

The Dynamics of Complex Societies

Complex societies are a major focus of archaeological research throughout the world, and a variety of theoretical perspectives and methods are used to study them. In this chapter I examine how they have been studied on the Peruvian coast and present the perspectives used to interpret the archaeological data from La Tiza and the Nasca region. I do not attempt to use or develop one central theoretical viewpoint to analyze the dynamics of complex societies in Nasca. Instead, the goal is to explore various aspects of complexity and propose how and why changes occurred. This diachronic approach lends itself to a cultural historical perspective to document and explain the archaeological record.

Peru has long been identified as one of the areas where pristine state-level societies (first-generation states) emerged, and much debate has concentrated on where and when the earliest developed. More recently the validity and usefulness of the state concept has been questioned. A good example of how archaeologists' views of the state have changed can be seen in interpretations of the Moche culture. Moche (A.D. 100–800), centered geographically on the north coast of Peru, for many years was considered the earliest state-level society in the region and a prime example of pristine state development. Moche spanned several river valleys, had the largest pyramids constructed in the Andean region, used an intricate iconography, had extremely well-developed craft specialists, and buried elites in elaborate tombs. However, the interpretation of Moche as a single, unified state has changed, and the civilization is described in a variety of ways. It is now suggested there was not a single center of state development but instead multiple centers, and most contemporary archaeologists think it was composed of two or more autonomous polities (Billman 2002; Chapdelaine 2011; Donnan 2011; Millaire 2010). Some do not see the Moche as a state-level society at all but the expression of an elite religious ideology (Quilter 2010; Quilter and Koons 2012).

The debate over how to categorize the Moche highlights the problems of using the state concept as well as other neo-evolutionary classifications. Quilter and Koons (2012) argue that it is not productive to focus on whether Moche was a state since the definition is variable, and new definitions can be made to fit the data. Instead, they propose that a better understanding of Moche and other complex societies can be obtained by “examination of how economic and political power was distributed, marshaled, and employed within spatiotemporal boundaries” (136). They stress (as many other scholars have) that most, if not all, Andean societies had an entanglement between religion and politics and that archaeologists need to determine how religion and politics were organized and interacted. Quilter and Koons’s understanding of Moche was that it “was a religious system that realigned the political economies and social relations of the North Coast societies” similar to how the introduction of Christianity changed these aspects of society in Western Europe (138).

A similar perspective to the study of complex societies is taken in this book. The use of terms such as “band,” “tribe,” “chiefdom,” and “state” to categorize ancient societies is problematic, and the terms are used here mainly as heuristic devices and not as an attempt to narrowly classify sociopolitical organization. In the past, attempts to categorize ancient societies in Nasca were a central goal of research, especially in the study of the Nasca culture of the Early Intermediate Period. This civilization has been described in many ways, from simple chiefdom to empire. While arguments about classification can help to spur research and are useful in generating comparisons with other areas and time periods, they can distract from other important issues.

The central focus of this study is the organization of complex societies and how they develop and change. Complexity can be defined in many ways, and traditionally archaeological discussions of complexity have revolved around the presence or absence of certain traits (e.g., hereditary inequality, specialization) and the grouping of societies into types (chiefdoms, states). More recently, archaeologists have looked at complexity in a diversity of ways by focusing on how societies operated and by considering various dimensions of power and inequality (Alt 2010; Chapman 2003; Price and Feinman 2010; Yoffee 2005). “Complexity” is defined in this study as both the vertical and horizontal differentiation among individuals and social groups. “Vertical complexity” refers to hierarchy in leadership and power, while “horizontal complexity” is the segmentation of a society into various groups, roles, and so forth. An important and related dimension of human groups is scale, which consists of the population, community size, and geographic extent

of a society. Another dimension of social organization is integration, which is defined as “the interdependence between societal units and the means or mechanisms used to achieve the degree of connectivity” (Feinman 2012:30). The consideration of these various dimensions and their interactions is at the core of the approach used in this study of ancient societies in Nasca.

Complex Societies in the Coastal Deserts of Peru

Many of the most complex early societies in the Andean region were located on the desert coast of Peru. Several theories have been proposed to explain why they developed there and not in other regions. Some of the main factors archaeologists have focused on are the role of marine resources and domesticated plants, increases in coastal/inland interactions, agricultural intensification through irrigation, warfare, religion, and climate change. In the 1970s, Michael Moseley’s maritime hypothesis (1975) focused on marine resources as fundamental in laying the foundations of Andean civilization. He argued that the richness of marine resources due to the cold Humboldt Current allowed people to become sedentary, population to grow, and complexity (including the construction of monumental architecture) to develop without a focus on agriculture. Moseley also recognized the importance of industrial crops, particularly gourds and cotton that could be used in fishing. Since Moseley first developed his hypothesis, more evidence has been discovered at coastal sites that suggests a complex connection between marine resources, agriculture, and the onset of political complexity during the Late Preceramic (3000–1800 B.C.). The site of Caral, 23 km inland, demonstrates this relationship. At Caral a canal system was used for irrigation, and people grew maize, squash, beans, fruits, and sweet potatoes in addition to cotton and gourds for industrial use (Shady 2006b; Shady et al. 2001). Marine resources made up the main component of the animal diet. Shady (Shady 2006a; Shady and Leyva 2003) proposes that trade developed between Caral and sites directly on the coast that involved exchanging cotton (that could be made into nets) and other plant foods for marine products. She argues that the relations between coast and inland communities were essential in the development of complex political organization.

Haas and Creamer (2006:753) propose that Moseley’s maritime theory does not entirely explain developments in the region because the majority of large sites with monumental architecture are inland. While marine resources were important to people living inland, their diets were diverse, with a variety of plants consumed including maize (Haas et al. 2013). Based

on the small percentage of residential architecture found at inland sites, Haas and Creamer (2006) suggest it was people at settlements along the coast who provided much of the labor for the large inland construction projects. They propose this system developed when climate began to change and the coastal environments no longer provided sufficient wild terrestrial resources for hunters and gatherers. People along the coast became more dependent on marine resources, and inland people began growing plants using simple irrigation. The inland groups established a new economic system and obtained power on a regional scale based on control of production of cotton and food plants. They used this power to attract fishing communities on a seasonal basis when they would exchange marine resources for cotton and plant foods and to participate in ceremonial activities and monument construction. The question of chronology has not been settled in regard to the inland and coastal sites, and the extent of farming at coastal sites remains unclear. In addition, archaeologists have different interpretations of the settlements; ongoing investigations will help to clarify these issues. Nevertheless, interaction between coastal and inland communities was central to developments in the Preceramic.

Newly discovered evidence reveals that maize was present in the Peruvian coastal region earlier than previously thought. Both macrobotanical and microbotanical remains from the sites of Paredones and Huaca Prieta, located a kilometer apart on the north coast at the mouth of the Chicama River, date from the Middle Preceramic to the Initial Period. The macrobotanical remains include cobs, husks, and stalks, while the microbotanical remains consist of phytoliths and starch grains. The earliest cobs at both sites were mostly the eight-row Proto-Confite Morocho type, although Confite Chavínense was also present (Grobman et al. 2012:1756). Both of these types of early maize were popcorns. At Huaca Prieta the majority of the maize cobs were associated with the Middle to Late Preceramic (ca. 5500–2500 B.C.). These are the earliest dates for maize macrofossils in South America and are contemporary with the earliest in Mexico from Guilá Naquitz (Grobman et al. 2012:1758). The maize remains are found “intermittently” through time and space, indicating it was not a primary part of the diet in comparison to other subsistence remains such as marine resources, wild plants, squash, beans, and chili peppers (Grobman et al. 2012:1755). In the Late Preceramic evidence from other sites indicates that maize became a central part of the diet by this period (Haas et al. 2013). Domesticated maize may have had a fairly big impact, at least on some communities, at this time by contributing to changes in subsistence and social organization.

On the desert coast of Peru it was not possible to do rainfall farming; instead, agriculture was based on runoff from the highlands and required more human intervention to be successful. While rainfall farming is more stable and efficient (and less susceptible to drought), runoff farming produces higher yields (Moseley 2002:200). The Peruvian coast faced many fluctuations in water availability; people often heavily invested in irrigation during times of normal or above-normal precipitation, and populations grew. However, these developments are not always possible when there are long periods of drop in precipitation. Moseley (2002:201) proposes a dynamic system of land use existed, with people pushing outward across the desert during times of good precipitation and then contracting during drought periods. Irrigation systems would have been a critical component of farming in all areas of the coastal desert.

Irrigation has often been cited as an important factor in the development and expansion of complex societies, particularly in an area such as the Peruvian coast where rainfall agriculture is not possible. Karl Wittfogel's influential paper (1956) on hydraulic civilizations lays out how the construction and operation of irrigation systems was at the heart of the origins of complex societies. He proposed these systems could only be built with large amounts of organized labor and that complex administration and communication were needed to keep them running, which led to a centralized hierarchy along with other changes. His perspective is an integrative or cooperative one that stresses the functional and advantageous qualities of irrigation. Others have suggested that irrigation played an important role but in a political context where it created opportunities for leaders to expand power and wealth, and this has been suggested as a factor on the coast of Peru (Haas 1987; Moseley 1974). Billman (2002) evaluates the role of irrigation in the rise of the southern Moche by examining settlement pattern data. He concludes that the managerial aspect of irrigation was not that important, and instead, warfare, highland and coast interactions, and political control of irrigation were key in creating opportunities for leaders to form an expansive state.

Warfare is another prime factor proposed in the development of complex societies along the Peruvian coast. Robert Carneiro (1970) identified warfare as the primary mechanism in the development of complex societies and proposed that two conditions, population growth and environmental circumscription, were necessary to accompany warfare in order for societies to expand. The coast of Peru was an area he used as an example where the valleys are environmentally circumscribed with arable land concentrated along the narrow rivers and surrounded by desert, ocean, and mountains. In

this circumstance, farming villages were established, population grew, new villages were established, and agriculture intensified with irrigation and terracing. As population continued to grow there came a time when intensification was no longer possible, and shortages in food supplies led people to turn to warfare. The victors got the land and harvest of the losers, and people not killed were subservient to the winners. This continued until an entire river valley was under control of one integrated authority, which Carneiro called a state. At this point, institutionalized bureaucracy developed to administer taxes and slaves, wealth and status differences intensified, military leaders become part of the political administration, and there was a large lower class. These valley states then came into conflict with each other until one ended up dominating all into a multivalley state and eventually an empire.

Since Carneiro's initial publication, a great deal of archaeological research has been conducted on the coast that provides more insight into the roles of warfare and circumscription in the development of civilizations. At Caral and in the surrounding region during the Late Prececeramic there is little evidence for warfare or conflict. In the subsequent Initial Period iconography at sites such as Cerro Sechin includes images of captives and warriors. However, archaeological evidence for warfare can be difficult to recognize and interpret. One issue is the nature of warfare in the Andes and whether it was ritual battle (*tinku*) or territorial warfare (*chajwa*). Some researchers suggest the two forms coexisted, and others see them as mutually exclusive (Arkush and Stanish 2005:10). There has been a tendency to associate ritual battle with "inconsequentiality," but all types of war can be ritualized including modern territorial or destructive warfare (10–11). The term "ritual violence" is also a useful one to contrast with armed conflict (Chacon and Mendoza 2007:4). The debate over ritual versus political warfare is present in interpretations of the Moche, with some researchers proposing warfare was mostly ritual and employed to obtain human sacrifices and others suggesting it was used to obtain power and expand territory (Chapdelaine 2011:212). In many regions and during different periods conflict likely contributed to changes in social and political organization.

Environmental change is another potential factor that played a role in the development of complexity and later cultural changes. El Niño Southern Oscillation (ENSO) events in particular have been a focus of research and are thought to have been an important catalyst (Moore 1991; Moseley et al. 1983; Richardson and Sandweiss 2008; Sandweiss et al. 2001; Van Buren 2001). The Late Prececeramic is one period when changes in El Niño patterns may have had a large impact on transformations in economic and political organiza-