

Abstract

This book is largely based on J.-P. Lacombe's thesis, defended in February 2000 at the University of Bordeaux, on the earliest evidence of the first settlements in South America, but placed in the current context of recent data.

It reports on archaeological research carried out from 1972 to 1997 by a Franco-Peruvian team on ancient open-air sites on the north coast of Peru (Cupisnique region: 7°30' S latitude), and directed by C. Chauchat. These sites belong to a tradition known as Paiján, dating from around 13,000 to 8,000 BC. In this desert area between the Pacific Ocean and the Andes Mountains, the surface sites contain knapped lithic material (projectile points and ordinary tools on flakes such as sidescrapers, notches and denticulates), faunal remains and microfauna such as land-snails, fish and lizards.

Associated with these sites, 19 individuals were unearthed: four at Pampa de los Fósiles, nine at Cupisnique Quebrada, seven at Santa María Quebrada, the majority found in burial, consisting of four adult males, six adult females, five adults of undetermined sex, one isolated bone, one adolescent and two children. Isolated bones close to the buried individuals were found in two cases. One of the children had suffered severe trauma leading to death. The stature of the adults is up to 1.75 m, clearly greater than that of humans of later periods. On the preserved skulls, dolichocephaly is evident. Study of the anatomy of these skeletons reveals a lifestyle involving extensive travel, the carrying of heavy loads, as well as customary hand and jaw work.

In addition to the archaeo-taphonomic elements found in the field, a classical anthropological study, morphological and metric, was carried out in the laboratory, including comparisons with other ancient and recent human remains from northern Peru, notably with human remains from sites such as Lauricocha (high central Andes), Tablada de Lurín (near Lima) and Huaca Prieta (a mound from a pre-ceramic period later than the Paiján burials).

They were compared with each other, with late pre-Columbian series (Puerto Chicama, El Brujo. . .) as references, and a series of sub-actual Fuegian skulls included in the comparative statistical and descriptive study.

The study of the phenotype of the populations examined revealed, both descriptively and through multivariate analysis, significant differences between the "archaic" series, testifying to a first settlement at the beginning of the Holocene, and at least a second, later one, beginning towards the end of the pre-Ceramic period and continuing into the later Pre-Columbian periods, with individuals who were more brachy-cranial and possessed a body morphotype of lesser stature and were less "lanky". This differential notion is highlighted by the analysis of human remains from the Huaca Prieta site, which form a continuum spanning at least 2 millennia.

The skulls from Tablada de Lurín, south of Lima, 500 km south from Cupisnique, seem to be associated with a tradition close to Paiján and present clear analogies with the human remains from Paiján. On the other hand, at Lauricocha, in the high Andes, the skulls examined have characteristics that would bring them closer to human remains from the central Brazilian plateau (Lagoa Santa).

It is interesting to note that recent discoveries of human remains and the contribution of new palaeogenetic techniques in widespread use over the last two decades are entirely compatible with the conclusions reached in the thesis defended in 2000.

Keywords

Peru, Pacific Coast, Bio anthropology, prehistoric settlement, Pleistocene-Holocene transition, Paiján, hunter-gatherers, lifestyle, burials, funerary rites, Huaca Prieta, Tablada de Lurín, Lauricocha.

The Paiján lithic complex

No research project can be developed in the absence of various constraints, from the nature of the terrain to the material and financial constraints of the people carrying out the research. Moreover, archaeology is irreducibly full of gaps, imprecisions and uncertainties. This publication presents the results of bio-anthropological research into a group of burials found on the Peruvian coast, in a stretch of desert known as Cupisnique, between the present-day oasis valleys of Jequetepeque and Chicama (Figure. 1.1) and at around 7° 30' S latitude. These burials are generally associated, in shallow domestic middens, with a lithic industry called Paiján, documented on the Peruvian coast, dating from the Pleistocene-Holocene transition, and whose most characteristic artefact is a bifacial stemmed lithic projectile point, the Paiján point.

The Paiján lithic industry was first recognized in the archaeological literature by a few vague mentions of projectile points, found on the surface of the coastal desert, some 80 km north of the modern city of Trujillo and in the vicinity of the small town of Paiján, in 1945-1948 (Bird 1948, Larco Hoyle 1948). Until around 1970, knowledge of these prehistoric tools remained scarce and imprecise, although it was confirmed by some archaeologists, following their visits to the area. During the same period, projectile points of similar shape and size were found in a superficial context near Ancón, north of Lima, i.e. some 400 km south of Paiján, and were integrated into a preceramic archaeological sequence (Lanning 1963). At the same time, great antiquity was attributed to sites containing coarsely knapped material, apparently unrelated to these projectile points, in the same region, notably at Cerro Chivateros (Patterson 1966). The various interpretations given to these materials during this period are commented on in greater detail in earlier publications (Chauchat 1982, Chauchat et al. 1992, 2006,) ¹.

This situation was resolved around 1970 with the first study of a group of sites on the north coast, carried out by P. Ossa as part of the Harvard University expedition, the "Chanchan Moche Valley Project". Ossa was primarily responsible for an initial typological description, based on several surface sites at the margins of the Moche Valley, including the La Cumbre site (Ossa 1973, Ossa and Moseley 1972). He defined a dozen types of knapped lithic tools, following a procedure used for European prehistory by F. Bordes: projectile points, bifacial foliated pieces, "limaces", notches and denticulates, cobbles tools, etc. At the Quirihuac shelter, a first series of radiocarbon dates obtained on charcoal associated with bifacial points

typical of Paiján, in a well-sealed occupation, places the industry in the period 12,000 - 10,000 years BP.. At the La Cumbre site, Pleistocene equid and Mastodon fossil bones outcropping on the surface were considered to be associated with knapped tools, without convincing, despite very close radiocarbon dates². Ossa's work was the main incentive for C. Chauchat, who at that time began to explore the area where the first discoveries had been made, a little further north, thus highlighting its extraordinary archaeological potential. The first fieldwork in the Cupisnique region, north of the town of Paiján, began in 1972 and continued with some interruptions and varying intensity until 1997 (Chauchat et al. 1992, 1998, 2004, 2006). At the same time, in the Lima region, the identification of the Cerro Chivateros site as a quarry for the manufacture of Paiján-like points was definitively established, allowing the separation of the Ancón sites with these points (Piedras Gordas and Luz complexes) from the rest of the sequence proposed by Lanning (1963), (Bonavia 1979, 1984).

1.1 Phases of research at Cupisnique

Begun (and completed) with limited resources and specialists until 1997, this program has gone through several phases and geographical areas of application.

1) Prospecting and analysis of surface sites in Pampa de los Fósiles (upper part of the coastal plain). Specific studies of several workshops and habitat sites (Chauchat et al. 1992, 2006). The contemporaneity of sites containing mainly unifacial tools of expedient technology with workshops for producing stemmed bifacial points (Paiján points) was recognized during this first phase.

2) Careful exploration of the entire region, from the ocean shore to the first plateaus at an altitude of 1800 m (Chauchat et al. 1998), supported by improved logistics. A total of 196 archaeological sites were described, but many comprise a multiplicity of units, each corresponding to a specific occupation. Of these, 11 marine shell heaps that may be attributed to the Middle or Late Preceramic, are distributed along the present shoreline. Occupations later than Paiján belong to the Formative period (ceramics from the Initial Period and Early Horizon), as well as later pottery kilns and cultivated fields.

3) A phase of experimental knapping of bifacial points made it possible to specify the operative chain of their

¹ The reference Chauchat et al 2006 is the Spanish translation of Chauchat et al 1992, which is in French.

² Bone apatite, not considered a good material for radiocarbon dating, was used on this occasion, as the fossil bones no longer contain collagen. The Uranium-Thorium method was used in analyses of the Pleistocene megafauna from Cupisnique (Falguères et al. 1994).

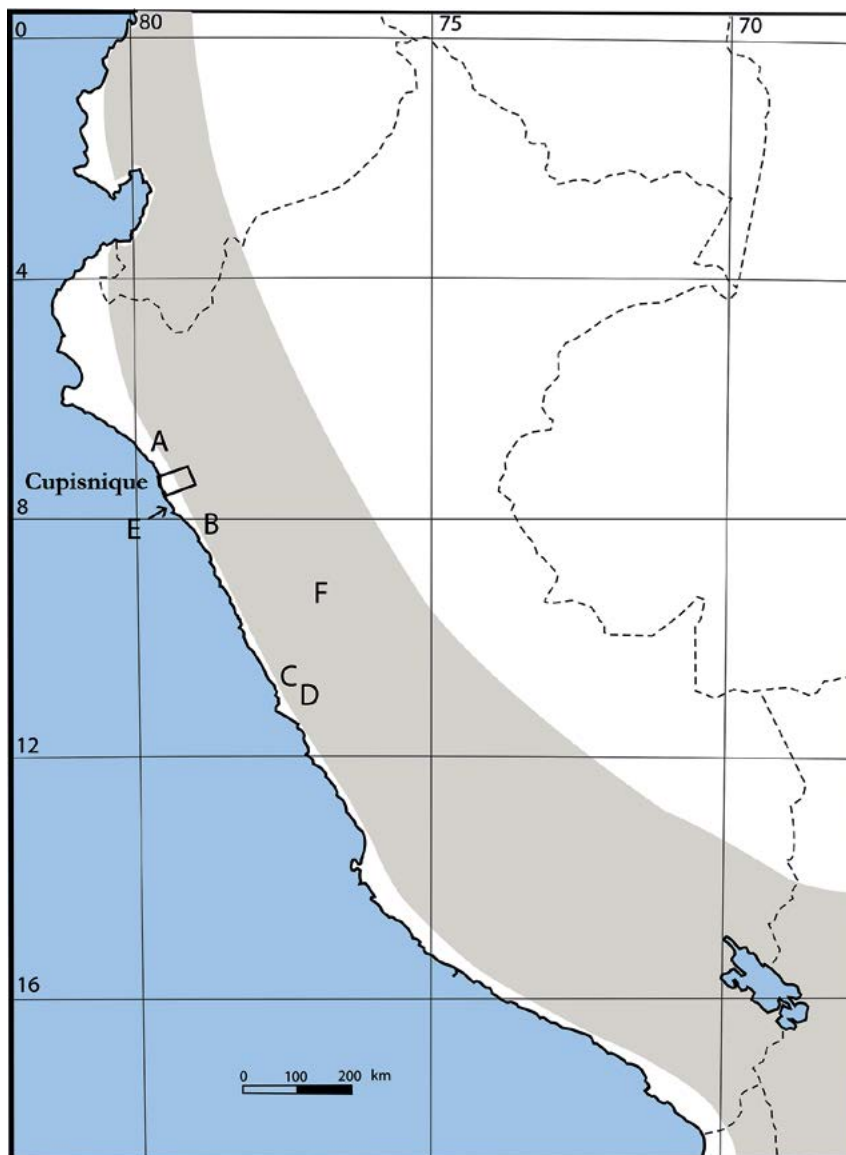


Figure 1.1. Map of Peru. The brown area shows the approximate extension of the Andes. Cupisnique is included in the rectangle at the edge of the Pacific Ocean shoreline. Apart from Cupisnique, the main areas and sites mentioned in the text are: A, Zaña-Jequetepeque; B, Moche Valley (La Cumbre, Quirihuac); C, Ancón-Chivateros; D, Tablada de Lurin; E, Huaca Prieta; F, Lauricocha.

manufacture (Pelegrin and Chauchat 1993). This was followed by a study of an exceptional mixed workshop-dwelling site (Chauchat, Pelegrin et al. 2004). With several point-knapping and uniface (limace) use stations, this unit also includes a domestic garbage dump containing faunal remains.

4) A series of limited excavations at paleontological sites, to confirm or refute the association between human occupation and Pleistocene megafauna (Falguères et al. 1994). No traces of human activity have been found. The paleontological material is as yet unpublished.

5) In the “quebradas” (arid valleys) of the hinterland, an entire campaign was devoted to the excavation of burial sites identified during phase 3. These documents were studied by J.-P. Lacombe in a post-graduate thesis (Lacombe 2000). Due to lack of resources, analyses such

as radiocarbon dating or DNA determination could not be undertaken. Charcoal directly associated with the Paiján 2 skeleton had previously been dated (see chapter 3 below).

These phases were not carried out in the strict order described here, but benefited from varying resources, particularly logistical, from year to year.

1.2 Issues

The main problems posed by the Paiján complex were already apparent during the first phase: surface location of dissimilar archaeological materials, problematic association with Pleistocene megafauna, unreliable absolute dating, function of the large bifacial lithic points, etc. Indeed, how can we determine or reject the validity of the results? How can we determine or reject the association between a group of artifacts on the desert

surface in a location A with another, sometimes totally different, group of artifacts in a distinct location B some distance away (a few meters or a few hundred meters)? The term “association” in this case means belonging to the same cultural group, or even a certain contemporaneity. This distance and these differences should indeed lead us to conclude that the occupations were different, or even that the cultural traditions were different. However, there are some tenuous but frequent clues that lead us to accept these associations. These are as follows.

1. Presence of bifacial stemmed lithic points or their fragments (Paiján points) and/or presence of flakes from soft hammer or pressure shaping, particularly in materials from quarries used for procuring projectile points blanks and preforms.
2. Presence of uniface (limaces) (Chauchat 2022).
3. Presence of microfauna, notably fish of the species *Micropogonias altipinnis* (Wing in Chauchat 2006, Béarez et al. 2011) from coastal lagoons.

These elements, in particular lithic remains, are often found in very small numbers, on the surface or at shallow depths. But this scarcity in each campsite is counterbalanced by the regularity of their occurrence. Thus, the ancient sites in the region all appear to be assignable to the Paiján tradition. We certainly can't rule out the presence of later preceramic sites, but they are not among those we have studied in detail. In the interior of the region (Cupisnique and Santa María quebradas), we find the same already listed elements as in the upper part of the coastal plain (Pampa de los Fósiles), hence the assimilation to Paiján of sites containing these elements.

Another problem concerns the different absolute dates of several samples from the same site, supposed a priori to represent a single occupation of a small group or several distinct occupations but close together in time, given its small surface extension. However, at site 14, Unit 2 of Pampa de los Fósiles, of average size for a campsite (125 m²), several types of structures can be observed, such as trampling areas, flat or bowl-shaped hearths, and examination of the distribution of lithic material seems to show several arcs of circles in the concavity of which the objects located inside would have been stopped (Chauchat et al. 2006: 269-297). Five radiocarbon dates were obtained from charcoal samples taken from the maximum possible depths in the bowl hearths. The results fall within the interval 13100- 8700 cal BP (sigma: 95%). The deepest sample was taken between 35 and 45 cm, three others between 15 and 25 cm, and one “shallow” sample. These dates probably represent multiple occupations of the same campsite. During this study of the Pampa de los Fósiles sites, a single workshop for the manufacture of projectile points contained a buried hearth that yielded an interval of 11210-10297 cal BP, thus in agreement with the dates of the campsite mentioned here. Dates for Paiján sites from the Moche Valley to the Cupisnique Desert are listed in Table 1.1, while those from Paiján-like sites on the Central Coast, north of Lima, are shown in Table 1.2.

1.3 Main results

In the Peruvian coastal desert, the oldest prehistoric sites are generally visible on the surface without any excavation, although some shallow excavations may yield buried material. The Paiján (Spanish: *Paijanense*) lithic complex is clearly characterized by large (>10 cm), elongated, stemmed projectile points, produced by means of a complex and difficult technical process (Pelegrin and Chauchat 1994) (Figure 1.2). This chain of operations mainly comprises an acquisition phase in quarries located on rocky hillsides, followed by a reduction phase using a soft (organic) hammer in workshops located lower down on the plain, and finally a retouching phase using pressure to shape the basal stem and a very pointed, elongated apical part. The discovery of this chain of operations has led to the reinterpretation of the Cerro Chivateros site, near Lima, as a quarry for this same manufacturing process, and to the explanation of the early radiocarbon date obtained on an object made of organic material from this site (Bonavia 1989, 1992). Smaller points are also present, but in minor numbers.

In the same group of superficial sites comprising quarries and projectile point knapping workshops, where the raw material is mainly yellow, pink or brown rhyolite brought from quarries sometimes several kilometers away, there are also sites containing other types of tools that have been grouped together under the heading of “ordinary tools”, made from various materials found on site: flakes used in various ways, notches, denticulates, as well as a few tools on pebbles, and often grinding stones on flat slabs. In these sites, Paiján-type projectile points, made from the same rock as used in the workshops, are sometimes present, but always in very small numbers, as are small flakes detached with a soft hammer in the same materials. This proves the existence of short phases of knapping activity and the cultural association of these sites with projectile point quarries and workshops. Thus, we can observe a three-term settlement system in the field: quarries, Paiján bifacial point workshops, and this last type of site, which has all the characteristics of a dwelling site or temporary camp. Systematic study of some of these habitation sites quickly led to the discovery of materials buried at shallow depths in the loose soil, probably by the trampling of prehistoric populations, in particular faunal remains, as well as intentionally buried structures such as small hearths and pits. Despite the trade winds that sweep across the coastal plain of northern Peru, aeolian deflation has not eroded these remains, and a layer ten to fifteen centimeters thick remains beneath the surface of campsites or workshops, containing numerous witnesses to human occupation such as burials. Radiocarbon dates on charcoal taken from these camps place them in the same period already mentioned, during the Pleistocene-Holocene transition. The human remains described here are therefore mainly associated with the lithic complex known as Paiján.

The settlement system of these Paiján sites is most evident in the Pampa de los Fósiles, located on the upper part of the

Table 1.1. Radiocarbon dates associated with Paiján sites in the Cupisnique region and with sites from Moche valley and from central coast sites. The ages are calibrated at the 95.4% confidence level. For radiocarbon ages (Age+2sigma) below 9682 the southern hemisphere correction has been applied (grey cells).

Site	Type	Material	Sample Number	Result (B.P.)	Cal BP 2sigma (95,4%)	Median age
Pampa de los Fósiles 12, u. 7	Campsite, midden	charcoal	Gif- 3565	5 490 ± 140	5907 - 6502	6210
Pampa de los Fósiles 12, u. 7	Campsite, midden	landsnails	Gif- 4165	8 810 ± 160	9496 - 10205	9823
Pampa de los Fósiles 13, u. 1	Campsite, midden	charcoal	Gif- 4161	9 810 ± 180	10693 - 11961	11248
Pampa de los Fósiles 13, u. 1	Campsite, midden	landsnails	Gif- 4163	7 740 ± 150	8185 - 8977	8502
Pampa de los Fósiles 13, u. 2, T.2	Campsite, burial, Paijan 1	charcoal	Gif- 3781	10 200 ± 180	11261 - 12598	11893
Pampa de los Fósiles 13, u. 11	Projectile point workshop	charcoal	Gif- 4914	9 490 ± 170	10297 - 11210	10798
Pampa de los Fósiles 13, u. 29	Campsite, midden	charcoal	Gif- 4915	9 300 ± 170	10176 - 11122	10524
Pampa de los Fósiles 14, u. 2, BH 19	Campsite, midden	charcoal	Gif- 5159	8 730 ± 160	8776 - 9559	9277
Pampa de los Fósiles 14, u. 2, BJ 20	Campsite, midden	charcoal	Gif- 5160	10 380 ± 170	11616 - 12796	12242
Pampa de los Fósiles 14, u. 2, BG 17	Campsite, midden	charcoal	Gif- 5161	9 360 ± 170	10230 - 11128	10608
Pampa de los Fósiles 14, u. 2, BI 17	Campsite, midden	charcoal	Gif- 5162	9 600 ± 170	10413 - 11385	10924
Pampa de los Fósiles 14, u. 2, BD 16	Campsite, midden	charcoal	Gif- 9405	10 640 ± 260	11708 - 13099	12506
Pampa de los Fósiles 27, u. 1	Campsite, midden	charcoal	Gif- 4162	8 260 ± 160	8658 - 9516	9159
Ascope 5, u. 4	Campsite, midden	charcoal	Gif- 4912	9 670 ± 170	10515 - 11602	10998
Ascope 5, u. 4	Campsite, midden	landsnails	Gif- 4913	9 510 ± 170	10299 - 11229	10826
Ascope 12, u. 3	Campsite, midden	landsnails	Gif- 4164	7 220 ± 140	7690 - 8304	7990
Quirihuac	Rockshelter	charcoal	GX 2021	12 795 ± 350	13438 - 15295	14367
Quirihuac	Rockshelter	charcoal	GX 2024	10 005 ± 320	10674 - 12671	11618
Quirihuac	Rockshelter, burial	human bones: child	GX 2493	9 930 ± 820	9320 - 13371	11448
Quirihuac	Rockshelter, burial	human bones: adult	GX2491	9 020 ± 650	9320 - 13371	11448
La Cumbre, site H 2231		charcoal	Gif- 11001	9 240 ± 70	10225 - 10552	10361

Table 1.2. Radiocarbon dates from Paiján sites on the central Coast

Site	Type	Material	Sample Number	Result (B.P.)	Cal BP 2sigma (95,4%)	Median age
Cerro Chivateros	Quarry	wood	UCLA 683	10 430 ± 160	11768 - 12803	12326
complejo Piedras Gordas	Surface site	Charcoal ?	UCLA 201	7 300 ± 100	7866 - 8317	8073
complejo Luz	Surface site	Charcoal ?	Y 1303	7 300 ± 120	7842 - 8337	8074
complejo Luz	Surface site	Charcoal ?	UCLA 202	7 140 ± 100	7697 - 8155	7901
complejo Luz	Surface site	Charcoal ?	Y 1304	6 600 ± 120	7184 - 7660	7446

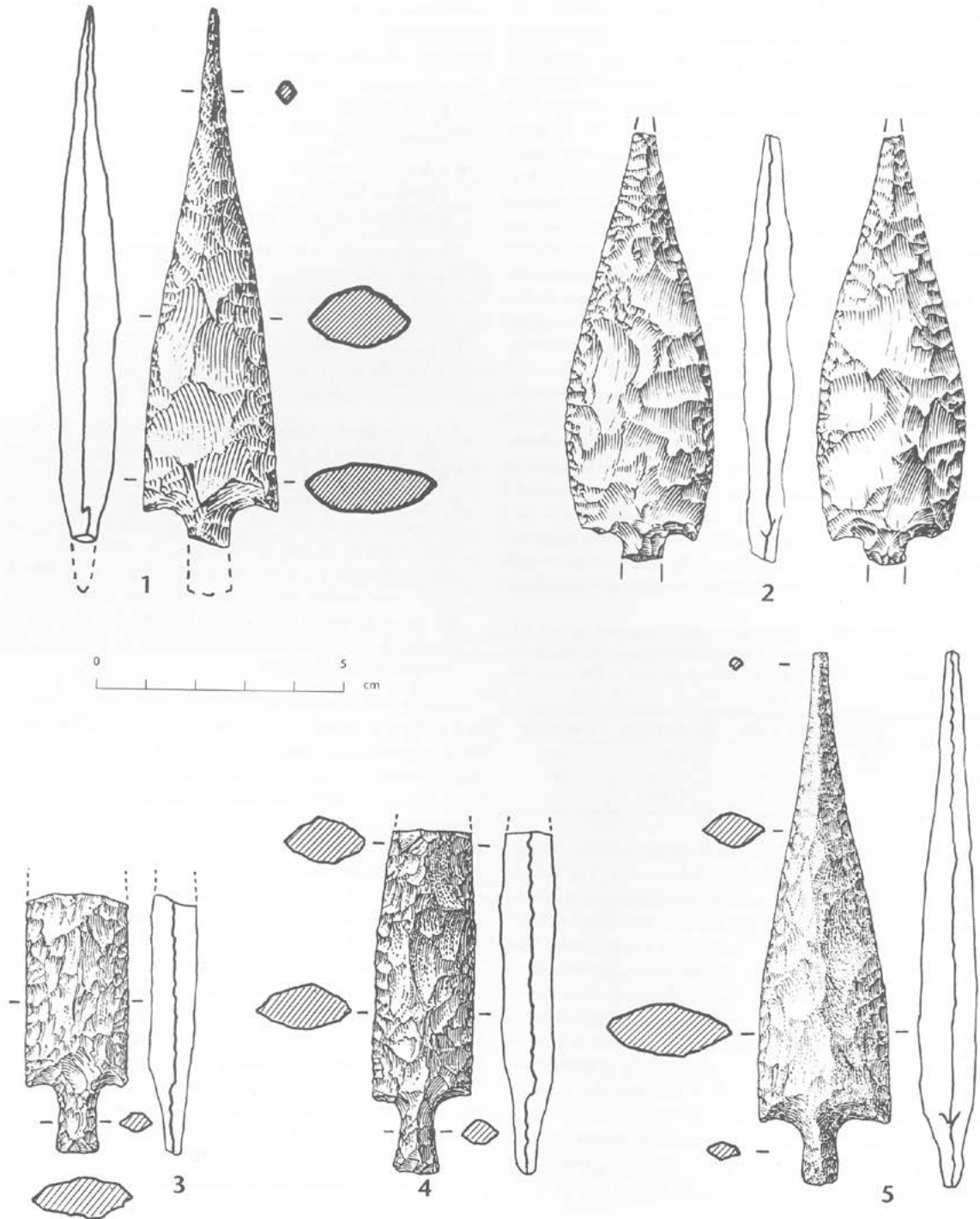


Figure 1.2. Paiján points from various knapping workshops in the Cupisnique region: 1 by C. Chauchat, 2 by J. F. Derridet, 3 to 5 by P. Laurent. (Reproduced with permission from Richard W. Keatinge (Ed.), *Peruvian Prehistory An Overview of Pre-Inca and Inca Society* © Cambridge University Press 1988, ISBN: 9780521275552).

coastal plain and at the foot of the first rocky hills. In the Cupisnique and Santa María quebradas, these campsites are dense and rich in lithic artefacts, but bifacial points are very rare. This would imply a more densely populated habitat, either permanent or seasonal, but, in any case, remote from the areas where projectile points were used. In other areas, such as around the modern village of Ascope in the Chicama Valley, workshops and camps are sometimes mixed (Chauchat et al. 1998, Chauchat 2012, Galvez 1992, 1999).

The animal bones unearthed in these dwelling sites have enabled detailed analysis of the Paiján diet (Wing in Chauchat et al. 2006: 41-46, 387-390). However, these relatively well-preserved remains are not easily associated with projectile points, which are thought to be hunting weapons. These remains, which are very abundant at some sites, include mostly medium to large sea fish bones, as well as numerous small terrestrial animals, mainly lizards (teiidae) but also wild canids (*Pseudalopex sechurae*), vizcachas (*Lagidium peruanum*), small rodents (cricetidae) and birds. Further inland, near Ascope and in the quebradas, large numbers of land snails (*Scutalus* sp.) are the most visible feature of the campsites. Spears equipped with these massive stone points are not suited to hunting land animals, which are generally either too small or too fast, especially considering the very sharp and fragile point of these spears, which must frequently break on first impact with a stone. It is only for large fish, from 30 cm in length upwards, that Paiján spears become functional, provided there are shallow coastal lagoons where these fish could be naturally trapped (but the beach line of this time, estimated at 60 m below today's level, has completely disappeared). Bone remains of these fish, in particular *Micropogonias altipinnis*, are found in shallow midden deposits until the central part of the Cupisnique quebrada, 30 km inland from the present ocean shoreline, i. e. around 50 km from the original shoreline. A recent study on the determination of fish from three Paiján sites and its implications for the paleoecological interpretation of this fauna (Bearez et al. 2011, Crédou 2006) indeed concludes to the presence of littoral lagoons of brackish water in which a relict fauna of the Final Pleistocene would have been trapped. Less than a dozen bone fragments belonging to the medium-sized terrestrial fauna currently present in the region have been recovered from the sediments associated with Paiján. These include tools such as bone spatulas, a retoucher for pressure flaking and a small decorated pendant. It is therefore highly probable that these animals, like the small white-tailed deer *Odocoileus virginianus*, were not hunted. The technological analyses carried out on the Paiján material focused on elongated, large projectile points (>10 cm), which are best suited to the use of marine resources and were knapped in large numbers. Smaller projectile points (< 6 cm), present in small numbers at some archaeological sites, may have been used to hunt terrestrial game (large lizards, vizcachas, foxes, etc.), although trapping was certainly more effective.

Of course, plant species still present in the region may also have been eaten, such as algarrobo pods (*Prosopis*

pallida), the fruits of various *Capparis* (sapote, bichayo), yacón (*Polymnia* sp.), etc.

The remains of the extinct megafauna are eroding out of the surface of the desert plain: equids, camelids, giant sloths, mastodons and more. Their excavation shows that they were transported in the form of carcasses during a phase of high humidity. Uranium-Thorium dating confers them an antiquity of 14,000-15,000 years (Falgüères et al. 1995). These paleontological remains have never been associated with human activity, and no Paiján site contains fragments belonging to this extinct megafauna. A hypothesis linking the Paiján projectile to the hunting of this megafauna is therefore clearly out of the question.

The manufacture of these projectile points, costly not only in terms of labor time but also in terms of expertise and learning, is therefore only conceivable in the case of cultural constraints where this type of fishing (if we maintain this hypothesis) takes over from the hunting of terrestrial game practiced with properly Paleo-Indian equipment, i.e. with bifacially knapped stone points. Secondly, the spatial separation of workshops and dwelling sites reflects not only a desire to isolate knappers in order to improve their mental concentration, but also a sexual division of labor as practiced among certain hunter-gatherer groups (Testart 1986)³. In these conditions, it is not surprising that the whole range of activities associated with hunting has been transferred to spearing large fish, which may have similar characteristics of random, but complex and socially valued productivity. However, the presence of rhyolite flakes from point manufacture in some campsites shows that this separation was not absolute.

Adaptation to the exploitation of marine resources by inland hunter-gatherers took place with the minimum of disruption for these societies at a Paleolithic stage. The study of a workshop in Santa María quebrada, in the same region, is illuminating in this respect. It seems to represent no more than a small number of successive seasons of exploitation of a small quartz and rock crystal deposit, probably consisting of a single large geode. In this workshop, Paiján and fishtail points were made, the latter sometimes fluted in the manner of Clovis points (Briceño 1994, 1999). It is also very likely that the fishtail point represents an evolution of the Clovis point during the migration of Paleo-American groups from North to South America, an evolution already perceptible in Mexico and Central America (Mirambell 1994: 243). The joint production of these two very different tip shapes suggests that the transition from the short, broad fishtail point with a barely marked or wide stem to the more elongated Paiján point, with a narrow stem and needle-like apical end, was the result of a conscious search for adaptation to a new type of hunting, with virtually no intermediate shape and

³ We are aware that this division of activities may not be as universal as Testart suggests. However, the spatial separation as well as different lithic materials employed between workshops and camps is evident at Pampa de los Fósiles.

therefore occurring almost instantaneously. This same association of fishtail and Paiján points was also found by Dillehay and his team further north, in the Jequetepeque and Zaña basins. However, in other parts of northern South America, in a wide variety of environments, projectile point forms with a morphology similar to that of the Paiján point have been found, a phenomenon that could therefore have other causes (Ardila Calderón 1991, Lopez Castaño 1990, 1995, Lynch and Pollock 1980, Parenti 1993, Roosevelt et al. 1996). In such a vast geographical area, it would seem premature to assimilate to Paiján objects that are often isolated or whose archaeological context and chronological position are unspecified.

In the Zaña Valley, Dillehay and Rossen rejected the Paiján hypothesis for habitation sites with similar lithic material, located in inland ecological zones similar to the Cupisnique and Santa María quebradas a few dozen kilometers to the south (Dillehay 2002, Dillehay, et al. 1989, Dillehay and Rossen 2001, Dillehay, et al. 1992, Dillehay et al. 2003, Rossen 1998). However, rare specimens of bifacial points appear to be present at these sites. So, only bifacial points would belong to the Paiján tradition, which seems absurd. What's more, their function, i.e. the prey that was sought, is not known, even though the economic investment involved in obtaining them is significant.

While we have attributed most preceramic sites in the Cupisnique area to Paiján, it is now clear, in view of the Zaña discoveries (Dillehay et al 2003) and similar observations in the Cupisnique region (Galvez 1990) that some of these sites may belong to a slightly later period. Indeed, bifacial points and the remains of their manufacture are sometimes rare or even absent, and some of these sites could belong to this period after the abandonment of Paiján point manufacture, but before the establishment of the recent Preceramic of the Peruvian coast, known for the development of agriculture, villages and monumental public architecture. Based on the observations made on lithic tools, it is possible that the rest of the technical equipment did not undergo significant modifications following the abandonment of bifacial points. A finer analysis of the sites and their equipment would be needed to discriminate temporal differences within these apparently identical sites, which Dillehay and colleagues have begun to do with the distinction of the late Paiján campsites, where a kind of "architecture", in the form of stone circles, has appeared, associated with slightly more recent radiocarbon dates. Another step in this process is seriation based on radiocarbon dates (Dillehay ed. 2003).

In addition, recent excavations in the Huaca Prieta mound in the Chicama valley, a few kilometers south of Cupisnique, have revealed a stratified deposit buried several metres thick and containing artefacts dated to around 14,000 cal BP. These dates could correspond to an occupation predating Paiján, buried beneath the alluvial and eolian sediments of the Chicama valley, but there is no trace of this in the Cupisnique desert zone. It would also seem that Pleistocene megafauna was also extinct by the time the

oldest layers were deposited, unless the same sampling problem was encountered. The new data provided by this work, despite its extraordinary contribution, poses more problems than it solves.

Returning to the Paiján sites themselves, as the bones of the animals consumed are preserved in the deposits, it is not surprising that human burials are also preserved. It seems that these burials were not buried very deeply, perhaps under shallow mounds that were leveled by later erosion, making them partially visible on the surface in a number of cases.

Historically, the first human skeletons well associated with Paiján, belonging to an adult and a child, were discovered by P. Ossa under the Quirihuac rockshelter (Moche valley, around 100 km south of Paiján). For various reasons, including their poor preservation, they have not been studied, but have mainly been used to obtain additional radiocarbon dates (Ossa 1973 and Table 1.2).

During Chauchat's first investigations at the Pampa de los Fósiles 12 site, a child's skeleton exposed on the surface was discovered, the skull destroyed by a vehicle, as this site close to the Pan-American Highway was frequently visited (Chauchat and Dricot 1979). It wasn't until 1975, during a visit by paleontologist R. Hoffstetter, that a second child's skeleton was recognized and an adult skeleton discovered nearby, at the Pampa de los Fósiles 13 site (Dricot 1979, Lacombe in Chauchat et al. 1992: 155-178, 2006: 177-200). To date, these human remains are the only ones ever found in the upper part of the coastal plain, where the many workshops and settlements that led to the discovery and definition of the Paiján tradition are located. These are described below, in chapter 3.

In 1986, during a more systematic exploration of both Cupisnique and Santa María quebradas, well inland at the foot of the Andes mountains range, human remains were observed, frequently emerging on the surface of the numerous lithic sites whose description began at that time. After an initial inventory of localities containing human bones, these burials were systematically explored and excavated in 1988. However, we did not fully explore the settlements where these remains were found, but only the area occupied by the corpse, which prevented more detailed knowledge of the context and associated cultural remains.⁴

The human remains from Paiján that are the subject of this work are relatively numerous in relation to their age. Discovered on the alluvial terraces along the quebradas,

⁴ From a scientific point of view, it would obviously have been more fruitful to excavate the entire dwelling unit in which the burial was located. This would have involved an amount of work, both in excavation and analysis, clearly well beyond our possibilities. What's more, on several occasions we noticed other skeletons, probably from the same period, completely destroyed by the shovel blows of occasional visitors, always on the lookout for pre-Columbian ceramics ("huacos"). There was therefore a certain urgency to excavate these burials.

their condition is highly variable, due to the shallowness of the finds. Some burials are almost completely destroyed and represented by a few scattered bone fragments; others are in a better state of preservation and have enabled a modern and precise taphonomic approach and analysis.

The designation of archaeological sites uses the official Rowe (1971) system. The inventory of archaeological sites of all periods in the Cupisnique region was published in Chauchat et al. (1998). The Paiján sites covered in this book are located in geographical divisions PV22 (Cupisnique) and PV23 (Chicama) of this system. The site number is appended to the division reference (e.g. PV22-12). If the site comprises several units, these are referenced after the previous name (U1, U2, U3. . .). These units are individual camps or workshops. Within each unit, the graves are numbered according to the order in which they were discovered. For example, PV 22-13, T1, corresponds to the first burial in the second unit of site no. 13 at Pampa de los Fósiles. To simplify this nomenclature, we have named the Paiján individuals with a number corresponding to the order of their discovery. They are thus named from Paiján 1 to Paiján 19, although the number of burials discovered is greater, with around ten additional burials identified that are generally only represented by a few fragmentary bones on the surface (Table 1.3).

The Paiján burials uncovered in the Cupisnique desert were found in three different areas: in the upper part of the coastal plain, known as Pampa de los Fósiles (burials Paiján 1, Paiján 2, Paiján 4); further inland, on the terraces bordering the Cupisnique quebrada (Paiján burials 8, 9, 10, 11, 12, 13, 14); and on the terraces of the Santa María quebrada (Paiján burials 6, 7, 15, 16, 18, 19) (Figure 1.3).

Table 1.3. Designation of sites containing human remains in the Cupisnique region, classified according to the three geographic groups of the Paiján-Cupisnique space (Fig. 1.2). Each site includes several units (U.), which are living sites occupied during a determined time lapse and including one or more tombs (t.) The numbers (second column) refer to the designation of the human remains found in these sites (P for Paiján).

Sites	
Pampa de los Fósiles	
12, U. 4	P4
13, U. 2, T. 1	P1
13, U. 2, T. 2	P2
Quebrada Cupisnique	
62, U. 1, T. 1	P8
62, U. 2, T. 1	P9
63, U. 1, T. 1	P17
63, U. 2, T. 1	P14
63, U. 2, T. 2	P10
63, U. 2, T. 3	P20
63, U. 3, T. 1	P11
63, U. 4, T. 1	P12
63, U. 4, T. 2	P13
Quebrada Santa María	
130, U. 2, T. 1	P7
130, U. 2, T. 2	P6
150, U. 5, T. 1	P15
188, U. 2	P5
198, U. 1, T. 1	P16
198, U. 1, T. 3	P18
198, U. 1, T. 5	P19

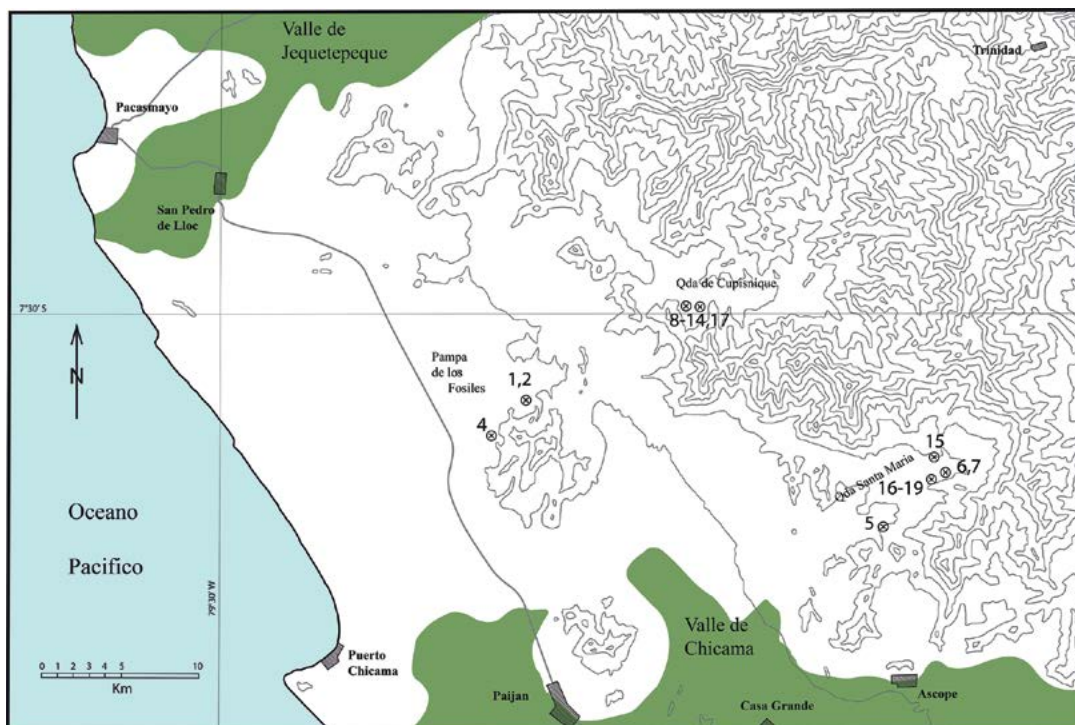


Figure 1.3. Location of Paiján human remains in the Cupisnique region. The burials or human remains are classified according to the nomenclature used in this text (Table 1) omitting the prefix P (for Paiján).