulletin de Madagascar* 250(mars):241-80.

Raison, Jean-Pierre

1984 *Les Hautes Terres de Madagascar et Leurs Confins Occidental*. Bondy: ORSTOM and Paris: Karthala. (Detailed geographical study focused on the region southwest of Imerina.) [HB2543.2 A3 R351]

**Area:** 650 square km., greater if marginal grazing areas are included.  
**Population:** 35,000, based on 315 ha of settlement, corrected for movement.  
**Population density:** 54 people/km.  
**Units:** 60 extrapolated from 20 discrete site clusters in surveyed area.  
**Local centralization:** 2: Fortified nucleated hamlets and villages common.  
**Specializations:** 2: mostly farming, plus a few ironworking villages.  
**Local exchange:** 2: Possible local markets.  
**Higher administrative segments:** 1: Chiefs are unspecialized.  
**Decision-making levels:** 2: mpanjaka and their councils and district chiefs.  
**Mobilization by central unit:** 1: Tithing and corvée.

**Imerina** (Late 18<sup>th</sup> c. CE): The first generation state of Andrianampoinimerina in the Central Highlands. The focus here is on the consolidated state of ca. 1790.

Callet, R.P.

1905 *Tantaran'ny Andriana nanjaka teto Imerina* [translated by G. Chapus and E. Ratsimba. As *L'Histoire des Rois*, Antananarivo: L'Academie Malgache].

Isnard, Hildebert

1953 "Les bases géographiques de la Monarchie Hova," pp 195-206. *Eventail de l'vivante: Hommage à Lucien Fébvre*. Paris: A. Colin [AC 20 E93]



Larson, Pier

2000 *History and Memory in Age of Enslavement: Becoming Merina in Highland Madagascar 1770-1822*. Heinemann: Portsmouth NH (Focused on slavery but very useful.) [DT 469 M277 M4751]

Wright, Henry T. Ed.

2006 *An Archaeological survey of Western Avarandrano* Ann Arbor: University of Michigan Museum of Anthropology. (Detailed study of the core area of Andrianampoinimerina's early polity, to be published in the Autumn.)

**Area:** 5200 square km. from the forest edge on the east to the border with Imamo on the west; from Ambatolampy on the south to the high ridges on the north.

**Population:** 350,000, based on 13,000 people estimate in 125 sq km. survey area in central Imerina. This is concordant with the mid range of estimates by Larson (2000: 135) for ca. 1800 based on 19<sup>th</sup> c. censuses.

**Population density:** 67 people/km.

**Units:** 875 Assuming 400 people per foko, the basal endogamous kin unit.

**Local centralization:** 2: Both villages and hamlets fortified.

**Specializations:** 3: Villages and hamlets all have rice fields and hill gardens, iron working only in certain villages. Herding partially specialized.

**Local exchange:** 3: Administered markets.

**Higher administrative segments:** 3: Judicial, Provincial, Military.

**Decision-making levels:** 4.

**Mobilization by central unit:** 3: Tithing and corvée, estates, market taxes. #2 (Excel code was 2)

**Interlacustrine Bantu Polities of East Africa.** These formations are known through traditional history, travelers accounts, and colonial ethnographies and censuses. There is little appropriate archaeology for these polities.

Fallers, Lloyd A.

1965 *Bantu Bureaucracy*. Chicago: University of Chicago (JS 7533 A6 N3 F19) A study of Soga government with some useful maps and economic data as well.

Cohen, David William

1972 *The Historical Traditions of Busoga, Makama, and Kintu*. Oxford: Clarendon [DT 433.29 B96 C67] [Analysis of early Busoga Traditions.]

1977 *Womunafu's Bunafu*. Princeton: Princeton University Press [DT433.242 W65 C67] [Details of later Busoga History.]

**Busambira** (Early 20<sup>th</sup> c. CE): A chieftancy north of Lake Nyanza [See Fallers pp 46-154.]

**Area:** 95 square km.

**Population:** 3,900 based on 1948 census 60 years after colonization.

**Population density:** 42 people km.

**Units:** 12.

**Local centralization:** 1: Dispersed hamlets.

**Specializations:** 2.

**Local exchange:** 4: Administered redistribution. #1 (was coded 2 in text)

**Higher administrative segments:** 1.

**Decision-making levels:** 1: The Kisambira and his Katikkiro dealt directly with village headmen.

**Mobilization by central unit:** 0, Tithing only. #3 (New category)

**Bulamogi** (Early 20<sup>th</sup> c. CE): A paramountcy north of Lake Nyanza, rich in bananas, yams, and millet. The chiefly clan claims origin from Banyoro about 300 years ago [See Fallers pp 46-154.]

**Area:** 640 square km.

**Population:** 49,000, based on 1948 census 60 years after colonization.

**Population density:** 76 people/km.

**Units:** 60.

**Local centralization:** 1: Dispersed hamlets.

**Specializations:** 2: farming and fishing.

**Local exchange:** 4: Administered redistribution.

**Higher administrative segments:** 1.

**Decision-making levels:** 2: The Zibondo and his Katikkiro deal with Princes or Territorial Chiefs who deal with village heads

**Mobilization by central unit:** 2: Tithing and princely estates.

**Baganda** (Mid 19<sup>th</sup> c. CE): is large primary state northeast of Lake Nyanza, here viewed in the time of Kabaka Mutesa (1856-84), the 30<sup>th</sup> Kabaka in the 22nd generation after the legendary first Kabaka Kintu but perhaps only the 8<sup>th</sup> Kabaka since state administration was instituted under Kabaka Mawanda about 1700.

Fallers, Margaret A.

1960 *The Eastern Lacustrine Bantu*. London: International African Inst. (GN 643 E84, pt II) A brief overview of the Ganda and Soga.

Fallers, Lloyd A., Ed.

1964 *The Kings Men*. London: Oxford (DT 433.29 B8 F19) [A study of Ganda government administration with some useful discussion of 19th century patterns.]

Roscoe, John

1911 *The Baganda*. London: Macmillan. [DT434 U2 R78] [Classic source]

Kiwanuka, M.S.M. Semakula

1971 A History of Baganda London: Longmans [DT 433.29 B8 K62] [Much detail]

**Area:** 28,500 square km. The core provinces not including Buddu.

**Population:** 770,000: Henry, Stanley's estimate for 1878, less Buddu.

**Population density:** 27 people/km.

**Units:** 1,080, assuming each of 180 Local chiefs (Roscoe 247-57) had ca. 6 villages, following Fallers, Ed., 1964.

**Local centralization:** 1: Dispersed hamlets.

**Specializations:** 4: farming, fishing, potting, and iron-work.

**Local exchange:** 3: Administered markets.

**Higher administrative segments:** 3: Provincial/ judicial, Tax collection; War had special generals, but was otherwise a territorial militia. #4 (Excel code was 2)

**Decision-making levels:** 5: Kabaka, Katikiro, County chiefs, District chiefs, Local chiefs.

**Mobilization by central unit:** 3: Tithing, official estates, tax collectors.

**Polities of the Central Cameroonian Grassfields.** Basic chiefdoms in a rich highland area, documented by early German administrators, British ethnographer and Cameroonian historians.

Kaberry, Phyllis M.

1952 *Women of the Grassfields*. London: HMSO. [The full text is at:

[http://www.era.anthropology.ac.uk/Kaberry/Kaberry\\_text/](http://www.era.anthropology.ac.uk/Kaberry/Kaberry_text/)] Extensive bibliography at:

[http://era.anthropology.ac.uk/Era\\_Resources/Era/Kingdom\\_Bum/bib.html](http://era.anthropology.ac.uk/Era_Resources/Era/Kingdom_Bum/bib.html)

**Kom** (Late 19<sup>th</sup> century) A matrilineal chieftancy in the central Grassfields. The tenth Foyon or paramount was reigning in the 1950s suggesting the dynasty was established in the mid 18<sup>th</sup> c.

Chivers, Elizabeth M. and Phyllis M. Kaberry

1967 "The Kingdom of Kom in West Cameroon," pp 123-51 in *West African Kingdoms in the Nineteenth Century* (C. Daryll Forde and P. M. Kayberry, eds.). London: Oxford University Press (DT 471 F72)

**Area:** 700 square km. estimated by Chivers.

**Population:** 18,000 reported by Kaberry in 1945, the 1953 census recorded 26,600.

**Population density:** 26 people/km.

**Units:** 38.

**Local centralization:** 1: Villages are a group of fortified hamlets.

**Specializations:** 1: Farming of maize, sorghum, yams, legumes.

**Local exchange:** 1. No markets are mentioned.

**Higher administrative segments:** 1.

**Decision-making levels:** 2: the Foyon and his retainers who directly ruled the central villages, and the client chiefs who ruled some peripheral villages.

**Mobilization by central unit:** 2: Tithes and estates farmed by Foyon's wives.

**Nsaw** (Late 19<sup>th</sup> c. CE) (also **Nso**) is a paramountcy in the eastern Grassfields, like Kom, a Tikar group coming from eastern Cameroons perhaps about 1650. The Foyon in 1950 was the 23<sup>rd</sup> known to be buried in the territory.

Kaberry, Phyllis M.

1950. Land tenure among the Nsaw of the British Cameroons. *Africa* 20(4), 307-323.

1959. Traditional Politics in Nsaw. *Africa* 24(4), 366-385. [DT1 A24: available electronically]

**Area:** 1800 square km. estimated by Kaberry; 2040 from map.

**Population:** 32,000 reported by Kaberry in 1945; he suggests a 19<sup>th</sup> c. population of ca. 20,000. The 1953 census reports 50,000.

**Population density:** 18 people/km. in mid 20<sup>th</sup> c.; 11 people/km. in 19<sup>th</sup> c.

**Units:** 55 villages, before recent aggregation.

**Local centralization:** 1: Villages are groups of fortified hamlets.

**Specializations:** 2: Farming of maize, sorghum, yams, legumes, Iron working.

**Local exchange:** 1: Markets appear to be a recent development. #1 (barter?) (was coded 0 in text)

**Higher administrative segments:** 2: the Fon and Palace personnel versus the Vibai, i.e., the Council, though the opposition may be recent. In past times of war, a geographically based hierarchy of special chiefs called up troops from warrior lodges in each village.

**Decision-making levels:** 2: Today the Fon deals directly with village heads; In the past during crises, the Fon dealt with the Mtar Fai, who were heads of ca. 20 senior commoner lineages, who presumably dealt with village heads.

**Mobilization by central unit:** 2: There is tithing and high offices have sustaining estates.

**Yoruba and Edo Polities of Western Africa.** These formations are known through traditional history, travelers accounts, and colonial ethnographies and censuses. There is little appropriate archaeology for these polities.

Lloyd, Peter C.

1962 *Yoruba Land Law*. London: Oxford University Press. (HD 1169 Y6 L79) [This contains useful capsule historical ethnographies of several towns.]

Smith, Robert

1962 *Kingdoms of the Yoruba*. London: Methuen [DT513 S66] [General overview].

**Ketu** (Late 19<sup>th</sup> c. CE): An epistate polity of central Benin

Bowen, Thomas Jefferson

1857 *Central Africa...* reprinted in 1968 as *Adventures...* (DT 356 B82) London: Cass.

Parrinder, Edward Geoffrey

1956 *The Story of Ketu*. Ibadan: Ibadan University Press. (DT 513 P26) (Brief but useful overview of one of the oldest and politically simplest of the Yoruba polities)

**Area:** 1500 square km.

**Population:** 15,000 in the town in 1851, according to Bowen 1857.

**Population density:** 10 people/km.

**Units:** 180, half in the town and half in villages.

**Local centralization:** 2: Walled villages.

**Specializations:** 2: Farmers, merchants, iron-workers,

**Local exchange:** 3: Administered markets.

**Higher administrative segments:** 2: Civil, Military.

**Decision-making levels:** 3: Oba, Ministers, Village heads.

**Mobilization by central unit:** 2: Royal estates.

**Ado Ekiti** (Late 19<sup>th</sup> c. CE): A small second generation state of Southeastern Nigeria. Located in a hilly region equidistant from the expansive centers of Benin and Oyo, this polity was ruled by Benin during the late 15th-16th and early 19<sup>th</sup> cs. Thus its organization, as we observe it in the late 19<sup>th</sup> and early 20<sup>th</sup> cs, is that of a tertiary state, formed in the interstices between competing primary or secondary states.

Lloyd, Peter C.

1962 *Yoruba Land Law*. London: Oxford University Press. (HD 1169 Y6 L79) [Pp 185-224 contain a useful study of this polity emphasizing social groups, land tenure, and courts].

**Area:** 1030 square km.

**Population:** 62,000 in 1952 census.

**Population density:** 60 people/km.

**Units:** 50.

**Local centralization:** 2: Centralized villages.

**Specializations:** 1: farming.

**Local exchange:** 2: Local markets. #1 (was coded 1 in text)

**Higher administrative segments:** 3: the Ewi, the Senior Olio Marun chiefs, and the Junior chiefs or town chiefs.

**Decision-making levels:** 3: The Ewi and his council, the senior Olio Marun chiefs, and the junior chiefs or the heads of 17 subordinate towns.

**Mobilization by central unit:** 2: Tithing and estates.

**Ijebu Ode** (Late 19<sup>th</sup> c. CE): A large second generation state of Southeastern Nigeria

Lloyd, Peter C.

1962 *Yoruba Land Law*. London: Oxford University Press. (HD 1169 Y6 L79) [Pp 136-184 contain a useful study of this polity emphasizing social groups, land tenure, and courts].

**Area:** 4100 square km.

**Population:** 220,000 in 1952 census.

**Population density:** 54 people km.

**Units:** 810.

**Local centralization:** 2: Nucleated villages.

**Specializations:** 4: farming, fishing, trading, crafts.

**Local exchange:** 3: administered markets.

**Higher administrative segments:** 3: the Palace, the Judicial osugbo leaders, the poorly understood War leaders.

**Decision-making levels:** 4: The Oba, the 7 high chiefs (the war chief, the 3 age grade chiefs, the two hereditary chiefs of the capital, and the palace chief), the descent group chiefs, the town rulers.

**Mobilization by central unit:** 2: Tithing and estates. #4 (Excel code was 3)

**Benin** (Late 19<sup>th</sup> c. CE) is a large second generation state of South-central Nigeria, which emerged from the nexus of small Edo-Speaking village chiefdoms and expanded rapidly to imperial scale in the late 15<sup>th</sup> and 16<sup>th</sup> cs. Civil war and collapse was followed by re-integration in the late 18<sup>th</sup> and 19<sup>th</sup> cs. The Oba reigning in the 1960s was the 35<sup>th</sup> in succession after the arrival of his ancestor from Ife. Tradition, however, indicates this was the second dynasty in the forested southern Edo region, and archaeology indicates earlier complex formations. If so, our attributes Refer to a third generation formation.

Bradbury, R.E.

1957 *The Benin Kingdom...* London: International African Institute [GN 643 E86 196 –pt.13] [An overview of Benin and its neighbors]

1967 “The Kingdom of Benin,” in *West African Kingdoms in the Nineteenth Century* (C. Daryll Forde and P. M. Kayberry, eds.). London: Oxford University Press (DT 471 F72) [Good summary of political organization.]

Darling, P.J.

1984 *Archaeology and history in Southern Nigeria: the ancient linear earthworks of Benin and Ishan* (British Archaeological Reports 215) [CC65 B86 No. 215]. [Introduction to the archaeology and traditions of the earliest sites]

**Area:** 10,400 square km. in the core kingdom, not including the surrounding polities taxed but not ruled before colonization.

**Population:** 290,000 in the 1952 census.

**Population density:** 28 people/km.

**Units:** 540.

**Local centralization:** 2: Nucleated villages.

**Specializations:** 3: Farming, ceramics, with metalworking and ca. Forty specialized crafts in quarters of the capital largely controlled by the palace.

**Local exchange:** 2: Local markets. There is no mention of market administrators except in the ‘port-of-trade’ dealing with Europeans.

**Higher administrative segments:** 3: The Palace chiefs and the Town chiefs, out of which two permanent hierarchies; a military hierarchy was instituted in times of war.

**Decision-making levels:** 5: the Oba, the ‘four,’ the senior chiefs, the junior chiefs and the emissaries who handled most relations with villages.

**Mobilization by central unit:** 3: Tithing, estates, and tribute officials.

**Sumero-Akkadian Polities of Greater Mesopotamia.** These formations are known through some combination of archaeological survey; excavation of towns, cemeteries, and rural settlements, and study of cuneiform records.

Postgate, John Nicholas.

1992 *Early Mesopotamia*. London: Routledge [General overview of IIIrd millennium BC] [DS73.1 P671]

Pollock, Susan

1999 *Ancient Mesopotamia*. Cambridge: C.U.P. [General southern Mesopotamia study.] [DS 71 P62]

**Urua** (c 4500 BCE): Small ‘Farukh Phase’ paramountcy of the Deh Luran Plain in the Zagros piedmont of southwestern Iran, known entirely from archaeology.

Neely, James A. and Henry T. Wright

1994 *Early settlement and irrigation on the Deh Luran Plain :village and early state societies in southwestern Iran. Technical Report 26*. Ann Arbor : University of Michigan, Museum of Anthropology, [Innovative population estimates by Robert Dewar] [GN 1 M63 no.26]

Wright, Henry T.

1981 *An Early Town on the Deh Luran Plain: Excavations at Tepe Farukhabad. Memoir No. 13*  
Museum of Anthropology, University of Michigan.[GN2 M68 No. 13]

Wright, Henry T., Naomi Miller, James A Neely, and Richard W. Redding

2000 "Late Susiana Society In Southwestern Iran," *In The Iranian World: Essays on Iranian Art and Archaeology, Presented to Ezat O. Negahban*. Edited by Abbas Alizadeh, Yousef Majidzadeh, Sadeq Malek-Shahmirzadi. Tehran: Iran University Press. [Most recent synthesis].

**Area:** 520 square km. of cultivable land.

**Population:** 2,240.

**Population density:** 4.3 people/km.

**Units:** 26, based in model size of small villages.

**Local centralization:** 2: Nucleated villages.

**Specializations:** 2: Farming, herding.

**Local exchange:** 1: local barter, redistribution. #5 (anomalous)

**Higher administrative segments:** 1: Unspecialized chiefship.

**Decision-making levels:** 2: Paramount, Local chiefs.

**Mobilization by central unit:** 0: Tithing. #3 (New category)

**Shush** (c.3500 BCE): A first generation Mesopotamian primary state in the Zagros mountain piedmont of southwestern Iran, known entirely from archaeology.

Johnson, Gregory A.

1973 *Local exchange and Early State Development in Southwestern Iran. University of Michigan Museum of Anthropology Anthropological Papers 51*. Ann Arbor. (Fundamental study.)

1987 "The Changing Organization of Uruk Administration on the Susiana Plain," In F. Hole, ed., *The Archaeology of Western Iran*, Washington: Smithsonian Institution [DS261 A731]

Wright, Henry T.

1998 "Uruk States in Southwestern Iran," pp 171-197 in *Archaic States* (Gary Feinman and Joyce Marcus, Eds.) Santa Fe: School of American Research Press [GN 492.6 A721]

**Area:** 1400 square km.

**Population:** 25,000.

**Population density:** 18 people/km.

**Units:** 250.

**Local centralization:** 2: Nucleated villages.

**Specializations:** 2: Farming, herding.

**Local exchange:** 3: local barter, small markets, redistribution.

**Higher administrative segments:** 3?: Agriculture, Adjudication, War.

**Decision-making levels:** 4: Ruler, High officials, Receiving officials, Rural center officials.

**Mobilization by central unit:** 3: Tithing, estates, tribute officials.

**Ur** (29<sup>th</sup> c. BCE): A small second generation epistate of Lower Mesopotamia. Evidence from full coverage survey, some excavation of the central town and a village, and a cuneiforms archive are assembled in the following study.

Wright, Henry T.

1969 *Administration of Rural Production in an Early Mesopotamian Town*. University of Michigan Museum of Anthropology Anthropological Papers 38:162p. Ann Arbor. [GN2 M67 No.38]

**Area:** 300 square km. This includes the area of ancient Euphrates levee 15 km. above and below the city. Some of this would have been farmed and much of this would have been used for pasture or marsh resources.

**Population:** 6,000. An archaeological estimate based on the area covered by settlements located by archaeological survey and on excavated architecture.

**Population density:** 20 people/km.

**Units:** 45.

**Local centralization:** 2: Nucleated villages.

**Specializations:** 4: Fishing, grain cultivation, herding, craft communities.

**Local exchange:** 4: local markets, Administered redistribution. #1 (was coded 3 in text)

**Higher administrative segments:** 4.

**Decision-making levels:** 3: Ruler, nubandas, ugulas.

**Mobilization by central unit:** 3: Tithing, estates, taxes. #2 (Excel code was 4)

**Lagash** (25<sup>th</sup> BCE): A third generation regional state of Lower Mesopotamia.

Though the cuneiform record is well studied, and there is excavation at al-Hibba (LAGASH) and Tello (GIRSU) systematic archaeological survey has not reached this area and only these major towns are known.

Beld, Scott

2002 *The Queen of Lagash*. Ann Arbor: University Microfilm International. (Good summary and new insight on state structure, ritual, and tribute.)

Cooper, Jerrold

1983 *Reconstructing History from Ancient Inscriptions. The Lagash-Umma Border Conflict*. Malibu: Undena [DS 772 C561]

Steible, Horst

1982 *Die Altsumerischen Bau- und Weihinschriften. Tiel I: Inschriften aus 'Lagas'* Freiburger Altorientalische Studien. Wiesbaden: Franz Steiner. (More Lagash texts) [DS41 F86 v.5]

Selz, Gebhard J.

1989 *Altsumerische Wirtschaftsurkunden die Eremitage*.

1993 *Altsumerische Wirtschaftsurkunden aus Americanischen Sammlungen*. Freiburger altsumerischen Studien. Stuttgart: F.Steiner (More...) [DS41 F86 v.15]

**Area:** 3200 square km. From the border with UMMA on the northwest to the marshes and lakes on the southeast; from the border with Bad-TIBIRA on the southwest to the former Tigris channel on the northeast.

**Population:** 105,000, based on 520 ha covered by the major city and larger towns, doubled to account for population in smaller towns and villages.

**Population density:** 50 people/km.

**Units:** 375 assuming 280 people per unit based on size of later ED villages.

**Local centralization:** 2: Nucleated towns and villages.

**Specializations:** 4: Fishing, grain cultivation, herding, craft communities.



**Local exchange:** 4. Administered redistribution. #1 (was coded 2 in text)

**Higher administrative segments:** 3: Palace, Major temples, War.

**Decision-making levels:** 4: The Ensi, Sangas, Nubandas, and Ugulas.

**Mobilization by central unit:** 3. #2 (Excel code was 4)

## Appendix: Editorial Annotations and the Coded Data as published on the eJournal site

by Douglas R. White

The original author's text and the codes in the author's Excel file were checked for internal consistency among text, definitions, codes in text, and the numeric codes in Excel. Five types of coding corrections were made, without changing the Author's text, which is taken as authoritative:

(#1) Five corrections where the code number given for variables in the text was changed to bring it into line with the variable definitions. The Excel file was correct.

	Old Code in Text	New Code in Text	New Code in Spss
<b>Local exchange</b>			
Busambira	2	4	As before: 4
Nsaw	0	1	As before: 1
Ado Ekiti	1	2	As before: 2
Ur	3	4	As before: 4
Lagash	2	4	As before: 4

(#2) Three corrections where the number in the Excel file was changed to be consistent with the variable definitions and the text.

	Old Code in Text	New Code in Text	New Code in Spss
<b>Mobilization by central unit:</b>			
Imerina	3	3	3 (Excel code was 2)
Ur	3	3	3 (Excel code was 4)
Lagash	3	3	3 (Excel code was 4)

(#3) Two corrections where the authors code 1 was split into 1 and 0, with 0 distinguishing tithing through passing of goods, without corvée labor, from 1, tithing through passing of goods and corvée labor.

	Old Code in Text	New Code in Text	New Code in Spss
<b>Mobilization by central unit:</b>			
Busambira	1	0	0 (New category)
Urua	1	0	0 (New category)

(#4) Three corrections assign a new numeric text code and Excel code to match the text.

	Old Code in Text	New Code in Text	New Code in Spss
<b>Higher administrative segments:</b>			
Hawai'i	2	1	1 (Excel code was 2)
Baganda	2	3	3 (Excel code was 2)
Ijebu Ode	3	2	2 (Excel code was 3)

(#5) The Urua Local exchange text is noted as an anomalous case of unspecified redistribution at a very low order of complexity on other variables. This does not easily fit the local exchange classification, which is reassigned a code of 1 (barter) rather than 2 (local markets, which are not listed in the text). This is assigned as a new text code and Excel code of 1 but this does not resolve the anomaly. What is the evidence of redistribution and what form of redistribution?

The Spss file published with the Atlas has variable names and value labels that facilitate analysis. The Excel file that is published with it contains the original data as sent by the author. The Spss file contains the data as corrected in the editorial process. Both follow there coding categories as initially defined. Thus the nine edits in the Spss file can be distinguished from the original codes they replaced.

The editor would recommend that in subsequent editions of this Atlas the simple dichotomy defined for Local community centralization be elaborated into an expanded ordinal variable.