The **Norte Chico civilization** (also Caral or Caral-Supe civilization) was a complex Pre-Columbian (/entry/Pre-Columbian_Civilization) society that included as many as 30 major population centers in what is now the Norte Chico region of north-central coastal Peru (/entry/Peru). It is the oldest known civilization (/entry/Civilization) in the Americas, having flourished between the thirtieth century B.C.E. and the eighteenth century B.C.E. The alternative name, Caral-Supe, is derived from Caral in the Supe Valley, a large and well-studied Norte Chico site. Complex society in Norte Chico emerged just a millennium after Sumer, was contemporaneous with the pyramids of Ancient Egypt (/entry/Ancient_Egypt), and predated the Mesoamerican Olmec (/entry/Olmec) by nearly two millennia. In archaeological (/entry/Archaeology) nomenclature, Norte Chico is a Preceramic culture of the pre-Columbian Late Archaic; it completely lacked ceramics (/entry/Ceramic) and was largely without (archaeologically apparent) art. The most impressive achievement of the civilization was its monumental architecture, including large platform mounds and sunken circular plazas. Archaeological evidence suggests use of textile technology (/entry/Technology) and, possibly, the worship of common god (/entry/God) symbols, both of which recur in pre-Columbian Andean cultures. Sophisticated government is assumed to have been required to manage the ancient Norte Chico, and questions remain over its organization, particularly the impact of food resources on politics.

### Background

Archaeologists have been aware of ancient sites in the area since at least the 1940s; early work occurred at Aspero on the coast, a site identified as early as 1905,[1] and later at Caral further inland. Peruvian archaeologists, led by Ruth Shady Solís, provided the first extensive documentation of the civilization in the late 1990s, with work at Caral.[2] A 2001 paper in *Science* magazine, providing a survey of the Caral research,[3] and a 2004 article in *Nature*, describing fieldwork and radiocarbon dating across a wider area,[4] revealed Norte Chico's full significance and led to widespread interest.[5]

### History and geography

Andean Peru (/entry/Peru) has been recognized as one of six global areas that saw the indigenous development of civilization (/entry/Civilization), and one of two, along with Mesoamerica, in the Western Hemisphere.[4] Norte Chico[6] has pushed back the horizon for complex societies in the Peruvian region by centuries. The Chavin culture, circa 900 B.C.E.,
Remains of the Caral pyramids in the arid Supe Valley.

The discovery of Norte Chico has also shifted the focus of research away from the highland areas of the Andes (\entry/Andes_Mountains) (where the Chavín, and later Inca (\entry/Inca_Civilization), had their major centers) to the Peruvian littoral, or coastal regions. Norte Chico is located in a north-central area of the coast, approximately 150 to 200 km north of present day Lima (\entry/Lima,_Peru), roughly bounded by the Lurín Valley on the south and the Casma Valley on the north. It comprises four coastal valleys: the Huaura, Supe, Pativilca, and Fortaleza; known sites are concentrated in the latter three, which share a common coastal plain. The three principal valleys cover only 1,800 km², and research has emphasized the density of the population centers.\[10] The Peruvian littoral appears an "improbable, even aberrant" candidate for the "pristine" development of civilization, compared to other world centers.\[9] It is extremely arid, bounded by two rain shadows (caused by the Andes to the east, and the Pacific Ocean (\entry/Pacific_Ocean) trade winds to the west). The region, however, is punctuated by more than 50 rivers that carry Andean snowmelt, and the development of widespread irrigation (\entry/Irrigation) from these water sources is seen as decisive in the emergence of Norte Chico;\[11][12] all of the monumental architecture at various sites has been found close to irrigation (\entry/Irrigation) channels.

The radiocarbon work of Jonathan Haas et al., found that 10 of 95 samples taken in the Pativilca and Fortaleza areas dated from before 3500 B.C.E.; the oldest, dating from 9210 B.C.E., provides "limited indication" of human settlement during the Pre-Columbian Early Archaic era. Two dates of 3700 B.C.E. are associated with communal architecture, but are likely to be anomalous. It is from 3200 B.C.E. onward that large-scale human settlement and communal construction are clearly apparent.\[4] Mann, in a survey of the literature in 2005, suggests "sometime before 3200 B.C.E., and possibly before 3500 B.C.E." as the beginning date of the Norte Chico formative period. He notes that the earliest date securely associated with a city is 3500 B.C.E., at Huaricanga, in the Fortaleza area of the north, based on Haas' dates.\[9]

Haas' early third millennium dates suggest that the development of coastal and inland sites occurred in parallel. However, from 2500 to 2000 B.C.E., the period of greatest expansion, a decisive shift toward the inland sites occurred. All development apparently occurred at large interior sites such as Caral, though they remained dependent on fish and shellfish from the coast.\[4] The peak in dates is in keeping with Shady's dates at Caral, which show habitation from 2627 B.C.E. to 2020 B.C.E.\[3] That coastal and inland sites developed in tandem remains disputed, however.

Circa 1800 B.C.E., the Norte Chico civilization began to decline, with more powerful centers appearing to the south and north along the coast, and to the east inside the belt of the Andes. Norte Chico's success at irrigation-based agriculture may have contributed to its being eclipsed. One researcher notes that "when this civilization is in decline, we begin to find extensive canals farther north. People were moving to more fertile ground and taking their knowledge of irrigation with them."\[12] It would be another thousand years before the appearance of the next great Peruvian culture, the Chavin.

**Maritime coast and agricultural interior**

Research into Norte Chico remains partial. Debate is ongoing over two related questions: the degree to which the flourishing of the Norte Chico was based on maritime food resources, and the exact relationship this implies between the coastal and inland sites.\[13]

**Confirmed diet**

A broad outline of the Norte Chico diet has been suggested. At Caral, the edible domesticated plants noted by Shady are squash, beans, lucuma, guava (\entry/Guava), pacay, and camote.\[3] Haas et al. noted the same foods in their survey further north, while adding avocado (\entry/Avocado) and achira. There was also a significant seafood component, at both coastal and inland sites. Shady notes that "animal remains are almost

Anchovies were a crucial food resource at ancient Norte Chico.
exclusively marine" at Caral, including clams and mussels (/entry/Mussel), and a large amount of anchovies (/entry/Anchovy) and sardines (/entry/Sardine).[^9] That the anchovy fish reached inland is clear,[^9] although Haas suggests that "shellfish (/entry/Shellfish) [which would include clams and mussels], sea mammals, and seaweed do not appear to have been significant portions of the diet in the inland, non-maritime sites."[^10]

"Maritime foundation of Andean civilization"

It is the role of the seafood that has aroused debate. Much early fieldwork was done in the region of Aspero on the coast, before the full scope and inter-connectedness of the civilization was realized. In a 1973 paper, Michael E. Moseley confirmed a previously observed lack of ceramics (/entry/Ceramics) at Aspero, and deduced that "hummocks" on the site constituted the remains of artificial platform mounds. Most provocatively, he contended that a maritime subsistence (seafood) economy had been the basis of the society and its remarkably early flourishing.[^1] a theory later elaborated as a "maritime foundation of Andean civilization" (MFAC).[^14] MFAC was out of keeping with general consensus on the rise of civilization: intensive agriculture (/entry/Agriculture), particularly of at least one cereal (/entry/Cereal), has long been seen as essential in the emergence of complex society. Moseley's ideas would be debated and challenged (that maritime remains and their calorific contribution were overestimated, for example[^15]) but have been treated as plausible as late as Mann's summary in 2005.

Concomitant to the maritime subsistence hypothesis, was an implied dominance of sites immediately adjacent to the coast over other centers. This idea was shaken by the realization of the magnitude of Caral, an inland site. Supplemental to Shady's 1997 article dating Caral, a 2001 Science news article emphasized the dominance of agriculture and also suggested that Caral was the oldest urban center in Peru (and the entire Americas), deprecating the idea that civilization might have begun adjacent to the coast and then moved inland. One archaeologist was quoted as suggesting that "rather than coastal antecedents to monumental inland sites, what we have now are coastal satellite villages to monumental inland sites."[^11]

These assertions were quickly challenged by Sandweiss and Moseley, who observed that Caral, though the largest and most complex Preceramic site, is not the oldest; the importance of agriculture to industry and to augment diet was admitted, while "the formative role of marine resources in early Andean civilization" was still broadly affirmed.[^16] It is now not disputed that the inland sites did have significantly greater populations, and that there were "so many more people along the four rivers than on the shore that they had to have been dominant."[^9] The question is which of the areas developed first and created a template for subsequent development.[^17] Haas rejects suggestions that maritime development at sites immediately adjacent to the coast was initial, pointing to contemporaneous development based on his dating;[^14] Moseley remains convinced that coastal Aspero is the oldest site, and that its maritime subsistence served as a basis for the civilization.[^9][^16]

Cotton and politics

Cotton (/entry/Cotton) (of the species *Gossypium barbadense*) likely provided the basis of the dominance of inland over coast (whether development was earlier, later, or contemporaneous).[^10][^9] Though not edible, it was the most important product of irrigation (/entry/Irrigation) in the Norte Chico, vital to the production of fishing (/entry/Fishing) nets (that in turn provided maritime resources) as well as to textiles and textile technology (/entry/Technology). Haas notes that "control over cotton allows a ruling elite to provide the benefit of cloth for clothing, bags, wraps, and adornment."[^10] He is willing to admit to a mutual dependency dilemma: "The prehistoric residents of the Norte Chico needed the fish resources for their protein (/entry/Protein) and the fishermen needed the cotton to make the nets to catch the fish."[^10] Thus, identifying cotton as a vital resource produced in the inland does not by itself resolve the issue of whether the inland centers were a progenitor for the coast or vice versa—Moseley argues, for instance, that successful maritime centers would have moved inland to find cotton[^9]—and the exact relationship between food resources and political organization remains unresolved.

Regardless of the status of maritime food resources, Norte Chico's development is still remarkable for the apparent absence of a staple cereal (/entry/Cereal). Maize (/entry/Maize) formed the dietary backbone of later pre-Columbian American civilizations, and is now a globally vital crop. There is no evidence of its widespread cultivation in Norte Chico. Moseley found a small number of maize (/entry/Maize) cobs in 1973 at Aspero (also seen in site work in the 1940s and 1950s)[^11] but has since called the find "problematic";[^16] other researchers have suggested no evidence of the crop.

Social Organization
Economy and government

The Norte Chico chiefdoms were "almost certainly theocratic, though not brutally so," according to Mann. Construction areas show possible evidence of feasting, which would have included music (/entry/Music) and likely alcohol (/entry/Alcohol), suggesting an elite able to both mobilize and reward the population.[9] The degree of centralized authority is difficult to ascertain, but architectural construction patterns are indicative of an elite that, at least in certain places at certain times, wielded considerable power: while some of the monumental architecture was constructed incrementally, other buildings, such as the two main platform mounds at Caral,[3] appear to have been constructed in one or two intense construction phases.[10] As further evidence of centralized control, Haas points to remains of large stone warehouses found at Upaca, on the Pativilca, as emblematic of authorities able to control vital resources such as cotton (/entry/Cotton).[9]

Haas has gone so far as to suggest that the labor mobilization patterns suggested by the archaeological evidence point to a unique emergence of human government, one of two alongside Sumer (/entry/Sumer) (or three, if Mesoamerica is included as a separate case). While in other cases, the idea of government would have been borrowed or copied, in this small group government was invented. Other archaeologists have rejected such claims as hyperbolic.[9]

In further exploring the basis of possible government, Haas suggests three broad bases of power for early complex societies—economic, ideological (/entry/Ideology), and physical—and finds the first two present in ancient Norte Chico. Economic authority would have rested on the control of cotton and edible plants and associated trade relationships, with power centered on the inland sites. Haas tentatively suggests that the scope of this economic power base may have extended widely: there are only two confirmed shore sites in the Norte Chico (Aspero and Bandurria) and possibly two more, but cotton fishing nets and domesticated plants have been found up and down the Peruvian coast. It is at least possible that the major inland centers of Norte Chico were at the center of a broad regional trade network centered on these resources.[10] Discover magazine, citing Shady, suggests a rich and varied trade life: "[Caral] exported its own products and those of Aspero to distant communities in exchange for exotic imports: spondylus shells from the coast of Ecuador (/entry/Ecuador), rich dyes (/entry/Dye) from the Andean highlands, hallucinogenic snuff from the Amazon Basin (/entry/Amazon_River)."[18] (Given the still limited extent of Norte Chico research, such claims should be treated circumspectly.) Other reports on Shady's work indicate Caral traded with communities in the jungle farther inland and, possibly, with people from the mountains.[19]

Ideology, religion, and warfare

Ideological power would have rested on access to deities and the supernatural.[10] Evidence regarding Norte Chico religion (/entry/Religion) is limited, but fascinating: an image of the Staff God, a leering, cartoon-like figure, with a hood and fangs, has been found on a gourd dated to 2250 B.C.E. The Staff God is a major deity of later Andean cultures, and Winifred Creamer suggests the find points to worship of common symbols of gods.[20][21] Like much other research at Norte Chico, the nature and significance of the find has been disputed by other researchers.[22]

The act of architectural construction and maintenance may also have been a spiritual experience: a process of communal exaltation and ceremony.[17] Shady has called Caral "the sacred city" ("La ciudad sagrada"[22]): socio-economic and political focus was on the temples, which were periodically remodeled, with major burnt offerings associated with the remodeling.[23]

What is absent is any suggestion of physical bases of power. There is no evidence of warfare (/entry/War) of "of any kind or at any level during the Preceramic Period."[10] Mutilated bodies, burned buildings, and other tell-tale signs of violence are absent, and settlement patterns are completely non-defensive.[17] This is out of keeping with archaeological theory, which suggests that human beings move away from kin-based groups to larger units resembling "states" for mutual defense of often scarce resources. A vital resource was present (arable land generally, and the cotton crop specifically) but the move to greater complexity was apparently not driven by the need for defense or warfare.[17] Mann says that the ruler's power "was the collective economic and spiritual good."[24]

Sites and architecture

Norte Chico sites are notable for exceptional collective density, as well as individual size. Haas argues that the density of sites in such a small area is globally unique for a nascent civilization, and that during the third millennium B.C.E. Norte Chico may have been the most densely populated area of the world (excepting, possibly, northern China).[10]
The Supe, Pativilca, and Fortaleza Valleys each have large clusters of sites, with a single site found on the Huaura. The groundbreaking work of 1973 at Aspero at the mouth of the Supe Valley suggested a site of approximately 13 hectares. The midden (entry/Midden) was surveyed and extensive prehistoric construction activity suggested. Small scale terracing is noted along with more sophisticated platform mound masonry. As many as eleven artificial mounds "could be" present—what Moseley calls "Corporate Labor Platforms," given that their size, layout, and construction materials and techniques would have required an organized workforce.[1]

The survey of the northern rivers found sites between 10 and 100 hectares; between one and seven large platform mounds—rectangular, terraced pyramids—were discovered, ranging in size from 3,000 to over 100,000 m².[4] Shady notes that the central zone of Caral, with monumental architecture, covers an area of just over 65 ha. Six platform mounds, numerous smaller mounds, two sunken circular plazas, and a variety of residential architecture were also discovered at this site.[3]

The monumental architecture would have been constructed with quarried stone and river cobbles. Using reed "shicra-bags," some of which have been preserved,[25] builders would have hauled the material to sites by-hand. Archaeology magazine describes the process:[26]

> Armies of workers would gather a long, durable grass (entry/Grass) known as shicra in the highlands above the city, tie the grass strands into loosely meshed bags, fill the bags with boulders, and then pack the trenches behind each successive retaining wall of the step pyramids with the stone-filled bags.

In this way, the people of Norte Chico achieved formidable architectural success. The largest of the platforms mounds at Caral, the Piramide Mayor, for instance, measures 160 m by 150 m and rises 18 m high.[3] In its summation of the 2001 Shady paper, the BBC suggests workers would have been "paid or compelled" to work on centralized projects of this sort, with dried anchovies (entry/Anchovy) possibly serving as a form of currency (entry/Currency).[27] Mann points to "ideology, charisma, and skillfully timed reinforcement" from leaders.[28]

Development and its absence

When compared to the common Eurasian models of the development of civilization, Norte Chico's differences are striking. A total lack of ceramics (entry/Ceramics) persists across the period. The BBC observes that Norte Chico's people would have roasted their various crops, with no pots to boil them.[27] The lack of pottery was accompanied by a lack of (archaeologically apparent) art. In conversation with Mann, Alvaro Ruiz observes:[9]

> In the Norte Chico we see almost no visual arts. No sculpture (entry/Sculpture), no carving or bas-relief, almost no painting or drawing—the interiors are completely bare. What we do see are these huge mounds—and textiles (entry/Textile).

While the absence of ceramics appears anomalous, the presence of textiles is intriguing. Quipu (or Khipu), string-based recording devices, have been found at Caral, tentatively suggesting a writing, or "proto-writing," system at Norte Chico.[29] (The discovery was reported by Mann in Science in 2005, but has not been formally published or described by Shady.) The exact use of Quipu in this and later Andean cultures has been widely debated. It was originally believed to be simply a mnemonic used to record numeric information, such as a count of items bought and sold. Evidence has emerged that the Quipu may also have recorded logographic information in the same way writing does. Research has focused on the much larger sample of a few hundred Quipu dating to Inca times; the Norte Chico discovery remains singular and undeciphered.[30]

Other finds at Norte Chico have proven similarly fascinating. While visual arts appear absent, instrumental music may have been present: thirty-two flutes (entry/Flute), crafted from pelican (entry/Pelican) bone, have been discovered.[9][18] The leering face of the Staff God is another intriguing artifact that awaits explanation. While still fragmentary, such archaeological evidence corresponds to
the patterns of later Andean civilization and may indicate that Norte Chico served as a template. Along with the specific finds, Mann highlights "the primacy of exchange over a wide area, the penchant for collective, festive civic work projects, [and] the high valuation of textiles and textile technology" within Norte Chico as patterns that would recur later in the Peruvian cradle of civilization.[9]

Research controversies

The magnitude of the Norte Chico finding has brought academic argument and accusation in its wake. The "monumental feud," as described by Archaeology, has included "public insults, a charge of plagiarism, ethics inquiries in both [Peru and the United States], and complaints by Peruvian officials to the U.S. government."[26] The lead author of the seminal paper of April 2001[3] was Peruvian Ruth Shady, with Jonathan Haas and Winifred Creamer, a married American team, as coauthors; the coauthoring was reportedly suggested by Haas, in the hopes that the involvement of American researchers would help secure funds for carbon dating as well as future research funding. Later, Shady would level charges of plagiarism and insufficient attribution at Haas and Creamer, suggesting the pair had received credit for her own research, which had been on-going since 1994.[18][31]

At issue is credit for the discovery of the civilization, its name, and the theoretical models underlying it. That Shady was describing a civilization is clear in 1997 ("los albores de la civilización en el Perú"[2]). While locating it on the Supe, with Caral at its center, a wider geographic base was suggested: El número de centros urbanos (17), identificado en el valle de Supe, y su magnitud, requirieron de una gran cantidad de mano de obra y de los excedentes, para su edificación, mantenimiento, remodelación y enterramiento. Si consideramos exclusivamente la capacidad productiva de este pequeño valle, esa inversión no habría podido ser realizada sin la participación de las comunidades de los valles vecinos.[23]

The number of urban centers (17) identified in the Supe Valley, and their magnitude, requires a great quantity of surplus labor for their construction, maintenance, remodeling and burial. If we consider exclusively the productive capacity of this small valley, this investment could not have been realized without the participation of the communities of neighboring valleys.

In 2004, Haas et al. would write: "Our recent work in the neighboring Pativilca and Fortaleza has revealed that Caral and Aspero were but two of a much larger number of major Late Archaic sites in the Norte Chico," while only noting Shady in footnotes.[4] Attribution of this type is what has angered Shady and her supporters. Shady's position has been hampered by a lack of funds in her native Peru, and the advantages of North American researchers in disputes of this type.[19]

Haas and Creamer were cleared of the plagiarism charge by their institutions, but the Field Museum's science advisory council rebuked Haas for press releases and web pages that gave too little credit to Shady and inflated the couple's role as discoverers.[18] The dispute remains heated, and there are concerns that it could make it more difficult for American archaeologists to receive permission to work in Peru.[26]

Legacy

This ancient civilization takes us back to the formation of one of the oldest organized human societies. Lack of written records means that this is part of the prehistorical (entry/Prehistory) period. Reconstruction of how life and social organization developed in the Norte Chico civilization appears to conform to a pattern seen elsewhere; people moved from family based units, to larger units, then into settlements that became the world's first cities. Settlement in cities allowed for the development of art, technology, crafts and industry and for the birth of trade. City life freed up some people from food production to engage in other activities. It is this development that produced human civilization. The growth of cities also led, in the end, to the creation of larger cultural spheres, which served to unify previously disparate peoples. Here, too, was a society where the ruler's power resided in their ability to promote the common good.

Notes

1. ↑ 1.0 1.1 1.2 1.3 "We see the site as a 'peaking' of an essentially non-agricultural (entry/Agriculture) economy. Subsistence was still, basically, from the sea. But such subsistence supported a sedentary style of life, with communities of appreciable size." Michael E. Moseley and Gordon R. Willey. 1973."Aspero, Peru: A Reexamination of the Site and Its Implications." American Antiquity 38(4):1973, 452–468.

3. ^ 3.0 3.1 3.2 3.3 3.4 3.5 3.6 3.7 Ruth Martha Shady Solís, Jonathan Haas, and Winifred Creamer. 2001. "Dating Caral, a Preceramic Site in the Supe Valley on the Central Coast of Peru." Science 292(5517):723-726.

4. ^ 4.0 4.1 4.2 4.3 4.4 4.5 4.6 Haas, Creamer, and Ruiz, 2005, 1020-1023.


6. ↑ The name is disputed. English-language sources use Norte Chico (Spanish: "Little North") per Haas, Creamer, and Ruiz, 1020-1023. Caral or Caral-Supe are more likely to be found in Spanish language sources per Shady. This article follows usage in recent English-language sources and employs Norte Chico, but the title is not definitive. Peruvian Norte Chico should not be confused with the Chilean (/entry/Chile) region of the same name.


11. ↑ 11.0 11.1 Heather Pringle, 2001. "The First Urban Center in the Americas." Science 292(5517), 621. "The claim in this Science 'News of the Week' column that Caral is the oldest urban center in the Americas is highly uncertain."


13. ↑ "Interior" and "inland" do not refer here to the mountainous interior of Peru proper. All of the Norte Chico sites are broadly coastal, within 100 km of the coast and within the Peruvian littoral (Caral is 23 km inland). "Interior" and "inland" are used here to contrast with sites that are literally adjacent to the ocean.


17. ↑ 17.0 17.1 17.2 17.3 Mann, 2005a, 34-35.


22. ↑ Krysztof Makowski, (as reported by Mann, 2006, 1491), suggests there is little evidence Andean civilizations worshiped an over-arching deity. It has also been suggested that the figure may have been carved onto an ancient gourd, as it was found in strata dating between 900 and 1300 C.E.

23. ↑ 23.0 23.1 Shady Solis. Summary Three. LA SOCIEDAD DE CARAL - SUPE: INFERENCIAS PRELIMINARES SOBRE LA ANTIGÜEDAD
30. ↑ Mann. 2006. appendix B.

References


**External links**

All links retrieved January 23, 2015.

- Caral-Supe at Google Maps (http://maps.google.com/maps?f=q&hl=en&geocode=&q=Caral-Supe+&sll=22.268764,-102.65625&sspn=169.503607,360&ie=UTF8&ll=-10.818131,-77.737885&spn=0.173669,0.2108&t=h&z=12)
- Northern Illinois University press kit photos (http://www.niu.edu/pubaffairs/presskits/peru/photos.html)

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