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STATUS AND ROLE IN EARLY STATES: A COMPARATIVE ANALYSIS

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Status-and-role, or role theory, is an old concept in anthropology that can provide new insights into the organization of early states. In this chapter, we adapt Linton's (1936) original concept of status-and-role to a comparative analysis of nine early states and contrast them with two non-state traditions in order to study three questions:

- Do early states organize people around similar statuses? If so, do non-states exhibit different patterns from the early states? Is there a pattern of statuses that suggests a society is a state?

- Do the early states assign the same roles, i.e., the same rights, responsibilities and behaviors to particular statuses—in this case, rulers, farmers, and slaves? Are these roles assigned to the same statuses in non-state societies?
- What do the patterns tell us about early state organization? And does the application of role theory help us define the early state?

By applying network and other analytical methods from complexity science, we have found that the application of role theory yields a different, productive way to understand the unique characteristics of early states. Some of our findings corroborate those of other archaeologists. For example, we found independent, measurable proof that pre-conquest Hawai'i fits the criteria of a state, thus supporting Patrick Kirch's reclassification of Hawai'i (Kirch 2010). Other findings provide new insights into the archaeological record: The multiple roles expected of a ruler reveal how decision-making and legitimacy operate in the early states. The development of social complexity means the differentiation of property rights and employment for farmers, serfs, and slaves. The many types of slavery, including indentured servitude, suggest that perhaps they should not be treated as one social category. And there is a strong connection between warfare and the marriage alliances of people of high rank.

Before proceeding with the analysis, we modify Ralph Linton's status-and-role concept to make it useful for the study of archaeological and complex society data.

REFINING STATUS-AND-ROLE FOR ARCHAEOLOGICAL USE

The introduction of status and role in the social sciences is often credited to American anthropologist Ralph Linton, who set forth the concept in his 1936 book, The Study of Man. Linton did not originate the concept, however. G.H. Mead, G. Simmel and others started using it in the beginning of the twentieth century (Biddle 1986). Linton's conceptualization of what was to become role theory has been so efficacious for structuring research that scholars have continued to use it even as they modified his ideas (Merton 1957; Goode 1960; Goodenough 1969; Sailer 1978; Biddle 1986; Lopata 1995; and Blau 1995).

Linton defines status as a position in society (1936: 118-19). It is one level of abstraction away from actual persons. While individuals may hold certain statuses, statuses stand independent of individuals. That is, many people may occupy the same status, and a status may persist longer than the individuals who occupy it at any point in time. A status is usually expressed as a noun, one that refers to a position in the political economy (e.g., ruler, farmer, slave, or merchant), family structure (e.g., father or daughter), or some other domain such as religion (e.g., shaman, priest). Therefore, status may mean either the sum of all the offices a person occupies or just one of those offices. The status of ruler may refer to all of his/her positions—from heir of the previous ruler, intermediary between the people and the gods, or warrior—and it may mean the top position in a society—ruler of a polity. But what is important is that a status exists in relation to at least one other status. There cannot be a ruler without subjects; a man cannot be a father without his child (biological or social); and a farmer

in a state may be able to produce crops, but he cannot get them distributed without a market or redistribution system.

Linton distinguishes two means of obtaining a status—ascribed and achieved. Ascribed status is assigned at birth without consideration of the individual's inherent abilities, often, one's family position in society. Or it may be automatically assigned according to some characteristic that a person has no control over (e.g., progressing from being an infant to a child and then a youth) (Linton 1936: 118–21; Ames 2008). Achieved status is acquired during one's lifetime. It is the result of one's efforts, often the acquisition of some skill through education or experience.

A status is associated with roles, which Linton defines as a collection of rights and duties (Ibid), which later scientists expanded to mean behaviors. A farmer (in some ancient societies) has the right to own land and the duty to pay taxes, and he is expected to behave in a way that is deemed appropriate to these rights and duties. The group of roles associated with a status forms a role cluster (Merton 1957; Blau 1995). It is appropriate and expected of an early-state king to beget an heir, form alliances through gift and marriage exchange, perform rituals for the gods, etc. These expected and appropriate behaviors are usually determined by people who are in complementary positions to the status in question. A ruler's roles are influenced (but not necessarily determined) by the gods he reports to, his followers and extended family, and his subjects (Sailer 1978).

Just as status is expressed as a noun, so role usually takes the form of a verb, or action, such as ‘farms,’ ‘inherits,’ or ‘rules.’ There are a few instances when a role cannot be denoted solely as a verb. This may be a characteristic of English, but we could not find a verb substitute for the phrase ‘is responsible for.’ The Egyptian king is responsible for the well-being of his people in their lifetime and after their death.

This basic definition of status-and-role is so much a part of the social science vocabulary that authors no longer bother to reference the literature. Surely the concept can be useful to the analysis of early states. The problem, of course, is that statuses and roles are difficult to extract from the archaeological record. Which statuses comprise the ruler’s status set? How does the agricultural labor of a farmer who owns his own land differ from that of a landless serf? Who influences the farmer’s role set? We cannot answer these questions from excavation alone. However, by combining archaeological and historical data, we can isolate many statuses and even their role sets in the early states. This is the path that we have taken in our analysis. Even so, the historical data focus on the ruler and upper echelon; information on the life of slaves and even farmers is hard to come by. Therefore there are many blanks in our database.

The second problem is that Linton’s and subsequent scholars’ definition of status needs to be expanded in order to be useful for the understanding of early states or any complex society. The most salient omission is social rank. Linton defines social rank as the relative positioning of people within a family but does not systematically relate it to politico-economic status (1936: 123, 125, 185). He mentions social rank again, writing that the upper echelon of a society has “privilege and rank” (Ibid: 125, 166)

and that Comanche warriors' rank is "fluid" (Ibid: 446). But he does not systematically connect rank with status.

We soon realized that constructing lists of titles, or positions, for a society would not capture the fact that statuses really are embedded in social ranks in complex societies. People of the same status may have different ranks within a society. For example, a land owner may be a ruler, a commoner, or even a temple or shrine. The roles associated with the status of land owner vary according to the status-holder's rank. When a ruler owns land, he assigns the task of farming to others. But when a commoner owns land, he usually farms it himself.

We also found that Linton's distinction between ascribed and achieved status is inadequate for complex societies, and so we have added another category—imposed status—to help the analysis. We define imposed status as one that is forced upon a person and is therefore neither ascribed nor achieved. Once a warrior or soldier is captured and becomes a prisoner of war, he may be forced to become a sacrificial victim or slave. And a woman who is made to marry has the status of wife imposed on her.

When we studied the statuses of slave, captive and human sacrifice, we also realized that performing a role may be fulfilled in two manners. A role may be active, that is, it is performed under the person's agency, or initiative. But a role may also be passive. Here, a person is forced or coerced to undertake a task. This distinction can often differ greatly depending upon the particular status-rank combination under

scrutiny. Indeed, it appears that any role cluster varies in its mix of active and passive roles depending on the rank of the person in a particular status. And we characterize the roles associated with statuses from ruler to slave as lining up along a continuum from mostly active to mostly passive.

METHODOLOGY AND CASES

We have been building a database of different traditions' statuses and roles, from captives and slaves to rulers, gods, and spirits. Researchers working with us have poured through the archaeological and historical literature to construct the database. Their work, which originally appeared as citations from the literature, was checked by an expert on each tradition.

Figure 1 is an abbreviated example of the categories used in the original databases. The information is organized into columns of a tradition's location and temporal spread; the names of all the statuses we could find (in English and the original transliterated language when possible); and the expected roles associated with each status. To determine rank, we recorded each status' place in the socio-political hierarchy and included a 'Reports to' column. These turned out to be difficult to ascertain as an occupational status could be held by people with very different ranks. Diviners in China might be members of the royal family or commoners. Following a status' place in the hierarchy is a column devoted to how an individual might legitimately attain that status. We reserved the last column for comments, or information the researcher felt would shed light on the status but which did not fit into

one of the preceding columns. Usually these are insights into the context of the status or roles.

We found that we needed historical reports to flesh out the archaeological reports, and writing usually did not crystallize until the end of the early state period. So although we had hoped to capture the initial state period, we had to use the period in which writing was developed. Furthermore, today's scholars had to be able to decipher the written record. For example, while the state formed in Egypt when Narmer united the Lower and Upper Nile (the Early Dynastic Period, 3150–2686 BCE), we use as our reference point the Old Kingdom (2686–2181 BCE), the period when the hieroglyphic system was established and could be read by today's scholars. And although the Indus Valley has written records, scholars still cannot read them and so we could not use this tradition in our analysis.

Our selection of tradition encompasses all the primary early states, i.e., those that self-organized into more complex organizations without using a model developed in another state. Because of the need to use texts as well as archaeological remains, the time periods for these states are usually several generations after the actual emergence of the states. In the case of Hawai'i, the time period used is the one reported on by the British. The primary states are:

- China, the Late Shang Dynasty (ca. 1250–1046 BCE), analyzed by Paula L.W. Sabloff and checked by Adam Daniel Smith.

- Egypt, the Old Kingdom (2686–2182 BCE), analyzed by Robert S. Weiner and checked by Laurel Bestock.
- Hawaiian state (1650–1778 CE), analyzed by Kong Fai Cheong and checked by Patrick Kirch.
- Lower Mesopotamia, or Sumer (2600–2350 BCE), analyzed by Henry Wright and checked by Stephen Tinney.
- Maya, the Late Preclassic to Terminal Classic (400 BCE to 900 CE), analyzed by Kong Fai Cheong and checked by Jeremy Sabloff.

The secondary early states were stimulated by earlier states' complex social structure. For example, Mycenaean Greece had contact with pharaonic Egypt and Minoan Crete (Dickinson 1999). We selected four for our initial study from different geographic areas based on the suggestions of our advisors. They are:

- Aztec (1350–1520 CE), analyzed by Jeffrey Cohen and checked by Michael E. Smith.
- Benin (ca. 355 BCE to ca. 1092 CE), analyzed by George J. Haddad and checked by Sandra Barnes.
- Greece, the Mycenaean period (1300–1200 BCE), analyzed by Skyler Cragg and checked by Michael Galaty.
- Late Zapotec, (1050–1500 CE), analyzed by Kong Fai Cheong and checked by Gary Feinman.

For comparison with the state traditions above, we used two non-states. These were chosen because the Institute had several experts in the area and therefore could guide our research:

- Tewa, pre-conquest (1300–1600 CE), analyzed by Jack Jackson and checked by John Ware.
- Hopi, the ethnographic present from the first half of the twentieth century, analyzed by Jack Jackson and checked by Abigail Holman.

Although we continue to add more cases to the database, we limit this chapter to the above, which we know have been checked by experts. Once they signed off on the databases, we constructed one big spreadsheet of the 11 societies, statuses (rows) and roles (columns), reducing each cell to a 1 (present), 0 (not present) or blank (missing information). In addition to the information from the database, we added information deduced from logic. For example, we assumed that a ruler did not normally become a human sacrifice or perform corvée labor in his/her own polity. We assumed that since royalty do not pay taxes, the king and his wives do not either. Be that as it may, we were very careful. If the literature did not mention slaves, we left the cell blank. If an author reported that there is no evidence of slaves, we placed a 0 in the appropriate cell.

We then created three types of graphs in NetDraw (Borgatti 2002). The first uses statuses as the nodes; the second uses roles as the nodes. In the third type of graph, the

societies are the nodes. In all three types of graphs, the edges represent co-occurrence between pairs of nodes.

We performed a Johnson's hierarchical cluster analysis to find the core attributes of each network. Generated from a symmetric (square) matrix, Johnson's hierarchical cluster groups the pairs of attributes that share some characteristic. Here, the shared feature is the relative frequency of the pairs' co-occurrences, which are derived from the weighted average and may be represented as a dendrogram.

We also ran categorical core-periphery analyses in order to have an independent check on the results of the cluster analyses. The former "estimates the degree of . . . closeness to the core of each" node. Both tests were generated in UCINET (Borgatti, Everett, and Freeman 2002; Hanneman and Riddle n.d.; see also Brughmans 2013).

STATUSES IN EARLY STATES

We gleaned from the literature 52 possible statuses for early states (see **Figure 2 for** a list of all possible statuses and their definitions). They range from the gods and ruler to captives and slaves. We first wanted to know which statuses form a 'core' in the early states. We generated a Johnson's hierarchical cluster analysis on the nine (five primary and four secondary) states and found 22 statuses that all the early states share. As the core-periphery test included 11 more, or statuses that *almost* all share, we chose the larger number as the core (Figure 3).

When we ran the tests on the primary and secondary states separately, we saw that three statuses appear in the primary but not the secondary states. These are the provincial governor, scribe, and servant. Four statuses appear in the secondary but not the primary states: commoner leader (e.g., clan leader or ward leader), council member, merchant, and state priest. Some of these differences must be due to insufficient data or different usages of terms by the researcher authors. However, it is interesting that the merchant status appears in the secondary-state literature but not the first (as far as we could determine).

Core Statuses of Early States by Domain and Social Rank

Certain features stand out when we look at the core statuses by societal domain (major categories or institutions of behavior) and social rank (Table 1). The first domain refers to socio-political (SP) statuses. Humans in the early states exhibit eight core statuses of the highest (human) rank in this domain. Rankings range from a 1 for the gods, spirits, and ancestors to a 2 for humans of the upper echelon, a 3 for people who are neither nobility nor slaves (referred to in the literature and here as commoners), and a 4 for slaves and captives. In the socio-political domain, the highest (human) rankings are a mixture of social ranks and administrative positions.

Four more statuses in the socio-political domain draw members from the second or third rank. Retainers to the king or other royals and women who are secondary wives or concubines form the social part of the domain. Government officials come from either rank. Their duties and geographic control vary with their rank. By focusing

on officials of different rank, we are made aware that certain positions, or offices, must be occupied by members of the upper echelon while others are not. This is generally true for military statuses as well.

Below these ranks are commoners (rank 3). They are sometimes called free-born men in the literature (Bradbury 1973: 60 on Benin, for example) or members of the free class in Lower Mesopotamia (Gelb 1965: 241). They may serve as low-level officials or bureaucrats.

The lowest rank (4) in the socio-political hierarchy is assigned to slaves and captives who act as servants, laborers (skilled and unskilled), and sometimes supervisors of laborers. Slaves may have been captives or criminals, as in the case of the Aztec (M. E. Smith 2003: 137). Just as their status is imposed, so their lives are controlled by someone else, usually by someone from the second rank. They work but do not earn (Trigger 2003: 157–60).

Non-states have neither the top nor the bottom ranks found in the socio-political domain of early states. Instead, all people are considered to have similar rank, and any gradation among them is not hereditary. Actually, non-states have the concept of ‘the people,’ which is frequently the name they call their group (e.g., the Navajo call themselves Diné). In contrast, those living in the early states see themselves as part of a stratum within a larger society as well as members of the society itself.

The economic domain (E) covers the agrarian and industrial sectors. In the former, the highest ranked status is that of fief holder, that is, a royal or noble who

receives income from estates. An exception is Egypt, where the ruler ‘owns’ all arable land. Royal and noble followers administer the estates and receive income from them but do not own them in the legal sense (Blanton and Fargher 2008: 147; Baines and Yoffee 1998: 229). The next rank (rank 3) consists of farmers, herders and shepherds. They are usually commoners. Serfs’ civil status varies between commoner and lower status (ranks 3 and 4). Slaves (rank 4) also farm.

The ranks of those engaged in farming illustrate a critical difference between states and non-states, namely, property relations to the land. In the early states, rulers, fief holders, and sometimes temples or shrines own swaths of arable land; farmers own some land; and serfs and slaves own no land but work for an overlord. In the non-states, farmers all have the same ownership relation to the land. They either own the land outright or have usufruct rights to some of the land owned by their settlement or extended kin group (McAnany 1995: 92–96). Indirect evidence suggests that these practices were established in Pueblo societies during the first millennium CE (Kohler 1992).

All the early states institutionalize different kinds of property rights—from royal ownership to fief-holds, corporate (kin or settlement group) land-holding, and small plots. Thus *the real import of agriculture for state formation is not dietary change or sedentarism but the diversification in types of productive property linked with the right to hereditary property, or land*. This transition preceded state formation (see Johnson and Earle 1987: 201–02; Flannery and Marcus 2012: 206–07, 256–57).

In the industrial sector, we see a parallel process of diversification of craft production by rank. Sometimes even royals make fine crafts such as Mayan polychrome vases (Houston and Inomata 2010: 263) or act as Shang Chinese diviners (Feng 2013: 93, 108; Trigger 2003: 505; A. D. Smith 2010; A. D. Smith 2011). However, we do not have evidence of royals or nobles engaged in unskilled labor. This is left for commoners and slaves.

Denizens of states may also work for different types of employers. In Lower Mesopotamia, craftsmen may work for themselves, selling their own wares, or for a private person such as a royal, a noble, or a kinsman. They may also work directly for the state. In Mycenaean Greece, skilled workers may work for a temple or the state (A. Westenholz 2002: 30; Gelb 1965: 242). In Egypt, they work in teams administered by controllers and various overseers (Baines and Yoffee 1998: 230; Trigger 2003: 369). In Shang China, makers of bronze vessels work for royal or noble patrons, usually in workshops (A. D. Smith 2010; Campbell n.d.; Campbell, Li, He, and Jing 2011).

Because non-states do not have a central government, workers cannot report to as many types of employers as workers in states do. In other words, *differentiation of possible employers seems to be another key feature of state societies*. A status-and-role analysis of a population helps illuminate this fact.

In the religious domain (R), states have a hierarchy of deities, from a chief god to lesser gods, gods of particular settlements, nature spirits, and sometimes ancestor spirits (found in Shang China, Classic Maya, pre-conquest Zapotec and Hawai'i, and

Benin). This ranked set of deities reflects and perhaps legitimizes the sociopolitical hierarchy. Just as there are at least three levels of society (ruler and nobility, commoner, and slave), so there are at least three possible levels of gods.

Humans working in the religious domain also belong to several ranks. The Aztec, Zapotec, and Hawai'i have a state priest (a priest over the entire state), specialized priests, and regular priests. The Aztec also have head priests for different temples and shrines.

Standing between the socio-political and religious domains is the status, 'servant of the gods.' The term refers to someone who is responsible for performing certain rituals to honor the gods or bringing sacrifices and offerings to the gods' statues. Often the ruler has this status. It gives him/her a direct (and often monopolistic) connection to the gods. The one who satisfies the gods' needs has the ability to please, appease, interpret, and ask favors of them.

We think of the rankings in every domain as a progression from no decision-making power (slave) to complete freedom (chief god) and from poverty (serfs and slaves) to wealth (ruler and royalty). We do not see these continua in the Tewa and Hopi columns of Table 2. And although they appear to share almost half the statuses with the states, we must keep in mind that the categories were developed for state-level societies; the non-states data were fitted into categories that might not make sense for them. For example, a Hopi may have the title of military commander, but by the period of research, Hopi no longer practiced warfare.

High-ranking Women and War

Within the states' sociopolitical domain is a cluster of core statuses reserved for high-ranking women other than a queen ruler. These are the ruler's female kin, the queen consort/mother, and royal/noble women. Their marital statuses are initially ascribed or imposed rather than achieved. They are core statuses probably because they have great importance for the ruler, for they provide him with long-term alliances. Unlike a bronze vessel or piece of jewelry, high-born women whom the ruler marries to a (potential) ally or women who marry into the ruler's entourage maintain contact with their kin for years, passing messages and advocating for their kin or spouse. The literature provides some examples of alliance building through the exchange of women (Schele and Freidel 1990: 59; J. G. Westenholz 1990; Freidel and Schele 1997; Keightley 1999: 33, 43; Freidel and Guenter 2003; Allen and Arkush 2006: 4; Connell and Silverstein 2006: 400, 402; LeBlanc 2003, 2006: 406; Turchin, Currie, Turner, and Gavrillets 2013, among others). Most telling is Simon Martin's (2008) description of the Dallas Altar, which depicts three high-class Mayan women from the Snake kingdom (Calakmul) who marry into the smaller settlement of La Corona. As the three come from different generations, they cement the ties between the two settlements.

The scholars who have written on the impact of warfare on early state formation (see also Stanish and Levine 2011) mostly mention alliance-building only in passing. The prevalence of long-term alliance-building as seen in the centrality of high-rank women's statuses suggests that it must be seen as a concomitant process to warfare.

Rulers and the elite need trustworthy allies in order to wage war against a mightier foe—or assure victory over any foe. Sometimes warfare is a last-resort effort that occurs only when long-term alliances break down. Therefore we urge archaeologists to treat long-term alliance and warfare as two sides to the same coin.

Using women to actualize long-term alliances depends on polygyny, the ability of a ruler to form and maintain several political ties at one time. While we do not yet know how far down the social ladder polygyny is practiced in many of the states we studied, we do know that it was practiced by the ruler (king) in all nine of the early states.

Typical Early States

Once we determined the core statuses, we used the information to learn if there is a typical early state, one that stands as an example for research or public interest. We devised a prototype from the vector of average percentage of statuses along three dimensions—domains, ranks, and domains and ranks combined—and then measured the Euclidean distance of the different societies from the vector. Table 3 shows that the typical society varies depending on the dimension selected. There is little variability between the states in the domains of external relations and the economy. That is, there is little variability in the number of statuses found in these domains. However, the sociopolitical and religious domains exhibit sufficient variability to make China and the Aztec closest to the prototype. Lower Mesopotamia, Hawai'i, and Benin have the same number of statuses as China and the Aztec for the sociopolitical

domain, but their scores for the religious domain are not at all near the prototype. Needless to say, the two non-states vary greatly from the states as well as the prototype.

Regarding societal ranks, the states differ in the number and kinds of statuses of deities (and supernatural phenomena). Egypt deviates the most from the others as well as the prototype. Considering the highest rank for humans—from the ruler to the nobles—there is a greater degree of shared statuses than there is for the religious hierarchy. All the states have slaves and captives, and so there is little variability among states in this rank. When the four ranks are averaged the Maya are closest to the prototype, followed by Hawai'i and Benin. Again, the non-states do not share the hierarchy of people that the states do, and so the non-states' scores are much lower than the states'.

Combining the domains and rankings, Lower Mesopotamia is closest to the prototype, with the Maya following close behind. In other words, Lower Mesopotamia has the lowest proportion of deviations from the prototype of all the states.

The table highlights other patterns. First, Hawai'i's place in all three parts of the table suggests that it has many of the characteristics of a state and therefore should be considered one. Second, at the bottom are the Hopi and Tewa. Their relatively greater distance from the prototype gives added weight to their classification as non-states, which the archaeological and ethnohistoric data bear out. Third, Egypt appears just above the Tewa and Hopi in the ranks-only and combined sections. We postulate that

its position is the result of an ideology of regal divinity, that is, the Egyptian king was the son of the god Horus and therefore divine himself. The other traditions (with the exception of the last years of the Hawaiian state) legitimize the ruler by the principle of divine right, not divinity. Egypt's regal divinity ideology resulted in a slightly different socio-political structure from the other early states.

We also wanted to know which societies shared the most statuses. We were able to compare the relative number of matched (0 to 0, or 1 to 1) and mismatched (0 to 1) statuses between the societies, eliminating missing values and therefore giving a more accurate picture of what is shared. Figure 4, based on the original 52 possible statuses (see Figure 2), illustrates the co-occurrence of statuses in pairs of societies. For example, it shows that in the first column, Egypt and the Maya have the most matches (83 percent) and therefore the fewest (17 percent) mismatches. In the second data column, Lower Mesopotamia shares 81 percent of matches with Greece and the Aztec, but the latter two only share 69 percent with each other. These pairings suggest there is little difference in the number and kinds of statuses between state organization in the Old and New World or between primary and secondary states.

The non-states share few statuses with the early states. While the Tewa and Hopi share 79 percent matches with each other, the Tewa—the least hierarchical society in this sample—share only 35 percent of statuses with Greece, the Tewa's next highest percentage of shared statuses. Greece is the least hierarchical of the early states, as far as we know. The Hopi, in turn, share only 40 percent of statuses with Lower Mesopotamia. Kohler (2013) suggests that the Tewa and Hopi, who belong to

different language groups but the same cultural tradition, may share sociocultural patterns because of migration (frequent interchange of populations and ideas) and adaptation to a similar environment rather than level of political organization.

ROLES IN THE EARLY STATES

We present an analysis of the roles for a ruler, farmer, and slave, using our modified definition of Linton's concept. These statuses were selected because they represent different ranks in the social structure. Rulers are always of the nobility, and farmers are generally from the commoner stratum, i.e., neither noble nor slave. Slaves, on the other hand, have varying rank depending on their skills, their status before enslavement, and the status/rank of their owner.

The Ruler

The ruler, the person with the highest rank in a polity, performs more roles than any other status found in an early state—33 out of a possible 66. His roles also extend through all four domains of the study, as seen in the fourth column of the Figure 5. Thirty are core roles as they are shared by at least six of the states in our sample according to Johnson's hierarchical clustering analysis and the core-periphery test.

While Figure 5 is meant to represent both male and female rulers, certain roles probably apply only to a king. We assume that queen rulers, who appear in the literature on Egypt and the Maya, do not practice polygamy, although kings in all early states practice polygyny. (One hears of harems but not stables of husbands.) In

order to form many long-term alliances, the queen ruler has to depend on kin or wait for her children to be of marriageable age. Still, both kings and queen rulers use patronage to tie their royal subjects and conquered territories to them.

The socio-political domain of rulers has 14 roles. Of these, only two may be interpreted as having a passive component. 'Inherits' may appear to be passive, but a ruler often has to compete against others to inherit his position. 'Predicts' (row 31) is ambiguous as it is not always clear whether the gods are predicting and the ruler is interpreting or the ruler is doing the predicting. Therefore we marked 'predicts' as both active and passive.

The roles that have both socio-political and economic dimensions (rows 15 to 19) are all active, as is row 20, which combines socio-political and religious functions. The five external-relations roles are by and large active, for the ruler makes alliances and wages war. Row 26 has a passive component, and that is when the ruler is captured in war. Being captured is definitely passive, although it comes from being an active fighter.

In the religious domain, rows 27 to 30, the ruler may be considered passive only when he is seen to be serving the gods or ancestors.

Looking at the ruler's roles in Figure 5, we gain insight into his/her position in the socio-political order. Basically, we see a person who controls power in several ways. By monopolizing access to the chief god or royal ancestors, the ruler gains legitimacy and one means of controlling the decision-making process. Success in war

or protecting the populace from famine, drought, and other pestilences increases the ruler's prestige and right to rule.

The ruler maintains power over the populace by coercion when he has control of the troops, especially if he maintains his own standing army (Aztec [M. E. Smith 2003: 154]; possibly Shang China [D. Keightley 1983: 548, 555]). By controlling trade and access to natural or imported resources (which most did), the ruler regulates the distribution of goods and resources, thereby controlling everyone's access to wealth accumulation.

The ruler uses different types of control over royals and nobles. He binds them to his will not only through coercion (we assume) but also through patronage (which makes them obligated to him) and marriage alliances.

A ruler's life is not all control and conspicuous consumption, however. With position comes the responsibility to actually protect the populace from risk—starvation or slavery imposed by a conquering ruler—and the nobility from destroying each other or replacing the ruler. So on the one hand, in the words of Mel Brooks, “It's good to be the king!” But on the other, it is a rather risky position. What if the king cannot deliver on his promises? What if he is captured by a foreign power? The literature provides many examples of kings being deposed, or worse.

Before leaving our discussion of rulers, we show which societies interpret the status of ruler in a similar way, i.e., share the most roles for a ruler. For this analysis, we reintroduce the Tewa and Hopi as foils for the early states. Figure 6 is a

dendrogram produced from a Johnson's hierarchical cluster analysis and checked by the UCINET core-periphery test. It shows that Egypt and Lower Mesopotamia, Benin and the Maya share the most roles for a ruler. Next, Hawai'i joins the Maya and Benin, and this triad joins Egypt and Lower Mesopotamia. China joins the large cluster, and the other societies add on to it. The exceptions are the Hopi and Tewa, which do not have rulers and therefore appear separate from the other societies.

Perhaps the similarity between Egypt and Lower Mesopotamia relates to geographic proximity and intercommunication, but other primary states such as the Maya and China were not connected. Yet they exhibit the same role pattern. Therefore we can say that the status and roles of ruler are independent inventions, perhaps necessary for the development of complex society or even the result of the human mind solving similar problems in different parts of the world.

Primary and secondary states exhibit similar role patterns even though the primary states cluster at the top of the graph. This means that whether developing or adapting a state model makes little difference in the roles played by the leader.

Figure 6 also shows that Hawai'i remains in the middle of the state societies, suggesting once again that it is a state with the same basic organization of leadership as the other early states.

All in all, this analysis of the ruler's roles does not present an earth-shattering new perspective on early states. However, it does corroborate the findings of archaeologists, for example, Peregrine (2012) and Adam T. Smith (2003: 108–09).

Farmers, Herders, and Serfs

We decided the best way to analyze tillers of the soil was to compare farmers and herders with serfs as the two groups engage in the same work but have different statuses, or legal standing. We define farmers as people who have the right to farm a segment of land either through ownership or membership in a settlement or kin group, i.e., usufruct rights. Herders (and Hawaiian pond fishermen) may own part or all of the animals they raise. One may think of farmers and herders as small business owners usually farming on borrowed or leased land or raising their own or borrowed livestock. They are commoners in the socio-political hierarchy.

Serfs, on the other hand, till the soil or raise animals owned by an overlord; they are employees. In the literature, researchers see serfs as commoners (Aztec [Berdan et al. 1996: 3; M.E. Smith 2003: 154], Benin [Bradbury 1973: 151–57], Maya [Houston and Inomata 2010: 218], Late Zapotec [Whitecotton 1977: 149], Egypt [Baines and Yoffee 1998: 229], and China [Trigger 2003: 157]).

Figure 7 represents networks of roles played by farmers/herders and serfs. As in the section on rulers, we included every role that appears in at least one society in the sample. The nodes in the graphs are the roles and the edges link nodes that co-occur in a particular society. The thicker the edges and the closer the nodes, the more societies include the co-occurring nodes in their database.

Of the nine possible roles for farmers and herders, three fall into the socio-political domain. All of the roles in this domain are passive. They are: ‘is ruled’ by a

state government, 'is coerced' by the power of an army or police, and 'is controlled' by individuals. This means that when performing their roles, farmers and herders have little or no decision-making authority. These roles form part of the cluster of core farmer/herder roles in Figure 7a.

Two roles, 'corvée' and 'serves,' span the socio-political and economic domains. They are partly socio-political because people perform the roles as part of their social status. But because the duties associated with the roles are pure labor, they may be considered economic as well. 'Corvée' means the labor a farmer/herder owes the state or an overlord each year. 'Serves' refers to directly serving a superior. While farmers/herders serve the gods and/or ancestors like anyone in their society, there is no evidence that they perform labor for an overlord while fulfilling their agricultural duties. Of course, while they are performing corvée labor, many serve overlords directly.

The remaining roles fit within the economic domain. Only 'gains wealth' is active. It is represented by a triangle in the graph. Although we found no direct evidence of farmers who accumulate wealth, we reasoned that since farmers can become debtors, they probably can gain wealth as well. This is the case among the Maya (ibid: 229). Still, this role is situated far away from the other nodes and has weaker co-occurrence ties than any other node in the graph.

'Farms' may be seen as active or passive. It means to actively make decisions—either where and when to plant, water, or fertilize different plant species or how to

feed animals (moving them around to different pastures or growing fodder). But farmers and herders inherit their status and have little choice as to whether or not to practice their parents' occupation. 'Owns land/property' is also a mixture of active and passive decision-making, for most farmers do not 'own' land—they cannot buy and sell it. Rather, they have usufruct rights as members of a kin group or settlement. Taking up their usufruct rights may be a choice for some, but most have little mobility as their property rights are tied to their membership in a clan or lineage. The Maya seem to be an exception (Houston and Inomata 2010: 243–44).

'Pays taxes' is the only economic role that is purely passive as farmers and herders do not have the right to decide whether or not and how much to pay.

In contrast to the ruler who has 28 possible active roles, 2 roles with active and passive components, and 2 passive roles, farmers and herders have only 1 active role, 2 active roles with passive components, and 6 completely passive roles.

When we compare farmers and herders with serfs, we see that the latter do not play all the roles that the first two do. Unlike farmers and herders, serfs lack ownership or usufruct rights to the land they cultivate. Therefore, they neither 'own land' nor have the opportunity to 'gain wealth.' Furthermore, they do not perform 'corvée' labor as they are full-time servants. These three roles are off to the side of Figure 7b, for no early-state serf engages in them. The other five roles are all passive, for serfs have no choice but to farm or serve their overlords.

Aside from the logical conclusion that serfs neither own land nor perform *corvée* labor, we have little information on whether or not serfs pay taxes to the state, except for the Late Zapotec, who do not (Whitecotton 1977: 150–51). But it makes little sense to expect serfs to pay taxes when they are farming someone else’s land and have to give all but subsistence fare to their overlord. Serfs play only passive roles. This is interesting because it distinguishes them from farmers/herders. It also differentiates serfs from slaves, who sometimes have active role options (see below).

Comparison by Early State and Non-state

When we compare the states and non-states by farmer/herder roles, we find that the states cluster in the upper left corner of the graph (Figure 8a). That is because the nine states share not only the economic roles but also the socio-political roles found in Figure 7. Hawai’i sits a little below the others. The Tewa and Hopi share with the early states the roles of ‘farms’ and ‘gains wealth.’ But they do not perform the roles ‘is controlled,’ ‘is ruled,’ performs ‘*corvée*’ labor, or ‘pays taxes’ in the farmer/herder graph.

Figure 8b is the graph for serfs. Here, Greece, China, Benin, and Hawai’i join the Tewa and Hopi, for we have no evidence that any of these societies have serfs. Looking at the data on Mycenaean Greece (or at least Pylos), the Linear B tablets record no mention of serfs. Rather, people ‘lease’ small parcels of land from the ‘*damos*’ (community), private landowners, temples, or the palace (Uchitel 2005: 474–

75). Shang China may have day laborers farming the king's land, but there is no report of serfs per se (Trigger 2003: 326).

Slaves and Indentured Slaves

The definition of 'slave' during the early states period is problematic, for some authors conflate slaves and indentured slaves (Pennock 2008: 19; Soustelle 1961: 74; Aguilar-Moreno 2007: 75). While slaves are the property of another and do the work assigned them with little autonomy, indentured slaves are (usually) commoners who sell themselves (or are sold by family members) in order to pay off debts or taxes. During their indenture, they have little or no freedom. But in several societies, they are allowed to work off the debt and regain their freedom. In this section, we distinguish indentured slaves from slaves only in how people obtain their status or are freed from it. The economic roles are the same, for one could argue that an indentured slave is basically performing slave labor during his/her term of servitude.

Slave roles appear in Figure 9. The degree to which they are active or passive seems in part to be determined by their position in the hierarchy, which can differ depending on who owns the slave. For example, slaves of the nobility in Benin can take active roles in being war commanders or other top military officials. Slaves may also have certain skills prior to their enslavement that allow them to occupy certain statuses. Those who know a craft—how to build a boat, chariot, or bronze vessel—may have higher rank than slaves who work in construction or agriculture. In

addition, some people of high status who become enslaved may retain some aspects of that status while their roles change.

In the early states, slave status is imposed on people rather than chosen. All nine early states enslave captives in war or raids. Egypt, Hawai'i, and the Aztec punish people for crimes or indebtedness by making them slaves. The Aztecs [M. E. Smith 2003: 137; Aguilar-Moreno 2007: 75] and the Maya [Houston and Inomata 2010: 47]) sell family members or themselves into slavery in order to pay a debt. Lower Mesopotamia, the Late Zapotec, the Aztec, and Benin buy and sell (trade) slaves.

The ability to buy their freedom is the only truly active role open to slaves. Trigger (Trigger 2003: 159) reports that Aztec indentured slaves can buy their freedom, but this is the only case we could find in the literature.

Three slave roles vacillate between active and passive. 'Administers,' 'supervises,' and 'receives authority' mean that a slave can direct the work of others, whether he or she operates at the level of the bureaucracy or the work gang. Benin slaves could hold top military positions, commanding armies, until the eighteenth century (Osadolor 2001: 9). Although the status-holder may hold significant power and command respect, s/he still has to answer to someone above (see, for example, Adams 2010:§4.3 on Lower Mesopotamia). Thus the role is both active and passive.

Two sociopolitical roles are passive. 'Is controlled' and 'is coerced' refer to the fact that a slave's life is totally controlled by his/her overlord. The slave roles in the economic domain are largely passive also. These are 'serves' a master;

‘builds/maintains’ buildings and infrastructure; works in the house (‘WorksHouse’); ‘farms;’ and ‘creates’ pottery, woven cloth, etc. It need not be said that ‘is sacrificed’ is definitely not the choice of the slave (with some exceptions, we would expect). Still, only four of the eight states use slaves as sacrifice: China, Hawai’i, Late Zapotec, and the Aztec. Old Kingdom Egypt and Early Dynasty Lower Mesopotamia no longer sacrifice humans, and so they do not sacrifice slaves. Neither does Greece.

The only active economic role, ‘owns land/property,’ seems to be limited to Mycenaean Greece, where slaves can own land (Deger-Jalkotzy 1972: 147), and the Aztec, where slaves can own property, including livestock (M. E. Smith 2003: 137, 151–52; Hassig 1992: 137).

The early states¹ form a hierarchy of similarity clusters, reflecting the complexity of the slave status and the conflation of indentured slave with slave. Figure 10 exhibits a triangular core of Lower Mesopotamia, Benin, and the Aztec. These three share two roles that few of the others do, namely ‘owns property’ and is ‘bought/sold.’ Greece, then Egypt, Late Zapotec and China surround this core, and Hawai’i links on last.

¹ Because the Tewa and Hopi do not have slaves, they are not included in this part of the analysis.

The network reflects what we know of slave (and indentured slave) statuses and roles now, but it does not reflect the different societal structures, for we know that Greece and China are structurally different from Lower Mesopotamia and Egypt. What the graph seems to reflect is the states' philosophy of humanity. All of the states with slaves seem to see captives in war or raids as fair game—the old 'us vs. them' idea. But as far as we know, only Lower Mesopotamia, the Aztec, Benin and the Late Zapotec trade slaves like chattel, and only the Aztec, Benin, and Hawai'i enslave debtors or criminals. Although the Aztec use slaves as human sacrifice, they also allow indentured slaves to buy their freedom.

CONCLUSION

We have undertaken this exercise in the hope that a status-and-role comparison of early states would yield new insights into their nature. We have not been disappointed. By applying network analysis to a modified definition of Ralph Linton's status-and-role taxonomy, we have been able to corroborate some archaeological insights/theories and discover some new ones as well.

In order to make Linton's ideas applicable to early complex society, we need to investigate status in relation to rank—always. That is, instead of viewing the statuses in any society as a list, we add a second column for rankings with the understanding that some statuses (such as father or weaver) can be held by people in more than one rank. Linton's classification can be made even more useful if we add imposed and derived to his classification of achieved and ascribed statuses (1936: 118–21). With

these new categories, we capture how status is attained for almost the entire society because captives, slaves, and women who are married off do not willingly seek their status.

By extracting the statuses and roles from the historical and archaeological literature and by applying statistical and network analysis to the data, we gain a method that helps us visualize the similarities and differences among the early states as well as some non-states. While this is not the first comparative methodology proposed (see, for example, Peregrine, this volume; chapters in M. E. Smith 2012; and Blanton and Fargher 2008 for some other approaches), it is a simple way to conduct multi-state comparison that allows us to break away from older taxonomic thinking.

The methodology has another advantage, for it yields measurable differences among states and between states and non-states. Through measurement, we can judge which societies belong among the states. For example, we see that pre-conquest Hawai'i institutionalized most of the same statuses and roles as other early states and therefore should be considered one. This supports the findings of the leading archaeologist of the Hawaiian past, Patrick Kirch (2010).

Beyond methodology, we discovered that searching for the roles attached to different statuses could yield insight into decision making. Roles appear to be active, passive, or some combination of the two. By this we mean that a person in a particular status has the ability/power to decide whether or not and how to play particular roles. Active roles allow the player to choose whether or not to perform them and, if so, how

to do so. The higher a person's rank, the more decision-making ability s/he has. A ruler has the most roles to play and most of these roles are active. The exceptions are the few roles he plays vis-à-vis the gods. But these passive roles add to the ruler's legitimacy and give him control of decision-making for the polity. A role such as farming may shift from partly active to totally passive depending on a person's status and rank. Farmers have some active roles but serfs do not.

Other social scientists have used this active-passive dichotomy to analyze how people behave in certain circumstances (e.g., Richardson 1985: 163–79; Adler, Kless, and Adler 1992), or they associate action or dominance with men and passivity or subordination with women (Linton 1936: 99–105, 116–18; Ghvamshahidi 1995). The active/passive dimension of roles extends all the way through a society's status hierarchy. It allows us to add the critical dimension of power in an analysis, and it adds a valuable tool for cross-cultural comparison.

We found that one of the key differences between non-states and early states is an expanding differentiation of legal and economic possibilities. First and foremost, types of rights to arable land and pasture expand. In non-states, rights are usually determined by one's membership in a kin group. Writing about the Tsembaga Maring of New Guinea, Johnson and Earle (2000: 187–88) note that the owners of arable land are the clans: “. . . the clan defines ownership rights and restricts access to land. Clan members may exchange land with each other . . .” But in a state, the ruler, the royal family, nobles, and temples may own some of the land while kin groups own the rest. In Egypt and Lower Mesopotamia, the ruler theoretically owns all the land and

everyone works for him (Blanton and Fargher 2008: 147; Henry Wright, personal communication, March 2014; Trigger 2003: 334), for example, the Inca (Johnson and Earle 2000: 323–24) and the Aztec (Berdan 1996: 3; M. E. Smith 2008: 154).

We also found diversification in employers. Whereas people would work for their families and kin groups in non-states, people in states would work for anyone from a kin group to the state, a temple, or an overlord.

In the socio-political realm, we noticed the strong connection between warfare and long-term alliances that are anchored by the exchange of women. We propose that warfare cannot be considered the only process in moving societies from chiefdoms to states. Rather, it is always accompanied by long-term alliances. Indeed, the extensive practice of forming alliances through marriage suggests that long-term alliances are simply the other side of the warfare coin. Long-term alliances both forestall war and increase a state's chance of success in war. We therefore urge archaeologists to analyze warfare in light of alliance-building.

Future research may show that the difference between societies with slaves and those with slaves and indentured slaves reveals their sense of who is human, who is 'us' instead of who is 'other.' By comparing the hierarchy of gods or deities with the social hierarchy and especially the treatment of slaves, we may learn more about different states' political and religious philosophy. But this must wait for another time.

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Figure 1. Organization of data by society.

Associated territory/dates	Status	Expected roles	Place in hierarchy	Reports to	Basis of legitimacy	Comments
(Early–Late) Shang China 1600–1050 BCE	King (<i>Wang</i>) (Trigger 2003:89)	<p>*Rules over a state that covers most of north-central China (Campbell n.d.:3)</p> <p>*Travels around the territory (Keightley 1983:537)</p> <p>*Delegates authority to territorial governors (Trigger 2003:216)</p> <p>*Accepts tribute from lords living outside the capital (Barnes 1999:134)</p>	Top of living beings, but gains divine ancestral status upon death	Royal ancestors, chief god	Born into ruling clan; oldest son or next oldest brother of king (Feng 2013:103–06; Trigger 2003:149–50)	King was not considered "the son of heaven"—the representative of the gods on earth—until the Zhou Dynasty (A. D. Smith, personal communication 6/30/2014)

Figure 2. All possible statuses found in archaeological and historical literature on early states and non-states. How a particular status is obtained is represented by 'As' (ascribed by birth or change from one stage of life to another, e.g., from infant to toddler), 'Ach' (achieved through personal effort) or 'I' (imposed by another person or derived from a preceding status, for example, an enemy soldier can be made a captive and then a slave).

	Status	How obtained	Definition of status
1	Ruler of rulers (paramount ruler)	As and/or Ach	Ruler of other rulers and their territories as well as his own. A paramount ruler.
2	Ruler	As and/or Ach	Rules a territory or people.
3	Queen ruler	As and/or Ach	Female ruler who controls/rules in her own right.
4	Prince	As	Son of a ruler; possible heir to his father's position.
5	Ruler's female kin	As	Daughter, sister, etc., whose marriage may be used for alliances within or between polities. While her natal position is ascribed, her royal kin may impose her adult status.
6	Queen consort/mother	Ach, I	Senior wife of a king or paramount ruler.
7	Ruler's other wife	I	Attached to the ruler through marriage (or some facsimile of marriage); used for alliances, etc.
8	Royalty/nobility-male	As	A royal is a person with direct kinship ties to a ruler. A society determines how many generations out to count as belonging to the royal. A noble is a person whose kin bonds to royal ancestors are too distant to be counted as royal but is still part of the elite.
9	Royalty/nobility-female	As and/or I	Royal or noble woman, depending on her lineage or her marriage into the elite strata.
10	Provincial elite	As	A person who was part of the ruling stratum of a territory before it was conquered.
11	Commoner	As	A person not born into a royal or noble lineage. He might be someone who is not a serf, or the category might include serfs. It varies in the literature. A female commoner is born or marries into a commoner lineage. She usually ranks a step below her husband. Often she weaves, grows a vegetable garden, and cares for children and her husband's family.
12	Commoner leader	As or Ach	Within the commoner stratum, he is head of a lineage and is responsible for the behavior of its members.
13	Serf	As	A person who farms, herds, or does general work for an overlord. He does not own land.
14	Slave	As or I	Someone who works for an overlord or some corporate entity: the state, the ruler, or a temple/shrine. He/she is the owner's property. A slave has no freedom of movement; he/she receives compensation (food, clothing, etc.) rather than a wage.
15	Captive	I	Someone from outside the polity who has been captured (usually) on the battlefield or by raiding within the enemy's territory.
16	Human sacrifice	I	A person who is sacrificed. He/she may be a prisoner of war, a slave, etc.

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17	Prime minister	As and Ach	A person who advises the ruler or makes policy decisions regarding people and territory.
18	Council member	As and Ach	A member of a council that advises the ruler or makes executive decisions within a circumscribed territory. He/she operates on several levels of government.
19	Provincial governor	As and Ach	A person who controls a captured territory or people in the name of the ruler. He is usually a member of the royal family or the nobility, but sometimes he is the former ruler of the captured territory.
20	Territorial official	As and Ach	Someone who is responsible for a cluster of settlements within a ruler's territory that is smaller than a province.
21	Settlement/ward official	As and/or Ach	A person who governs a settlement or part of a settlement: a town, village, or hamlet. In Lower Mesopotamia, he is called the 'city ruler.'
22	Govt. administrator	As and Ach	An official responsible for overseeing a part of the bureaucracy, e.g., agriculture, treasury, public/religious works. He may also be a mid-level administrator, who supervises a section within a department such as foreign relations, agriculture, or tax collection. He may also be a tax collector.
23	Scribe	As and/or Ach	Someone who writes accounts. Such writings may be divinations or other religious accounts, tax rolls, etc. he may be a royal, nobleman, or commoner.
24	Military commander/warrior	As and Ach	A general or war chief who decides military strategy or leads an army. He/she may be anyone from a ruler to a member of the nobility. In Benin, he may sometimes be a slave.
25	Age-grade member	As and Ach	When a society is divided into age grades, each male above puberty is initiated in an age-grade of his cohorts. Together they move through the grades of youth, adult, and elder.
26	Fief holder	As and/or Ach	A royal or noble who owns swaths of productive land (agricultural or pastoral); a landed aristocrat.
27	Retainer	Ach, perhaps As	Someone who directly serves the ruler, his immediate family, or other members of the court. Not a slave, he/she comes from the royal to the commoner stratum.
28	Supervisor-skilled workers	Ach	Someone who oversees the productivity of skilled workers, e.g., crafts people, entertainment groups, masons, etc.
29	Supervisor-unskilled workers	Ach	Someone who oversees the productivity of unskilled workers, e.g., ditch diggers or field hands.
30	Skilled worker	As, Ach, or I	An artisan, or craftsman. Someone who makes and/or repairs anything from chariots to ceramics. Often there is a hierarchy within this category, and the master craftsman may run a workshop or train apprentices.
31	Unskilled worker	As or I	Someone who performs unskilled labor, e.g., farming, ditch-digging, or carrying bricks.

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32	State worker	As, Ach, or I	Someone who works for the ruler, the state, or a temple.
33	Private worker	As, Ach, or I	Someone who works for a private overlord.
34	Farmer/herder	As and/or Ach	Someone who tills the soil and/or raises animals for a living (a herder or shepherd). The land may or may not belong to him. Often he/she performs corvée labor and is usually a commoner.
35	Soldier, police	Ach and/or I	Someone who serves full-time in the ruler's army, guard, or police. While farmers often serve as foot-soldiers in times of conflict, soldiers who drive chariots, archers, etc., may be full-time.
36	Peddler/trader	As and/or Ach	Someone who exchanges goods and produce. The peddler or trader may operate within a barter or market economy.
37	Merchant	As and/or Ach	Someone who exchanges goods or produce usually for luxury items or resources coming from outside the state or from long distances within the state. The merchant may operate within a barter or market economy.
38	Servant	As and/or Ach	Someone who works for another and receives wages.
39	State priest	As and Ach	The high priest for the entire state. He/she may be the ruler or some close kin of the ruler.
40	Head priest	As and/or Ach	The high priest/priestess for a shrine or temple. He/she may be some close kin of the ruler.
41	Servant of the gods	As and/or Ach	The person(s) responsible for making sure the gods are "fed" through sacrifice or offerings. He/she may be the ruler.
42	Priest, priestess	As and/or Ach	A person responsible for religious activities perhaps in a temple or shrine. He/she may perform specialized rituals, e.g., killing animals or sacrificing humans, performing ceremonies over the dead and pre-war rituals.
43	Temple administrator/staff	As and Ach	The chief administrator directs others in maintaining shrines, temples, and the ritual paraphernalia used in rituals.
44	Religious specialist	Ach	A performer for religious rites--music, dance, etc.
45	Diviner	As and/or Ach	Someone who predicts the future or assists another in ceremonies to predict the future.
46	Shaman/magician	As and/or Ach	Someone who connects individuals or groups to the spirit world, often for curing purposes. He/she may operate outside the religious hierarchy, as in China. One who uses magic to accomplish a task such as healing, cursing, or killing another.
47	Chief god		The high god, usually the creator of the world or the progenitor of other deities.
48	Lesser god		Any deity ranked below the chief god.

49	Nature spirit/god	A deity that controls nature—rain, sun, agriculture. He/she may also be a lesser god.
50	Settlement god	The chief deity for a settlement.
51	Ruler's ancestor spirit	The spirit of a dead ancestor who was in direct line to the current ruler.
52	Others' ancestor spirit	The spirit of a dead ancestor of others—elites and non-elites alike.

Figure 3. Core statuses of early states by domain, rank, and society. Domains are: sociopolitical (SP), economic (E), religious (R), and external interaction (W). Sociopolitical rank ranges from 1 (deities) to 2 (ruler to nobility), 3 (commoner, i.e., neither noble nor slave), and 4 (slave, captive). The percentages in column 5 represent the percent of early states that are known to have that status. The cells may be 0 for not present, 1 for present, and blank for missing data.

	Status	Domain	Rank	Egypt, Lower Mesopotamia, China, Maya, Hawaii, Aztec, Zapotec, Greece, Benin	Tewa	Hopi
1	Ruler (king or queen)	SP	2	100%	0	0
2	Prince	SP	2	100	0	0
3	Ruler's female kin	SP	2	100	0	0
4	Queen consort/mother	SP	2	100	0	0
5	Royalty/nobility (man)	SP	2	100	0	0
6	Royalty/nobility (woman)	SP	2	100	0	0
7	Provincial elite	SP	2	89	0	0
8	Territorial official	SP	2	89	0	0
9	Retainer	SP	2, 3	100	0	0
10	Ruler's other wife	SP	2, 3	100	0	0
11	Settlement/ward official	SP	2, 3	100	1	1

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12	Government administrator	SP	2, 3	100	0	0
13	Commoner	SP	3	100	1	1
14	Slave	SP	4	100	0	0
15	Captive	SP	4	100	0	0
16	Fief holder	E	2	89	0	0
17	Supervisor of skilled workers	E	2, 3	89		
18	Peddler/trader	E	3	78		
19	Farmer/herder	E	3	100	1	1
20	Serf	E	3	100	0	0
21	Skilled worker	E	2, 3, 4	100	1	1
22	Supervisor of unskilled workers	E	3, 4	100	1	1
23	Unskilled worker	E	3, 4	100	1	1
24	State worker	E	3, 4	100	0	0
25	Private worker	E	3, 4	100	1	1

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26	Servant	E	3, 4	78	0	0
27	Military commander/warrior	W	2	100	1	1
28	Soldier, police	W	3	100		
29	Servant of the gods	R	2	100	0	0
30	Priest/priestess	R	2, 3	89	0	0
31	Chief god	R	1	100	0	1
32	Lesser god	R	1	89		
33	Nature spirit/god	R	1	89	1	1

Table 1???. Societies' Euclidean distance from a prototype of an early state (ranked from smallest to largest distance).

Based on domains only		Based on ranks only		Based on domains and ranks	
China	0.001	Maya	0.008	L. Mesopotamia	0.015
Aztec	0.001	Hawaii	0.009	Maya	0.018
L. Mesopotamia	0.002	Benin	0.009	Benin	0.030
Maya	0.010	L. Mesopotamia	0.012	Greece	0.034
Greece	0.020	Greece	0.015	Hawaii	0.037
Benin	0.021	Zapotec	0.056	China	0.066
Hawaii	0.028	China	0.065	Aztec	0.076
Egypt	0.052	Aztec	0.075	Zapotec	0.120
Zapotec	0.064	Egypt	0.076	Egypt	0.128
Hopi	0.665	Hopi	0.614	Hopi	1.279
Tewa	1.022	Tewa	1.038	Tewa	2.060

Figure 4. Similarities between societies as determined from matches and mismatches on 52 statuses. For each pair of societies, the solid grey part of a bar represents the percent of the statuses that are known to match, e.g., both societies share the same number of statuses. The white part of a bar represents the percent of known mismatches, such as when one society has a diviner but the other does not. Missing data have been eliminated.

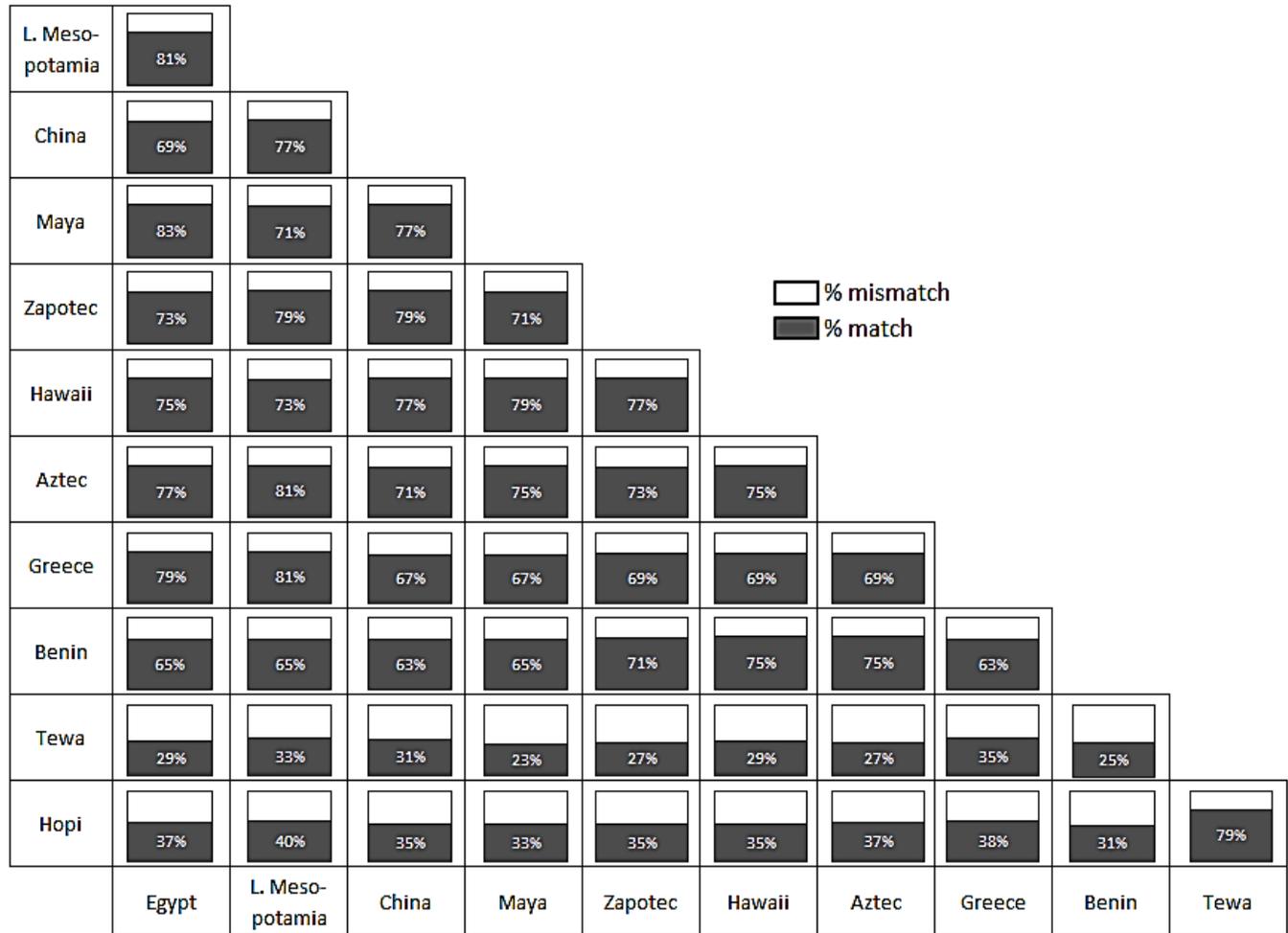


Figure 5. Roles, domains, and agency of a state ruler. All possible roles, starting with the core roles, i.e., those that occur in at least eight of the nine states. Domains include SP (sociopolitical), E (economic), R (religious), and W (external).

	Name of role	Definition	Domain	Active/Passive
Core roles				
1	Rules	Rules (makes policy decisions for) a territory (from a kingdom or empire to a province or village; makes rules/policy) or bureaucratic unit (e.g., government department such as treasury)	SP	A
2	Administers	Carries out policy decisions by administering a government department, public works, etc.	SP	A
3	Judges	Judges wrongdoings, settles disputes, etc.	SP	A
4	Authorizes	Authorizes some behavior, (e.g., the building/maintenance of temples, shrines, and other public works; succession and crowning of the king)	SP	A
5	Delegates	Delegates authority/governance	SP	A
6	Controls behavior	Controls the behavior of others, e.g., controls the behavior of royals, etc.	SP	A
7	Coerces	Controls coercive power (police, army, etc.)	SP	A
8	Protects	Protects people and polity, trade routes; ancestors may protect descendants	SP	A
9	Is responsible for	Is responsible for something (e.g., is responsible for maintaining order of the cosmos, people's food supply)	SP	A
10	Patronizes	Acts as a patron by giving gifts, favors, titles, etc.	SP	A
11	Practices polygamy	Marries more than one wife	SP	A
12	Begets	Begets royal children (possible heirs)	SP	A
13	Inherits	Inherits title, property, leadership role, etc.	SP	A/P
14	Is Interpreted	Is interpreted by another; does not "speak" for oneself	SP	A/P
15	Receives tribute	Exacts/receives tribute	SP, E	A
16	Exacts tax	Exacts/receives taxes	SP, E	A
17	Allies with	Forms alliances with people within/outside territory; via marriage, feasts, hunts, etc. (not gifts)	SP, E	A
18	Controls access	Controls access to critical resources, e.g., water, farmland, or property (especially luxury goods)	SP, E	A
19	Negotiates	Negotiates (e.g., treaties and trade agreements)	SP, E	A
20	Builds/maintains	Builds or maintains buildings, infrastructure including an army, temples, shrines	SP, R	A

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21	Owns land/property	Owns productive land, property: slaves, palace, business	E	A
22	Gains wealth	Acquires wealth through king's favor, spoils of war, production, etc.	E	A
23	Maintains/expands boundaries	Conquers new territory; maintains/defends boundaries	W	A
24	Leads	Leads people in some endeavor (e.g., military campaign—any level of leadership)	W	A
25	Fights	Fights in battles, etc.	W	A
26	Captures/is captured	Captures territory, prisoners of war, etc.	W	A/P
27	Monopolizes/interprets	Monopolizes access to ancestors and gods; interprets their will	R	A
28	Participates in ritual	Performs, assists, observes ritual or other events	R	A
29	Serves the gods	'Feeds' the gods through offerings of plants, animals, humans	R	A
30	Serves	Serves, carries out (enforces) superior's wishes; a ruler may serve the gods or ancestors.	R	P
Other possible roles				
31	Predicts	Divines the future (including outcome of war) via the will of the gods (immediate or long-term)	SP, E, W	A/P
32	Supervises	Manages a section or government department; supervises workers	SP	A
33	Marries kin	Marries sister/half-sister to show/intensify his divine status	SP	A

Figure 6. Early states whose rulers share roles. Constructed from a Johnson's hierarchical clustering analysis in UCInet (Borgatti, Everett, and Freeman 2002).

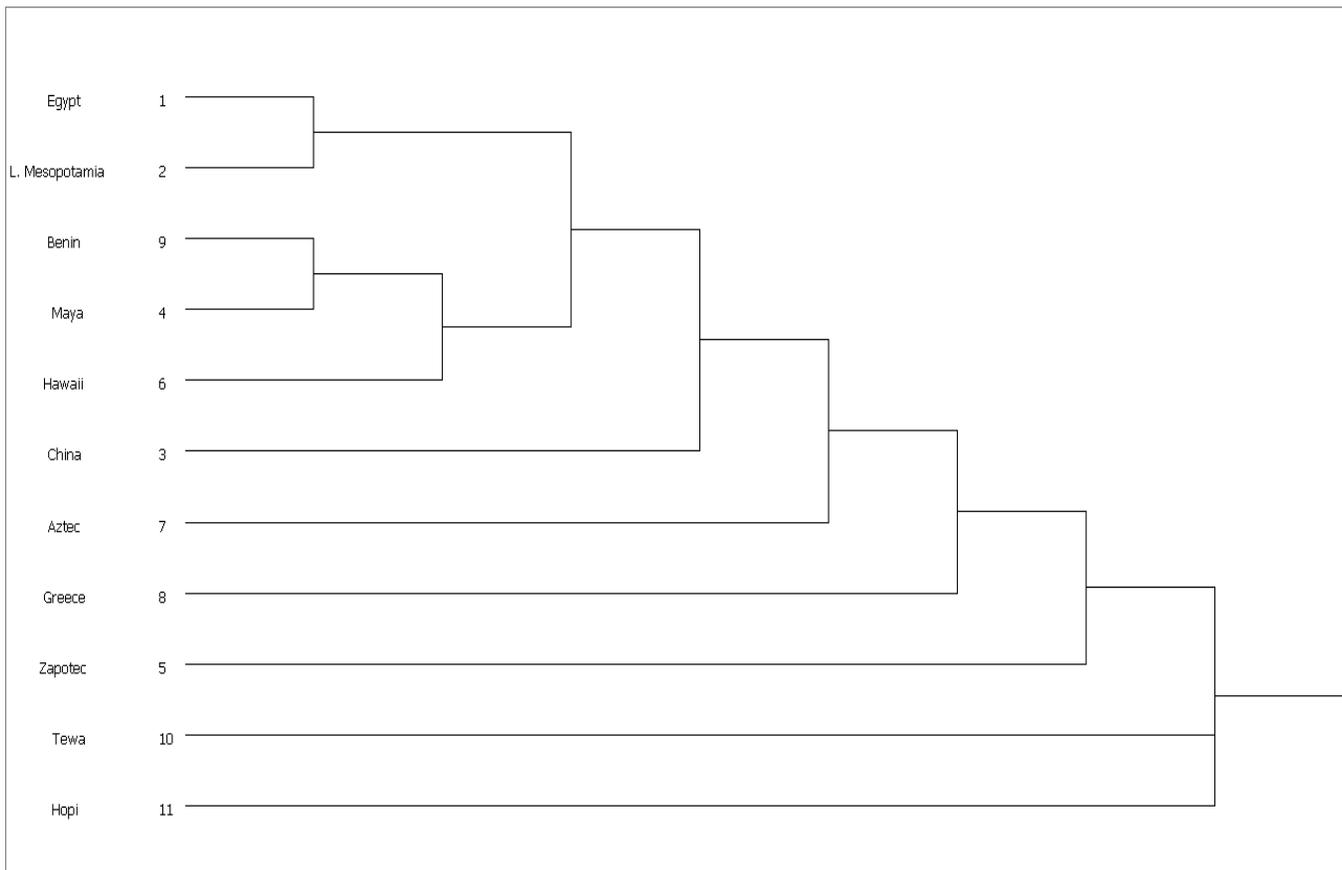
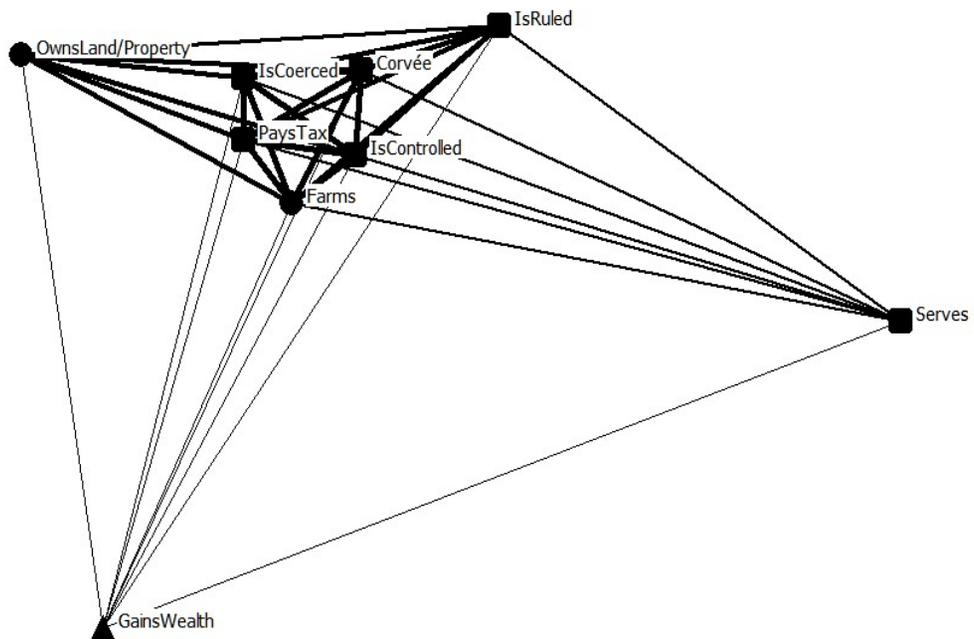


Figure 7: Roles of farmers/herders compared with serfs in early states, using the metric multidimensional scaling (MDS) in NetDraw. The roles form the nodes, and the edges link nodes that co-occur in a particular society. The thicker the edge and the closer the nodes, the more states include the co-occurring node pairs in the database. Active nodes are represented by triangles; active roles with a passive component are circles; and passive nodes are squares. In both graphs, the central pentagon roles originally appeared as stacked one on top of the other.

a. Farmers/herders. The central pentagon roles originally appeared as stacked one on top of the other.



b. Serfs

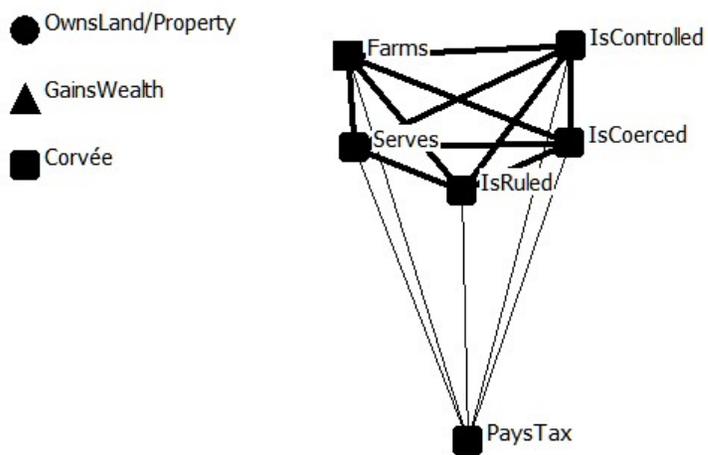
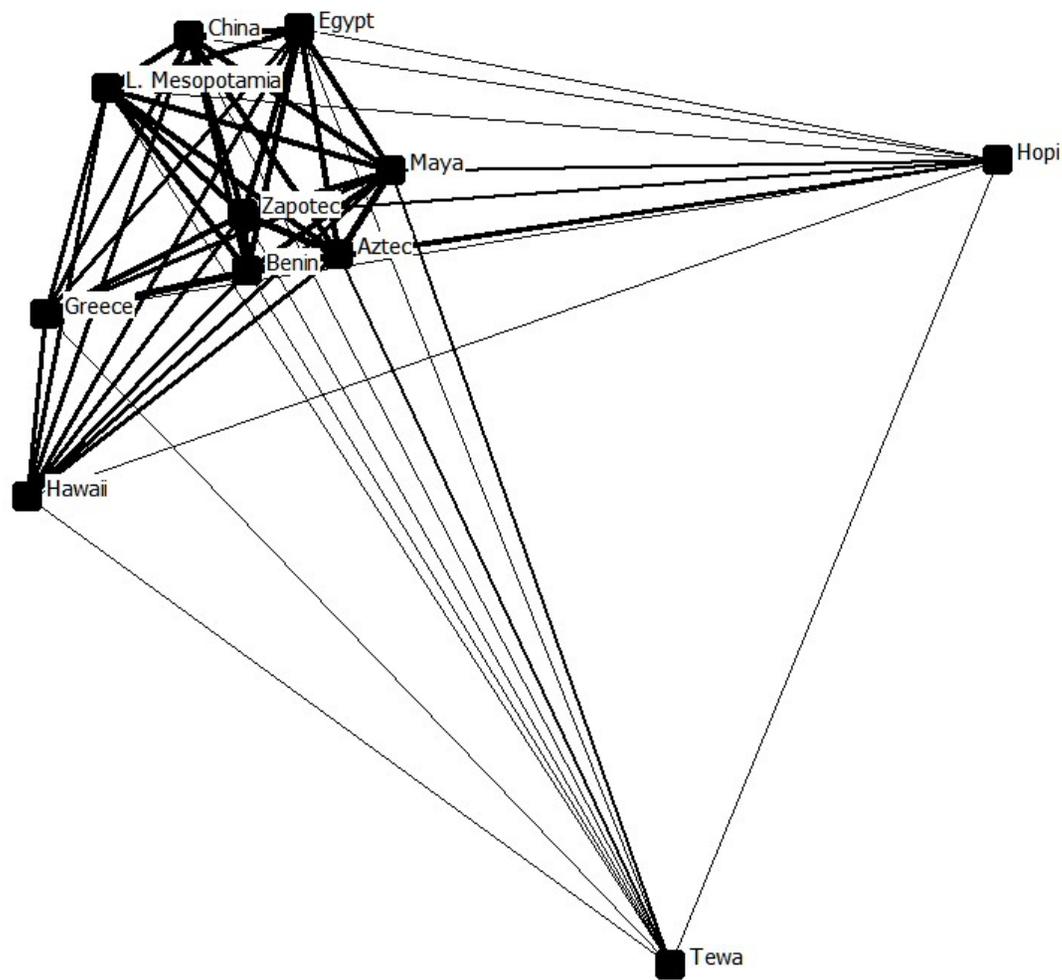


Figure 8. Farmer and serf roles by society, generated in NetDraw using the metric multidimensional scaling (MDS) program. Here the nodes are the states and non-states; the thickness of the edges and relative distance from each other represent the frequency of co-occurrence of roles between the nodes. In 5b, the nodes connected by edges were practically on top of one another; they are spread out for easier reading.

a. Farmers and herders



b. Serfs

- China
- Hawaii
- Greece
- Benin
- Tewa
- Hopi

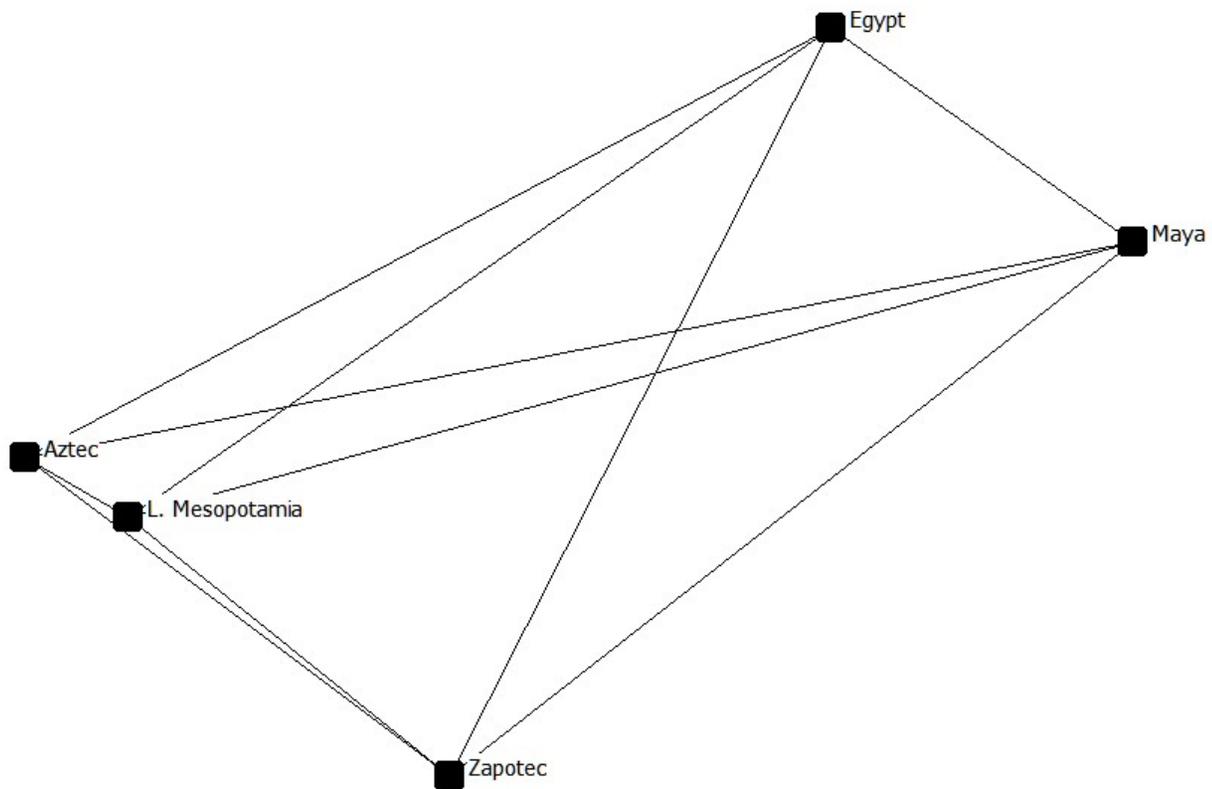


Figure 9. Co-occurring roles of slaves and indentured slaves showing core and peripheral roles, generated in NetDraw using MDS. Triangles are active roles; circles are active/passive roles; and squares are passive roles. The role 'is captured,' 'is controlled,' 'is coerced,' and 'serves' originally overlapped; they are separated for easier viewing.

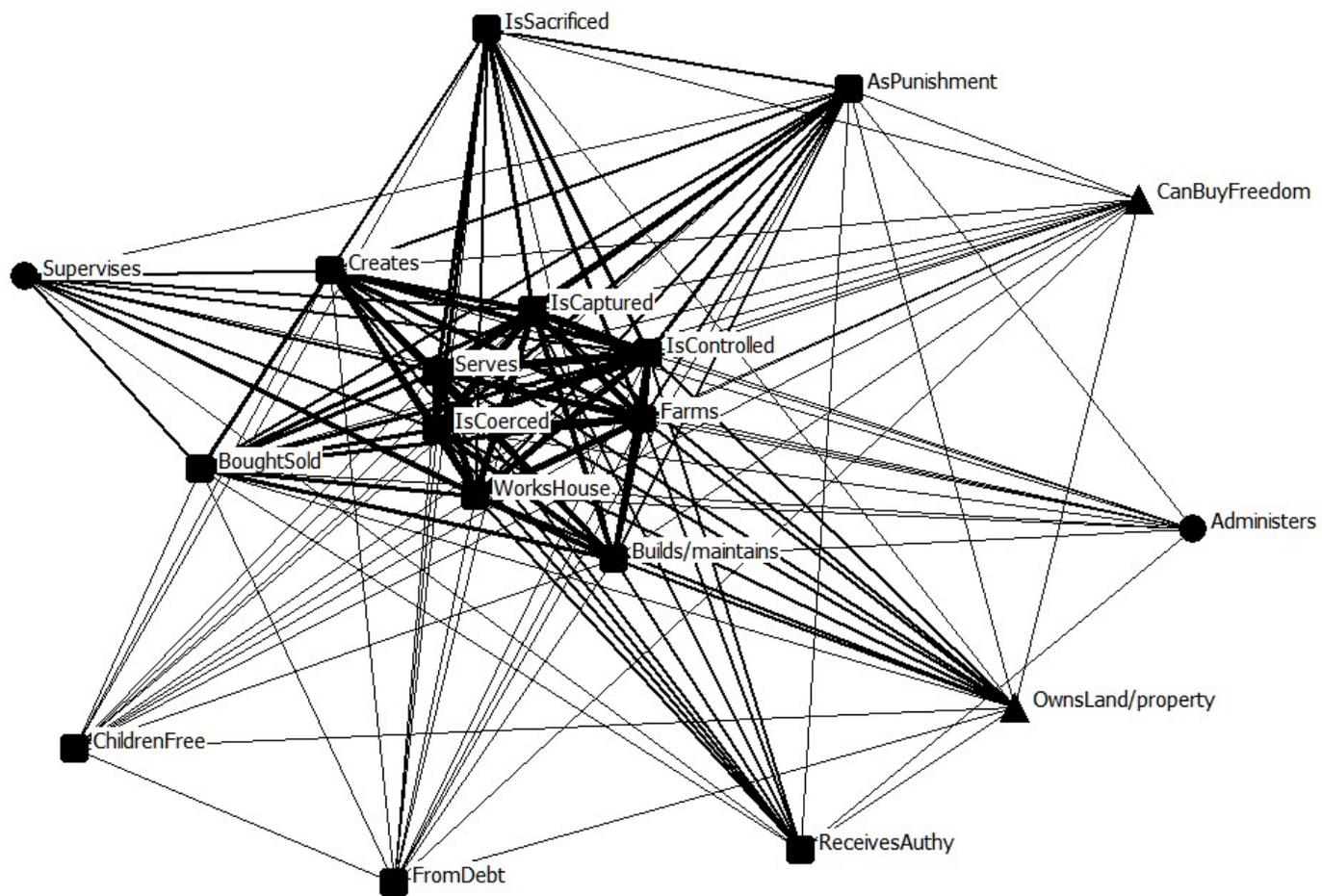


Figure 10. Slave and indentured slave roles by society, generated in NetDraw using MDS.

