#### FROM FORAGING TO FARMING IN THE ANDES

Archaeologists have always considered the beginnings of Andean civilization from ca. 13,000 to 5,000 years ago to be important in terms of the appearance of domesticated plants and animals, social differentiation, and a sedentary lifestyle, but there is more to this period than just these developments. During this time, the spread of crop production and other technologies, kinship-based labor projects, mound building, and population aggregation formed ever-changing conditions across the Andes. *From Foraging to Farming in the Andes* proposes a new and more complex model for understanding the transition from hunting and gathering to cultivation. It argues that such developments evolved regionally, were fluid and uneven, and were subject to reversal. This book develops these arguments from a large body of archaeological evidence, collected over thirty years in two valleys in northern Peru, and then places the valleys in the context of recent scholarship studying similar developments around the world.

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# FROM FORAGING TO Farming in the andes

# New Perspectives on Food Production and Social Organization

Edited by

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## Foreword

While it is commonly accepted that the Central Andes constitute one of the few centers of early plant domestication, there is not much agreement about the basic questions like specific places of "origin," timing, process, and the region's relevance for early social and economic developments toward sustained social complexity.

In the early 1940s but based on earlier hypotheses, Julio C. Tello constructed an "agrotechnical" chain of human responses to environmental challenges. It starts in the eastern lowlands with extremely simple cultivation (basically manioc) combined with fruit collecting, hunting, and fishing. In the humid eastern slopes of the Andes, terracing was needed to improve the growing of crops, whereas in the upper highlands new plants were added like oca, quinoa, and potato. There, large concentrations of camelids and cervids together with a most benign climate turned puna and quechua into the "principal centers of human attraction in the remote past." These plants, and particularly the potato, according to Tello, are capable of growing almost without human intervention. "Since the most remote times there was a migration of plants from highlands downwards and from the lowlands to the highlands" so that the coast receives many plants like fruit trees, coca, chili pepper, manioc, sweet potato, maize, and others "which grow easily in the montaña but need much attention on the coast" (Tello 1929: 21-22, 1942: 596-615). Thus, Tello stresses several points of major interest like domestication as an early cultural development: simple technology, combination of resources, transfer of domesticates, and generally a network of connections between lowlands, highlands, and coast.

In the 1950s and 1960s, Federic Engel's extensive surface surveys and excavations concentrating on early sites on the whole stretch of the Peruvian coast and some adjacent highland areas produced an enormous amount of well-preserved plant remains and contextual data. Unfortunately, these

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were only summarily presented, and the lack of systematic analyses did not lead to convincing models for the emergence of early agriculture.

In the 1970s, Michael E. Moseley published his controversial book Maritime Foundations of Andean Civilization (1975). In spite of much criticism, the idea of "Peru as an exception of the rule" in the way of stressing the vital importance of marine resources for the emergence of a relatively late social complexity became popularized and often is accepted as a fact by public opinion in spite of also accepting Peru as a center of early plant domestication. The reasons for this contradiction are manifold and cannot be discussed at length here, but certainly one of these is the general conviction that a kind of cultural "civilization package" including domestication is abruptly emerging with the "Chavín phenomenon" in the sense that "Paleolithic" life ways almost automatically evolved into an elaborate complex social system. Even the much more ancient Caral on the north central coast in this sense is only a projection of this idea of full-blown complexity without antecedents into a more remote past. This means that a wide conceptual gap is created between early "primitive" colonization or "Early Man" and the much later splendorous achievements seen as the "origin" of civilization and ultimately the modern state.

Bridging this gap is one of the principal aims of this book. However, it is not a lengthy discussion of the theoretical strengths and weaknesses of previously published theories, hypotheses, ideas, or speculations but a presentation of a circumscribed area in northern Peru (lower and middle Zaña and Jequetepeque valleys and adjacent northern lower and middle Chicama Valley) with a total of more than 500 Preceramic sites studied during the last thirty years, mostly by Tom D. Dillehay and his research team. The high amount of data obtained during this long-term research allows an orientation toward concrete problems concerning "the interpretation of historical moments and specific sociocultural and techno-environmental contexts forming larger patterns" (see Chapter 15). These patterns are defined in a total time span of almost 9,000 C14 years (13800 to 5000 BP) in three phases: El Palto, Las Pircas, and Tierras Blancas. Special attention is drawn to plant use as utilized animals generally are of small size (land snails, lizards, foxes) apart from some deer and others; marine resources apparently are minor components (Chapter 10).

Concrete evidence of domesticated plant remains is surprisingly early but rather tenuous in the shape of *Cucurbita* seeds in the late El Palto phase contexts from the upper valley interpreted as evidence of squash cultivation. It occurs in a "diverse physical and conceptual landscape where the contrast between a few settled household communities in the Nanchoc area

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and numerous large and small temporary campsites and semi-permanent localities in other areas were pronounced in a geographical, environmental, and cultural sense" (Chapter 15). This means that some human groups during the Paijánense, usually understood as the typical early broad spectrum foragers, were taking steps toward sustained complexity. But it is fluctuating diversity and dynamism that characterize this early social world, not uniformity and definite change.

During the following Las Pircas phase (9800 to 7800 BP) the repertoire of domesticated plants is significantly enlarged with peanuts (*Arachis bypogaea*), probably quinoa (*Chenopodium* sp., cf. quinoa), manioc (*Manibot* sp.), beans (*Phaseolus* sp.), and pacae (*Inga feuillei*). The mere presence of these domesticates involves some connection with the outside world as most of these presumably arrived from distant centers. But as their status as domesticates is not totally clear (Chapter 9), many of those could represent "pre-domestication cultivation," which would be of major importance as such.

Related to these innovations are more permanent households, house gardening, and mound building (in the late part of the phase). These in turn are linked to increased ritualism like garden magic and cannibalistic treatment of the dead. This cannibalism, however, is not necessarily a sign of violence but could have been a kind of endocannibalism as was practiced among the Yanomamö (Venezuela) who cremated their dead and drank their crushed bones or ashes (Chagnon 1968: 50–51, 1992: 136–137). These are all signs of social cohesion, a construction of a new social landscape or world, manifested by a new center of a restricted "world" at the end of the phase, while on the outside others maintained their different modes of foraging.

The Tierra Blanca phase (7800 to 5000 BP) documents the climax of this tendency. Irrigation canals and increased use of domestic plants already present in the preceding phase as well as an expansion toward lower elevations down to the coast, more formalized architecture and communal ceremonialism show a consolidation of "neolithic" life, but it was a slow and localized process in which climate change or population pressure probably were not prime movers for change. The authors of this book prefer a combination of cognitive, social, technological, and ecological pathways. Of particular importance is the construction of dual mounds in the late Las Pircas phase maintained until the end of the Tierra Blanca phase. These seem to fulfill ritual functions as shown by the existence of lime (probably for coca chewing) and rock crystals. Until now it is the earliest structure of this type that develops into a hallmark for late Preceramic and Formative

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centrality. The earliest of these dates to about the abandonment of the Nanchoc mound (Fuchs et al. in press). At about 5000 BP the Nanchoc pocket seems to be definitely abandoned.

As the authors recognize, there are gaps and problems still to be resolved, but this coherent picture should be contrasted with similar or different histories in other parts of the Andes. Finally, this complex mosaic of emerging social complexity in all its relevant aspects should be compared to other, much better known, centers like the Near East. In order to achieve this ambitious aim, there are some basic points to be considered:

- 1. Building up of a significant database concerning technological, ecological, cognitive, and social evidence as was done in the presented research area. Following the authors, technology includes architecture, irrigation canals, garden plots, and agricultural fields as well as materials, in particular, lithics (see Chapter 11). The most basic prerequisite is recognizing lithics in the field (most surface survey reports from the Andes start with ceramic sites, ignoring lithics almost entirely) and their organizing into meaningful temporal-spatial units in order to create a chronological, robust frame. While this is rather clear for the Early Holocene (Early Archaic) because of the common presence of bifacial points, it is less clear for the almost 5,000 years that precede the ceramic phases. This time span, however, seems to be crucial for the emergence of observable cultural patterns that are characterized by diversity and coexistence of different expressions of complexity in different parts of the Andes. Evidence for gardening and agriculture should be sought in pockets of similar characteristics as the Nanchoc area in the chaupiyunga of the middle valleys of the western and eastern Andes, but these are usually woefully neglected. Other areas like the humid forests, the coastal wetlands, and the interandean valleys are less covered by Dillehay and his teams (due in large part to the absence of early sites along the coast, although he is currently engaged in intensive research in the coastal Chicama Valley), and even marginal areas like the puna rims should provide useful evidence.
- 2. Research, recovery, and analyses of the evidence have to be undertaken with the participation of experts in different fields in order to achieve meaningful results. While this has been done in several sites in the Andes, the gained insights about these are difficult to be generalized as they tend to neglect regional diversity and prevent the recognition of networks. In other words, only regional studies are

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capable of detecting the interrelation of sites and places in changing landscapes.

3. An important point, rightly stressed by the authors, is the relevance of cognitive aspects. Early societies like those at Nanchoc are not to be understood as congregations of *Homo economicus*; domestication is not a simple economic need, but it is part of the mechanisms of socialization materialized in objects and contexts that hint at ritualized communities with concepts of identity and memory (fertility cults and ancestry) in coherent worldviews. Centrality as expressed in long-term cult centers in the form of mounds is an astonishingly early phenomenon at Nanchoc, but it very probably is not the only one of its time and not the earliest manifestation in the Andes.

In sum, the very relevant results presented in this book should serve as an orientation toward a renewed and redefined comparative research concentrating on the human presence during the early and the middle Holocene in the Andes. The tendency of generalized narratives of "success stories" from the primitive to the complex still prevailing in the extant literature is being revealed as an obstacle and a falsification by simplification. Therefore, the Central Andes probably did not constitute the "exception to the rule" (as Nanchoc cannot be the exception), as there were many "rules." This is certainly also true for the Near East. The southern Levant is no longer seen as the lone focus or "origin" of complexity. Southeast Anatolia and Syria are more complex and different in the PPNA (Pre-Pottery Neolithic; see Lichter ed. 2007), which is losing its status as an area of incipient domestication too, as undisputed domesticates only appear during the PPNB (9500–9200 BP), probably in different regions independently (Nesbitt 2002, Willcox 2002). Complex architecture and cultivation, however, are earlier (Banning and Chazan 2006; Stordeur and Willcox 2009). It is diversity more than uniformity that characterizes the bumpy steps to early complexity in this area (see Kuijt 2000).

> Peter Kaulicke Lima, Peru



**Plate 1.** Satellite view of the lower Zaña and Jequetepeque valleys showing all Preceramic sites by phases across different ecological zones.



Plate 2. Location of El Palto phase sites in the study area.



Plate 3. Location of Las Pircas sites in the study area.



Plate 4. Location of Tierra Blanca phase sites in study area.

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