The Evolution of Social Institutions in the Central Andes

Charles Stanish

1 Introduction

In a recent book called, *The Evolution of Human Co-operation* (Stanish 2017), I presented a theoretical approach to the origin and evolution of complex societies using concepts from evolutionary game theory, economic anthropology, archaeology, and related disciplines. I argued that we should move away from the concept of "cultural evolution" in the traditional sense of the term to one of the "evolution of cooperation." The evolution of cooperation involves human agency. Under the right conditions, human will create institutions, backed by norms of cooperation, to both survive and thrive in a competitive landscape. Under the appropriate demographic conditions, where sustained cooperation is feasible, these institutions will dominate a cultural landscape. Institutions that successfully promote the strongest cooperation will survive and thrive, while others will either adopt the successful competitive strategies or be absorbed by competing communities. The key challenge facing any community is what is known as the "collective action" problem—how to keep people working together for their individual and common good.

Based on the theoretical concepts in my book, I find that the key to maintaining successful institutions of cooperation is to *ritualize* the process, whereby the collective action problem can be addressed. Coercion by an elite is not found in nonstate societies. Some kind of voluntary cooperation is necessary to address the collective action problem, and that cooperation is found in ritualized institutions. Complex, nonstate societies (aka chiefdoms) create complex institutions to promote cooperation. These institutions are manifested by monumental building and infrastructure construction such as temples, irrigation works, and terracing.

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Complex nonstate societies massively transform landscapes into places of congregation for social, economic, and cultural interactions. Far from the quaint and exotic customs of "primitive" peoples, the elaborate rules of economic and social behavior, encoded in rich ritual practices, are ingenious means of organizing a society in which political coercion, backed by overt or subtle force, is absent. In other words, in stateless societies, the collective action problem is dealt with by ritualizing, or "habituating," the schedule of behaviors that provide the rewards and punishments necessary to maintain cooperation.

In contrast, state societies will develop coercive mechanisms to support cooperation on a large scale, even if this cooperation is nonvoluntary. In the transitions to the state, we see a dramatic shift in the nature of institutions from noncoercive to coercive and the concomitant emergence of hereditary class. However, states that directly developed out of the earlier nonstate ritualized economies continue to rely on state-sponsored events to maintain control. The shift from nonstate to state societies is long and uneven. Every cultural area has both commonalities and unique features in this transition.

In this chapter, I will trace the evolution of socio-political institutions in the Andes using this framework. I will describe the beginnings of complex society in the region and describe the emergence of states. As we will see, states in the Andes appropriated many of the ritual qualities of the earlier societies. However, states developed by also appropriating the regional exchange institutions created by these earlier nonstate societies. Central to the development of the state in the Andes is the monopolization by force of the earlier regional trade networks with a focus on resource zones and roads.

2 The Central Andes

The Andean cultural area, also referred to as the Central Andes, is a vast region of western South America that covers over 1 million km^2 (Fig. 1). The area includes modern Ecuador, Peru, western Bolivia, northern Chile, and northwest Argentina. The area is roughly defined as the region of the Inca Empire at its height in the early sixteenth century AD.

The first complex societies in the Andes formed on the north coast of Peru from roughly the Supe to the Casma Valleys in the Late Archaic period circa 3200–1800 BCE (Fig. 2). The Late Archaic peoples did not use pottery technology, yet it was a time throughout the Andes in which population levels rose and substantial social changes occurred at an accelerated pace compared to the previous millennia.

This region, sometimes referred to as Caral-Supe or Norte Chico, is an area comprised of vast coastal deserts punctuated by large river valleys. When irrigated, the valleys are incredibly productive for agriculture. The valley mouths meet the sea where marine resources are also abundant. The lower river valleys, therefore, are juxtaposed to rich marine ecozones and fertile floodplains that combined and provide one of the richest natural ecozones in the world.

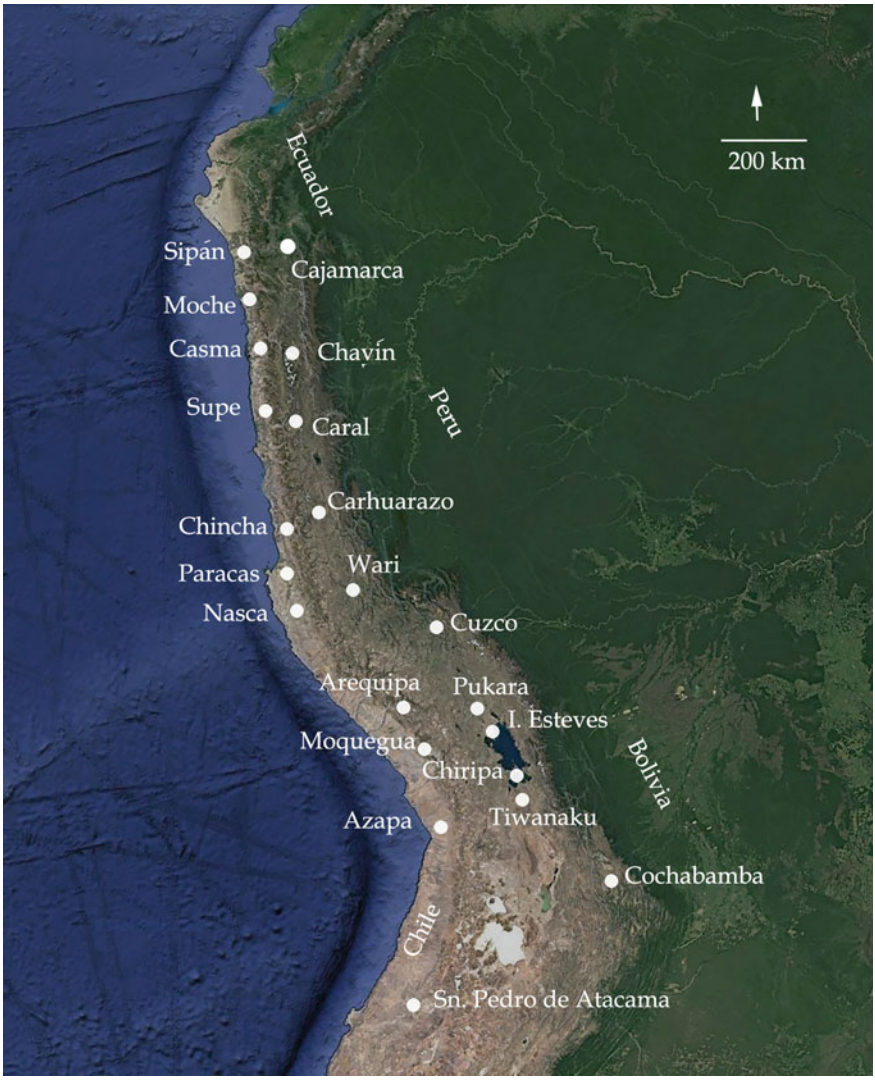

Fig. 1 Central Andes

It is not surprising that the earliest complex societies in the Andes were located in this region. Michael Moseley has persuasively argued that pre- or nonagricultural peoples initially constructed monuments along the coast. His "maritime hypothesis" has been shown to be largely accurate—complex hunter-gatherer-foragers built impressive, sedentary societies early on without significant reliance on cultivated crops. Research also indicates a simultaneous construction of complex inland sites in the region. Domesticates in the Andes occur well before the Late Archaic, but

Late Horizon	AD 1400-1532
Late Intermediate Period	AD 1100-1400
Middle Horizon	AD 600-1100
Early Intermediate Period	100 BCE - AD 600
Early Horizon	800-100 BCE
Initial Period	1800-800 BCE
Late Archaic	3200-1800 BCE
Middle Archaic	6000-3200 BCE
Early Archaic	12000-6000 BCE

Fig. 2 Chronology for the Central Andes

unlike other areas around the world, they developed unevenly in time and occurred in low numbers early on as adjuncts to a forager subsistence until the middle of the 2nd millennium BCE.

Deborah Pearsall, for instance, tells us that squash (*Cucurbita*) was domesticated by 7000 BCE, and maize by 6000 BCE in northern South America (Pearsall 2008: 110, 113). She reports that potato, manioc, sweet potato, ullucu, and jicama were found in caves in the central Andes in Peru in levels dating to 8000–6000 BCE. Early domesticated camelids are reported by 4400–3500 BCE and quinoa and *Cucurbita andina* are found in levels dating to 5800–4400 BCE (Pearsall 2008: 113). However, these domesticates are found sporadically up to the late Late Archaic suggesting that their use was limited. Certainly, there is no evidence that Peru had agricultural or domesticated animal economies until 2200 BCE (Pearsall 2008: Table 7.1). After this time, we see a substantial increase in the abundance of domesticates suggestive of agricultural economies, now only supplemented by marine and other wild resources. This occurs only in a few places until the Initial Period in which full-blown agriculture was practiced by populations around the Andes.

The earliest monumental building in the Central Andes at the present time is found at the site of Sechín Bajo in the Casma Valley (Fuchs et al. 2006). According to Henning Bischof, the first building at this site was constructed around 3400 BCE (Bischof 2009: 15). There is a substantial amount of early monumental architecture

in the Casma Valley at this time and later. It is likely that Sechín Bajo is typical of many other sites in the area that are now under the later platform mound constructions. Work by Haas, Creamer, and Ruiz (2004) indicate that monumental architecture was constructed in the Caral-Supe region by 3200 BCE. This is a full 1000 years prior to the development of fully agricultural economies.

It is therefore safe to say that social complexity emerged in western South America by at least the late 4th millennium BCE, if not earlier. These societies were initially complex hunter-gatherers who constructed monumental sites. Within several hundred years, domesticates such as maize, squash, quinoa, and so forth were added to the diet. There is good reason to believe that grains at least were used for the production of alcoholic beverages for nonsubsistence activities until the Initial Period circa 2000–1800 BCE. This differs from other areas of the world where domestication took place. Certainly, by 2000 BCE, fully agricultural economies were in place in some areas of the Andes.

3 The Late Archaic

This period is traditionally defined from around 3000–1800 BCE. It represents a time without pottery in which some groups constructed monumental architecture and began adopting the domestication of plants and animals.

3.1 Caral

The justifiably famous site of Caral in the Supe Valley of north coastal Peru is the earliest large center in the Andes that represents the full expression of a complex site constructed on the landscape by a stateless society. The site has been extensively investigated over the course of decades by Ruth Shady. The bulk of the monumental architecture dates to the early and middle 3rd millennium BCE, though occupations as early as the late 4th millennium BCE are likely. From the theoretical perspective developed here, Caral is the first manifestation of a ritualized economy on a large scale, although, as we have seen above, there are indications of complexity in earlier settlements such as Sechín Bajo. Caral is an elaborate site with evidence of nondomestic architecture designed to host and attract people.

Caral itself consists of a series of pyramids and other structures spread across a pampa in the upper valley in what is best understood as a ritualized landscape. The earliest monumental architecture most likely appeared in the last centuries of the 3rd millennium BCE, circa 2600. More structures were built, and existing ones were modified over the centuries. The date range for the construction of monumental architecture on the site is around 2600–1700 BCE (Shady Solís and Kleihege 2008; Shady Solís et al. 2001).

A key architectural feature of Caral is the sunken patio or sunken court. These round or square structures are built halfway or so into the ground. They are usually

associated with mounds comprised of flat summits and entrances made of stone staircases. They range in size from a few meters up to 18 meters in diameter. We see at Caral and contemporary coastal sites the early use of the circular sunken patio associated with platform mounds and other enclosures, such as rectangular structures. As Sheila Pozorski and Thomas Pozorski note (2008: 612), it is most likely that the earliest use of this sunken patio architectural tradition was in the Supe and surrounding valleys during the Late Archaic, with a major expression at Caral. Sunken patios are also often paired with pyramids that have stairs and plazas. The sunken patio and stepped pyramid combination, along with some kind of open space, create a very specific kind of "theatrical" experience for the participant. It is likely that the courts were relatively open and viewable by many people, though there might have been some partial roofing on the sides.

There are a number of linear geoglyphs in the vicinity of Caral and at the nearby and contemporary site of Chupacigarro (Shady Solís and Kleihege 2008: 144). These stone lines and cleared areas complement the architecture of the site to create a ritual landscape, an ideal setting for processions and other orchestrated movements (see Moore 1996a). We agree with Anthony Aveni (1990), Michael Moseley (1992), Aurelio Rodriguez (1997), and others who argue that these kinds of lines, such as found most famously in Nasca, were intended to be walked on.

The best explanation for the Caral site is that it represents a settlement with distinct platform mounds controlled by different but related groups. We are not clear if the settlement was permanent or periodical. Caral was, among other things, the place of ritualized periodic barter fairs, perhaps some of the first in the Andes, where people from the coast and highlands met to exchange goods, information, and marriage partners. There is substantial archaeological evidence for exchange at the site. Furthermore, it is important to remember that Caral was not the only site in the region with these features. This strongly suggests a model in which permanent coastal populations constructed sites such as Caral in the upper valleys as special places where people congregated in prescribed times.

The first substantial settlement in the Andes built by complex stateless societies was in effect a place to bring disparate peoples together from around the region. The settlement of Caral is more than a place to live. It is a very special place, imbued with ritual significance. It is a theatrical place on the landscape designed in part to host large numbers of people on a periodic basis. This interpretation is backed by architectural evidence and excavation data. Significantly, there is little to no evidence of coercion at the site; far from it, Caral represents the culmination of several centuries of small-scale efforts to build special monuments to periodically attract people in villages up and down the Supe Valley and beyond.

3.2 Social Institutions of the Late Archaic

Humans migrated to South America around 15,000 years ago. These pre-Clovis people were hunter-gatherer mobile groups. By 10,000 years ago, they occupied all of the habitable regions of the Western Andes. This type of lifestyle persisted for

several millennia with a slow, but steady, increase in population densities across the entire region.

Around 5–6000 years ago, a few people in a few areas began constructing modest monumental sites. The people who constructed these monuments were largely hunter-gatherer-foragers but they had been incorporating semi and fully domesticated plants and animals into their diet and economy for millennia.

The first monumental constructions were modest. These included low platforms adjacent to habitation sites, followed by more formal buildings in a few select settlements in resource-rich areas on the coast. By 3000 BCE or so, the sunken patio or sunken court tradition was established in the north Peruvian coast. The sunken patios were round and square. The patios were usually associated with platform mounds. It is very significant that in any particular region, there were numerous sunken patio sites at any one time.

The patios and mounds formed an archetypal construction that manifested itself in a variety of ways (Williams 1972). We have interpreted these constructions as part of the ritualized economy that formed in the late 4th and early 3rd millennium BCE. As previously stated, "ritual is central to the successful creation of complex labor organizations characteristic of the early ranked societies. In an environment in which a group and leaders seek to maintain cooperative labor without the use of coercion, ritually sanctified participation and behavior in the production and consumption of resources become a powerful tool" (Stanish and Haley 2004: 61). The sunken court complexes represent the first manifestation of a competitive ceremonialism institution that wove independent groups into a regional political economy. The sunken court sites were places where people would periodically meet to exchange goods, information, marriage partners, and the like. These spaces were barter markets where goods were exchanged through traditional mechanisms of reciprocity (Stanish 2017: 137).

The competitive nature of this process has analogies in a number of ethnographies of nonwestern peoples in the literature, such as the Trobriand Islanders, early historic North American groups such as the Kwakiutl, historical African chiefdoms, and the like. In game theory terms, the whole nexus of human interaction between and among different communities is based on notions of reciprocity, fairness, pro-sociality, and ritually sanctioned redistribution.

Two salient features stand out in this time period. First, there is no evidence of war or raiding. Second, the monumental structures are open. Analysis of these early ranked societies in the Andes indicates that visibility was a central goal of the builders in such chiefly societies (Stanish and Haley 2004: 63). By this, we mean all of the activities including the exchange of goods and ritual performance were accessible to the entire community. This architecture makes sense in evolutionary game theory terms in which fairness and reciprocity are vital to the functioning of a complex political economy in a social context in which coercion is absent.

The earliest ranked or complex societies in the Andes constructed institutions of reciprocity, fairness, and pro-social behavior; this is evident in the architecture. As we know from ethnography, competitive feasting and ceremonialism among different groups can be intense. It is a dynamic landscape in which some groups

emerge larger, having more partners ("friends" in the Trobriand Island sense), while others fail to attract followers and decline in importance.

The first manifestation of this process is evident at sites from around 3200 BCE to the middle of the 3rd millennium BCE. We find that there are many sites in any given region. These represent small, autonomous villages each establishing their monumental architecture in this competitive process. Over time, there are fewer and fewer sites, but they become larger. This culminated in sites such as Caral in which there were numerous pyramid-sunken court complexes on one site, and a general absence of comparable sites in the region. In other words, in the latter part of the Late Archaic, we see a consolidation process in which a few sites emerge as central places of feasting and congregation. This same process is seen in the Titicaca Basin, albeit a millennium later (Levine and Stanish 2020).

This dynamic lasted for almost a millennium until a critical institution re-emerged in the socio-political landscape of the ancient Andeans: institutionalized raiding.

4 Cerro Sechín: The First Evidence for Institutionalized Raiding in the Early Initial Period

The site of Cerro Sechín is located in the Casma Valley of Peru. Cerro Sechín is famous for its carvings of captured people, presumably male warriors about to be sacrificed, as well as trophy heads and other evidence of violence. Cerro Sechín, therefore, holds the oldest unequivocal iconographic evidence of organized violence in the Andes on a large scale.

The initial buildings at Cerro Sechín were placed on a stepped platform with three levels (Moore 1996b; Samaniego et al. 1985: 173; Tello 1956). I agree with Samaniego et al. (1985) that the evidence suggests that the temple and associated art date to before 1300 BCE. These scholars provide a series of 14C dates from an area in front of the main temple, two of which are considerably old, around 5000 BCE. I agree with Moore (1996b) that the probable date of the temple is before 3740 ± 40 BP, as reported in Samaniego et al. (1985: Table 1). The context of this date is a "temple," according to the excavators. This is an important date because it calibrates to 2206–1948 BCE (OxCal 4.3 using SHCal 13).

The bulk of the architecture of Cerro Sechín is visible from the front, the sides, and the hill above. There are some possible covered structures, but these are most likely later additions just like the stone carvings (Burger 1995: 79–80). The original construction was, according to Burger, a terraced platform that measured about 34 m on a side. There was a "summit complex" that is difficult to define (Samaniego et al. 1985: 167). Likewise, there was a circular sunken court in front of the platform that is quite early in date. While it is difficult to determine the precise nature of the early architecture, it appears that the site was originally characterized by an earthen platform at the base of a hill, where most, if not all, of the activities could be viewed (Stanish 2017: 211 and see Stanish and Haley 2004 for a wider discussion of visibility in ceremonial structures of this type).

Some of the most outstanding features of Cerro Sechín are the numerous carvings in stone on the outer wall of the pyramid. These early Initial Period carvings depict macabre scenes of conflict, including decapitations, trophy heads, the display of human body parts, and warriors and victims in various states of subjugation. The vast majority of the depictions represent victims, while less than five percent of the images show leaders dressed in regalia such as hats, staffs, headdresses, and so forth.

Pozorski and Pozorski (2011: 29) interpret the iconography at Cerro Sechín as evidence for the military conquests of other polities in the Casma Valley. In contrast, Arkush and Tung (2013) point out that this iconography is not evidence for widespread war. I agree with this interpretation. Rather, it is clear evidence for classic kinds of raiding by the people at Cerro Sechín, backed by intense costly signaling in the dress and architecture. I believe, therefore, that the calibrated date of 2206–1948 BCE, cited above, for the latest period in which the Cerro Sechín temple was built, is extremely important because it is the earliest time period for the existence of organized raiding on the northern Peruvian coast. The scenes at Cerro Sechín indicate neither large-scale warfare nor some purely ritual activities. Rather, as Samaniego and colleagues (1985) have also noted, the stone carvings probably represent raiding behaviors, a conclusion supported by Arkush and Tung (2013) based on osteological evidence.

4.1 Social Institutions of the Initial Period

The significance of Cerro Sechín is that it represents a shift from Caral in the Late Archaic circa 2600–2300 BCE, where evidence for raiding is minimal, to the early Initial Period, in which raiding is the central, dominating theme of the art and architecture. Raiding is oftentimes misunderstood in the theoretical literature. Evidence for raiding is taken to be evidence of *noncooperation* but, in fact, it is just the opposite. Organizing for a raiding party is one of the most intense forms of *cooperation* between people that we see in the historical or ethnographic record. Conflict between groups in fact intensifies cooperation *within* the group and in-group cooperation is central to collective action theory.

Raiding, unlike other forms of in-group cooperative behavior, is obviously risky. It therefore requires very strong norms of cooperation, trust, fairness, and costly punishment to develop and maintain itself as an institution. We can speculate that the early cooperative institutions in the Late Archaic developed stronger and stronger norms over the many centuries between the numerous sunken court structures and the large sites like Caral. This is a cultural transmission process outside the scope of this paper (Stanish 2017: 181). However, we can say that the empirical evidence indicates the formation of very strong norms of in-group cooperation, plus the development of concepts of "the other," by the Initial Period as exemplified by Cerro Sechín.

What is curious is that there is evidence for violence, probably from some form of raiding, *prior* to the Late Archaic across the Andes (Arkush and Tung 2013).

There is no room for discussion here, but it is highly likely that the Late Archaic period in which monumental architecture developed represents a millennium in which inter-ethnic violence was minimal only to resurge again in the Initial Period.

5 Early Horizon/Formative Period: The Apogee of Competitive Ceremonialism

5.1 Paracas and Nasca

The Early Horizon is the traditional period that dates to approximately 800–100 BCE. The Formative period is defined as the time prior to the emergence of state societies in the middle of the 1st millennium AD. The Formative, therefore, includes the Early Intermediate Period in the older chronology. This would be the period up to around AD 600, though this time varies around the Andes. There are a number of magnificent cultures that developed in the Andes during this period, including Chavín, Pukara, Chiripa, Paracas, and Cupisnisque, among many other smaller polities.

Paracas is a culture that thrived in the south Peruvian coast from 800 BCE until circa 100 BCE. The Paracas people settled valleys from Chincha in the north to the Nasca in the south. The environment where the Paracas people created their civilization has some of the driest land in the world yet the valleys provided the ecological setting for dense populations to convert this dry desert into some of the richest agricultural land on the planet.

Paracas is famous for its elaborate ceramic art and textiles. The center of the Paracas settlement system was Chincha in which massive platform mounds and smaller villages were present. There was also a substantial area of geoglyphs and specialized structures in the pampas found above Chincha (Stanish and Tantaleán 2018). These geoglyphs and structures comprise an elaborate landscape created by the later Paracas peoples circa 400–100 BCE. The 500 km^2 area of Paracas settlement in the Chincha Valley is a partially integrated system (Canziani 2013). There is a site size hierarchy in the valley bottoms. However, the major sites are not completely contemporary. Likewise, the ritual platform mounds in the pampa are not completely contemporary as well. This suggests a fluid political landscape during Paracas times in which different centers vied for social power via competitive ceremonialism.

A central aspect of Paracas political economy is the construction of the ritualized landscapes (Tantaleán 2016). The Pampa was covered with linear geoglyphs. Many archeologists have interpreted the geoglyphs as processional pathways, an interpretation in which we agree (Silverman and Proulx 2002). Researchers discovered five distinct pathways on the pampa above Chincha composed of linear geoglyphs and various small structures. Each pathway led to a single platform mound, all of which had Paracas components. Structures along the geoglyphs, as well as some geoglyphs themselves, were aligned to the June solstice. Such a practice is common

in the ethnographic record and reinforces the idea of a ritual calendar that regulates feasts and other important ceremonies (Stanish 2017).

Isotopic analysis of the objects in one of the end point pyramids indicates that both people and objects from a vast region, including the coast and Sierras, were interred in the Paracas sunken court (Tantaleán et al. 2016). We interpret these end point sites as areas of feasting, exchange fairs, and congregation in general (Renfrew 2013). It is likely that this pattern extended throughout the Paracas area. Work in the Palpa Valley to the south of Chincha between the Paracas and Nasca Valleys has uncovered large areas of geoglyphs and Paracas sites as well (Reindel et al 2007; Reindel and Isla 2009).

5.2 Nazca

Paracas culture slowly disappeared around 100 BCE and was replaced by other societies. The culture of Nazca developed in the early and middle part of the 1st millennium AD. Nazca was centered in the valley of the same name on the south coast and we therefore see a shift in power from the Chincha area to the south about 200 km. The principal site of the Nazca is called Cahauchi. It is a large complex of adobe pyramids, courts, passageways, and peripheral habitation and cemeteries (Silverman and Proulx 2002). The site is quasi-urban in size with an architectural core of about 20 ha, with at least 70 more hectares of cemeteries and possible residential structures to the east and west of the site. In size, it is comparable to the Paracas center in Chincha called Santa Rosa. There is some debate as to how large a resident population was housed at Cahuachi. Clearly, the site functioned at the very least to house substantial numbers of people for ritual events and was a major cemetery for the Nazca culture.

Nazca is famous for its geoglyphs. These are similar to the Chincha geoglyphs but are several times larger in area. Like Chincha for the Paracas, Masini et al. (2016) describe Nazca lines and trapezoids converging on major structures in Cahuachi. Silverman (1993) first reported that these lines point directly to the major architectural features of Cahuachi. The Nazca capital and hinterland are best interpreted as a major area of congregation; it represents the apogee of this complex, nonstate institution.

5.3 Social Institutions of the Early Horizon/Formative Period

The Late Formative, or Early Intermediate Period, represents the apogee of nonstate societies that practiced competitive ceremonialism (Chicoine 2011). The fundamental institutional mechanism was to create a magnificent place on the landscape to attract people from wide and far to exchange goods and nontangible utilities. Feasting, ritually prescribed events, elaborate potlatch-like ceremonies, and commensality were designed to keep people attracted to these large settlements. Sites such as Cahuachi, Chavín, Pukara, and others represent the end process of nonstate

mechanisms of social, economic, and political cooperation—persuading people to participate on a massive scale across the landscape with the reward being access to exotic goods and ritually charged events.

5.4 Exchange Networks

There is an abundant amount of literature that indicates an extensive interregional exchange during the Early Horizon and Early Intermediate Period across the Andes (Browman 1975; Dulanto 2013; Goldstein 2000; Levine et al. 2013; Morales 1998; Reindel and Isla 2009; Vaughn 2006; Young 2017). The elaborate ceremonies at regional political centers during this period fostered an intense exchange of goods. At the site of Cerro del Gentil in Chincha, for instance, we discovered not only beautiful objects from distant places, but we also discovered large quantities of mussels outside of the ceremonial precinct. We know from ethnohistoric sources that these shellfish were most certainly dried and salted and exported to highland regions. We can assume that other marine fish were also prepared and exchanged in this way.

There was a brisk trade in copper, gold, pottery, textiles, gourds, cinnabar, feathers, and countless other objects of value in the Formative Period. In many ways, the political landscape of this time can be seen as a vast system of interconnected exchange routes. The trade was mediated by a ritual calendar with regular fairs in which local hosts feted visitors, who in turn exchanged exotica. All of this trade occurred in a context of raiding and low-level violence. Evidence for this comes in a variety of forms including iconography, the presence of trophy heads, and physical anthropology. Arkush and Tung in fact note two large-scale "waves" of "escalated conflict," one of which was in the Late Formative or late Early Horizon circa 400 BCE–AD 100 (Arkush and Tung 213: 307). Lawrence Keeley (1996: 121–126) pointed out that trade and conflict co-exist in the historical record. They are not mutually exclusive. He cites historical evidence in which people traded with each other and exchanged marriage partners, but also raided each other's villages. I have also pointed out that raiding and trading are often two sides of the same coin so to speak, both being a way to acquire wealth from outside of your kin group (Stanish 2017).

The transformation of these landscapes into great "theatrical spaces" was an essential strategy by nonstate complex societies to consolidate their exchange relationships based on barter fairs, feasting, and ritual behaviors. We can imagine the entire central Andes crisscrossed with sunken court complexes sustaining intense competitive ceremonialism. The exchange of many kinds of commodities was essential to this political economy as was the formation of alliance networks. It is important to recall that raiding was endemic; as the ethnographic record indicates, people are capable of creating the conditions of peace when it is in the interest of all parties. Allowing long-distance "pilgrimages" to different political centers would be one of those instances when raiding was suspended. Discussing historic period trade fairs in the American southwest political centers of Taos and Pecos, the

historian Joel Janetski (2002: 347) tells us that, "Here traditional enemies met together under truce to exchange goods, especially foodstuffs, but also objects necessary for ritual activities."

There is a modest literature on pre- or non-capitalist barter markets. As a general rule, actors in barter markets customarily understand the exchange value of goods and services. Leaders or emergent elites do not gain advantage by profit (e.g., buying and selling). Rather, people gain advantage by having more "friends" or followers. This is a classic understanding of competitive feasting. From an evolutionary game theory perspective, leaders adopted cooperative strategies within communities as they competed with other settlements using potlatching-style feasting to garner more people to their factions (Stanish 2017: 233). This model of competitive feasting was the fundamental structure of complex, nonstate societies in the Andes prior to the emergence of state societies.

6 The First States in the Andes

6.1 Moche

The Moche civilization of the north coast of Peru represents, in my opinion, the first state society in the Andes (Stanish 2001). It is also one of the most spectacular ancient societies in the world with dazzling architecture and art. Centered in the valley of the same name, the Moche peoples created an urban center that covered several km^2. The capital of the Moche state is dominated by two main pyramids—the Huaca del Sol and Huaca de la Luna. The largest of these two, the Huaca del Sol, measures about 160 m × 340 m in dimension and stands 40 m in height. It was one of the largest pre-Hispanic monuments constructed in the Western Hemisphere. The Moche capital is an urban settlement, perhaps the first true city in the Andes. It is characterized by a system of streets, canals, plazas, architectural groups, areas of craft specialization, and so forth (Uceda 2010).

The Moche capital has a full-time resident population, massive monumental architecture, a large sector of urban housing in between the two pyramids, status differential by occupation, and unequivocal evidence for an elite class. The urban character of the capital site of Moche was established by the fourth century AD (Uceda 2010), a few centuries earlier than the other two early states of Tiwanaku and Wari.

The Moche developed as a multivalley political entity by the fourth century AD (Bawden 1999). Moche-related sites are found throughout the north coast. Some scholars have suggested that there were two Moche spheres, a northern and a southern (Castillo and Uceda 2008). The famous site of Sipán in the northern valley of Lambayeque contained one of the most elaborate Moche burials yet discovered. The date of the Lord of Sipán burial is early in Moche culture, around AD 150–200, which suggests the simultaneous emergence of elite centers of power that shared Moche iconography. Castillo and Uceda (2008: 713) articulate the growing

consensus that "the rise of the Mochicas was a case of multiple origins, happening in several different locations of the north coast, at different moments…" Moche political centers started a slow collapse in the eighth century and by AD 850 it ceased as a political phenomenon.

6.2 Wari

Wari represents an aggressively expansive state that emerged in the middle of the 1st millennium AD in the central highlands of Peru. The capital site contains an extensive area of stone architecture that is about 2 km^2 as well as another 3 km^2 of domestic residence around this architectural core (Schreiber 1992: 80). Up to 15 km^2 of site area has been cited as being part of the Wari urban complex (Schreiber 2001). The proportion of core architecture to domestic, nonelite architecture, and the overall size of the site is quite similar to contemporary Tiwanaku. Wari emerged as an urban area by AD 600 or so. It expanded out of its core territory around AD 750 and collapsed as an urban center and political formation around AD 1100 (Schreiber 2001).

Wari sites are found from the Moquegua area in the south to Cajamarca in the north (Schreiber 1992). There are several provincial Wari settlements. Pikillacta, located near Cuzco, is built on a grid, has 700 individual structures, is 2 km^2 in size, and is the center of intrusive garrisons of Wari settlements in the Lucre Valley (McEwan 1991: 93–100). Likewise, the site of Jincamocco in the Carhuarazo Valley represents an intrusive Wari settlement that differs from local sites based on size, artifact inventory, and architectural plan (Schreiber 1992: 165). Like Pikillacta, the main enclosure was laid out as a single unit. The site conforms to Wari architectural canons with large, subdivided compounds of patios surrounded by peripheral galleries inside a single, large, and well-defined rectangular enclosure with a thick outer wall (Schreiber 1992: 200). These and other Wari sites indicate a rigidity of overall plan in Wari provincial architecture.

6.3 Tiwanaku

The site of Tiwanaku is a vast, planned urban capital that sprawled over the Altiplano Landscape in the southern Titicaca Basin. The site reached urban proportions at the same time as Wari. At its height in AD 800–1000, Tiwanaku boasted an impressive architectural core of pyramids, temples, palaces, streets, and state buildings. Surrounding the core of the capital was an urban settlement of nonelite artisans, laborers, and farmers who lived in adobe structures up and down the valley (Janusek 1999). Current estimates suggest that the total urban settlement covers 4–6 km^2 in area, with a population in the Tiwanaku Valley ranging from 30,000 to 60,000 (Janusek 1999; Stanish 2003). Large areas of intensified agricultural production are associated with Tiwanaku and pre-Tiwanaku populations around the basin (Erickson 1988). The combined population of these settlements and the

capital itself would have been quite substantial at the height of the Tiwanaku state, possibly reaching 100,000 people in the Tiwanaku and adjacent Katari Valleys.

Around AD 600, the Tiwanaku state began an aggressive expansion out of the southern Titicaca Basin. Tiwanaku artifacts and colonies are found throughout the circum-Titicaca basin and beyond. A well-documented Tiwanaku colony is found in Moquegua (Goldstein 1993; Goldstein and Owen 2001). Colonial areas have been identified in the lowland of Bolivia, the Arequipa area, the Cochabamba region of Bolivia, the Azapa Valley, and the oasis of San Pedro de Atacama in northern Chile (see Stanish 2003).

The Middle Horizon states of Moche, Tiwanaku, and Wari started a slow collapse around AD 800 in the case of the Moche, and AD 1000–1100 for the other two states. The rise and fall of Tiwanaku and Wari are surprisingly contemporary, suggesting some common factors in the highlands.

6.4 Social Institutions of the Andean States

One feature stands out about the Andean states of Moche, Wari, and Tiwanaku. This is the noncontiguous distribution of state settlements around a very large region. Tiwanaku sites, for instance, are found distributed over an area of 200,000 km^2, but the total number of large installations numbers in just the dozens. In between these state settlements were large areas full of people that were not part of the state. The Middle Horizon states were not miniature versions of later empires like the Inca. These later states created provinces and territories, set up elaborate storage and way station facilities, and built administrative centers in every major population region. The earlier states, in contrast, selectively controlled certain areas. Tiwanaku and Wari did not, or could not, practice a small version of Inca statecraft by incorporating large and contiguous areas. Rather, they appear to have controlled economically and militarily strategic areas, including roads, rich agricultural areas, and resource-rich zones.

What we see with Tiwanaku and Wari at this time is the capacity to control any area of the south-central Andes or central Andes that they wanted to control, but unlike later imperial systems, they could not control *all* areas. They established outposts strategically, with a focus on controlling roads and resources (Hastorf et al. 2006; Stanish 2003; Stanish et al. 2010). It is quite telling that Tiwanaku at least controlled lands in the forest, desert coasts, Altiplano, and Sierra highlands. The same is true for Wari. It is of course impossible to understand the precise logic behind these choices, but the areas that they did control are all associated with key economic resources. In the case of Tiwanaku, these resources include silver to the west and north, gold in the eastern slopes, maize, obsidian, hallucinogens, and tropical forest products such as honey, feathers, exotic animals, and the like (Olgade et al. 2017).

The Middle Horizon states were an elaboration of existing strategies that went back to the late 2nd millennium BCE. A process that we see in the Titicaca Basin is the proliferation of sunken court sites early on by 1200 BCE, with progressively fewer, but larger, sunken courts through time. By AD 700, there were just a handful

of sites in the region that had a court, and by far and away the largest was found at the capital of Tiwanaku. Using settlement pattern data, we conservatively calculate that there were over 400 courts constructed and abandoned over about 2000 years in the Titicaca region (Levine and Stanish 2020). Furthermore, the Tiwanaku state militarily absorbed villages and small towns from around the region and appropriated their stelae in their sunken courts. In one famous case, a very large monolith weighing over 1100 kg was broken and one half of it was transported to the Tiwanaku capital from 200 km away. This same "huaca capture" (a huaca is a sacred object or place that represents a group of people) strategy was utilized by pre-Tiwanaku state peoples as well. The then-ancient sunken court tradition at Tiwanaku was central to its political economy (Janusek 2005).

Within its core territory, Tiwanaku controlled the southeastern half of the Titicaca Basin that covered about 5000 km^2. They then set up a string of sites along the roads around the basin, establishing administrative sites such as Isla Esteves to control resources. In the case of Isla Esteves, silver ore seems to be the key commodity (Schultze et al. 2009). They also established listed above in strategic areas. They then established far-flung outposts and colonies around a very large region.

The desire to control key commodities and the roads to those areas explains very well Tiwanaku and Wari regional settlement patterns. We do not have enough data on Moche settlement patterns outside of the coast to make any conclusions, but the patchwork distribution of major sites fits this concept. The capital of all three states has evidence of elaborate craft production, feasting, and the like indicating an economy based on the appropriation of raw materials in the periphery and the manufacture of valued objects in the political centers.

6.5 How States Evolved: Appropriation of Nonstate Trade and Ceremonial Networks

It is no coincidence that the rise of the Middle Horizon states coincides precisely with the collapse of the ritualized landscapes of pre-Middle Horizon societies. The geoglyph-pyramid complexes have been found across the entire Andean coast from as far south as north-central Chile into southern Ecuador. It is highly likely that other kinds of landscape modification to create grand spaces for congregating were found in areas today where geoglyphs do not survive.

The rise of the Andean states is based on the cooption of these regional exchange relationships. The states consolidated their power in their home region and quickly expanded out by occupying and controlling the centers that fueled the earlier system. The administrative centers of these state entities effectively replaced the magnificent ritual feasting and ceremonies of the earlier polities. State capitals and administrative sites were hubs of specialized activities, including the production of chicha beer, pottery, textiles, and other commodities that signified participation in the state economy. What was originally a widespread, millennia-long feature of the Andean political, and social landscape became concentrated in the hands of an urban elite.

We also see the transformation of societies from those based on collective action strategies in a context lacking coercion, to one in which physical coercion was the norm. Cultures like Nazca represent the height of these pre-state strategies with massive areas for the congregation of many people's underwritten by barter markets and information exchange. Their collapse, I hypothesize, is due to the rise of militaristic state societies that took over and reworked these regional exchange networks.

6.6 Rise of Classes

For the first time in the Andes, we can identify probable palaces in the archaeological record. The concept of "palace" is a bit problematic as Joanne Pillsbury (2004) tells us. However, what we can say is that we have buildings for the first time that have restricted access and are large enough to be considered residences of an elite class. Earlier sites, like Chavín, Cahuachi, and even Sechín Alto may have such residences as well, but these architectural spaces give the impression of places of congregation and not a permanent living space for a segregated elite. Certainly, by the time of Chimor at Chan Chan, we have fairly obvious palatial spaces. The capitals and other political centers of Wari, Tiwanaku, and Moche are much more similar to this model than they are to earlier models.

We also have for the first-time evidence of a specialist warrior class. Most certainly, we have evidence for territorial expansion and the building of permanent outposts. This differs from the pre-Middle Horizon periods when intensive and highly performative raiding was the norm. Using analogies from history and ethnography, this raiding economy was based on the theft of objects and people, but not land. This definitely changes with the rise of the state societies of the Middle Horizon where an elite class of warriors controlled roads, resource areas, and possible groups of people as tribute-payers (Arkush and Tung 2013). For instance, we have detailed evidence that the Tiwanaku state coopted a silver production site in the Puno Bay, a site that had been working ore since at least AD 100 (Schultze et al. 2009).

In short, the states of Moche, Tiwanaku, and Wari emerged by coopting the pre-Middle Horizon trade and ceremonial networks. They established outposts in key areas and squashed the regional fairs that flourished across the Andes. The states effectively monopolized the exchange of raw materials and exotic goods along the roads. In a survey from the Titicaca Basin to the Altiplano of Moquegua, we found lines of sites on roads that went back to at least the twelfth century BCE (Stanish et al. 2010). Tiwanaku sites, including some large ones, clearly dominated the road system on the way to the huge colony in Moquegua. Tiwanaku did not create formal way stations like the Inca, but they did indeed dominate the road system. Similar patterns are found across the Andes.

The Middle Horizon states effectively redirected the valued commodities in the Andes from the dispersed nonstate societies to a few regional centers and their capitals. In these centers, we find abundant evidence of workshops for all kinds of

commodities. Evidence of elaborate feasts supports a political economy in which the elite class supported artisans and warriors and controlled the flow and manufacture of high valued goods. These goods were redistributed in the feasts which completed the political-economic cycle.

This way of life lasted for over a half-millennium until something catastrophic occurred in the central Andean highlands.

6.7 The Crisis of the Early 1st Millennium AD

The collapse of the state societies in the central highlands represented the end of millennia of complex political strategies in the Andean world based on feasting, exotic good exchange, craft specialization, and elaborate ceremony. The sunken court tradition that started before 3000 BCE disappeared. People stopped carving stone stelae. The tradition of producing high-quality pottery ended in the highlands. Conflict was endemic, and the Inca actually had a Quechua term for this time—*Auca Runa*–or time of the warriors. Hilltop fortified sites dominated the highlands, but fortresses or *pukaras* had a long history before this period. However, the Late Intermediate Period was a time in which most everyone in the highlands lived near a refuge site. Arkush and Tung (2013) note that the LIP was in fact a period of heightened conflict, levels that were matched only during the Early Horizon for evidence of physical trauma.

There are several theories as to why this crisis occurred. Certainly, climate was a factor. There was a series of severe well-documented droughts around the turn of the millennium. These appear to be widespread in the Americas affecting societies in Mesoamerica as well as North America. The droughts led to a disruption of intensive agricultural systems and the favoring of pastoralism (Stanish 1994). This worked against population concentrations and promoted more dispersed settlement patterns.

Compared to earlier periods, the evidence for interregional trade is much less. Obsidian seems to move around, but as down-the-line trade. There does not appear to be any centralized distribution systems nor do we find specialized workshops at Late Intermediate Period sites. In short, the formal political-economic strategies that characterized complex societies in the Andes for two millennia, or more, broke down. It was in this fragmented context that the Inca Empire arose.

7 The Inca State

From a comparative anthropological perspective, the Inca created some classic institutions found in many pre-modern empires to control their territory and administer the state. They were a military conquest state composed of a wide variety of ethnicities from around a vast empire. They used strategies of forced resettlement, putting former enemies in each other's territory, and thereby creating a

dependency on the state for protection. This also dissuaded rebellions because cooperation between traditional enemies was difficult. The Incas used both diplomacy and military might to incorporate territories. One common strategy was to forge an alliance with one of two competing polities, such as their famous conquest of the Colla peoples of the northern Titicaca Basin. The Inca allied with the Collas traditional enemy, the Lupaqa, of the western and southern Titicaca Basin. This alliance led to the crushing of the Colla and the incorporation of the Lupaqa as a privileged group within the empire.

The Inca had a hierarchical political structure that reached into the lowest levels of villages. Every household was a taxpaying unit. Men and women were conscripted to work in state facilities, serve in the army, or go to distant places for state activities, like mining and specialized agriculture. The Inca combined both labor tax and tribute-in-kind, though the latter was reworked ideologically into be a labor tax based on ancient reciprocal relationships. The Inca created a vast road system, complete with way stations, bridges, causeways, and the like. The road acted as much as a military asset as it was an economic one. The administration of provinces varied depending upon the level of preexisting socio-political complexity and whether polities surrendered without a fight or if they were crushed by the Inca armies. In some cases, as in distant areas like the Tarapaca Valley in modern northern Chile, the state established a town and invited locals to deliver copper ores for smelting on the hills above. This contrasted with other areas where more direct and intrusive means were utilized, such as in the Pisco Valley site of Tambo Colorado. In short, the Inca strategies of imperial control were fairly classic ones in pre-modern complex, expansive states.

8 Conclusions

The evolution of social institutions in the Andes was not a lineal process. What we see is more of a multi-pathway cultural transmission process in which institutional innovations were incorporated by various polities and groups. We see a "ratchet effect" at particular historical moments in which these innovations accumulate characterized by some fairly rapid evolutionary change. Between these ratchets are periods of relative stasis and then collapse of these same systems. Over several millennia, the Andean peoples created magnificent societies of incredible sophistication that rivaled or surpassed their counterparts in the other areas of archaic state development in the world.

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