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# Comments on a Double Mummy Containing a Spear Thrower in the “Anker Nielsen Collection”, Iquique, Northern Chile\*

Este estudio describe y discute un fardo funerario encontrado en Patillos 2, un sitio en la costa meridional de Chile ubicado a 58 kilómetros al sur de la ciudad de Iquique. Las momias pertenecen a la “Anker Nielsen Collection” del Museo Arqueológico de la Universidad de Chile, Iquique. El fardo contiene los cadáveres momificados de dos niños y una estófica. Para poner esta información en su contexto, hemos resumido lo que se conoce con respecto a la Cultura Chinchorro y a otras manifestaciones culturales en el norte de Chile. En cuanto a la estófica encontrada dentro del fardo funerario se trata, probablemente, de uno de los hallazgos más antiguos de Sudamérica publicado hasta la fecha. Eventualmente, su objetivo fue sujetar firmemente las momias e impedir que éstas se rompieran. Por otro lado, no se puede descartar la posibilidad de que cumplía un fin “mágico”, “simbólico” o “ceremonial”.

## INTRODUCTION

This study is concerned with a double mummy found at Patillos 2, a site located about 58 km south of the town of Iquique on the coast of

\* This paper was written in 1977, and since then new data have accumulated on the archaeology of Northern Chile. One area in which progress has been made is in our knowledge of the adaptive processes which gradually lead to a specialized and



Northern Chile. The mummy is part of the "Anker Nielsen Collection", now deposited in the Museo Arqueológico of the Universidad de Chile, Iquique. Anker Schuldt Nielsen was a Danish pharmacist, born in 1890. He arrived in Chile in 1918, and from the early 1920's until his death in 1959 he owned a pharmacy called "Danesa" in Iquique. During this period, Nielsen served as Danish viceconsul, and he was awarded a knighthood (Knight of the Dannebrog) by the king. Nielsen had no formal archaeological training, but during his stay in Iquique, he acquired an interest in archaeology and began to collect a large amount of archaeological material, especially from sites located on the desert coast between Caleta Vitor in the north and Cañamo in the south (Fig. 1). Nielsen left notes on the sites he excavated, but he did not publish his finds except for one short paper which he wrote in collaboration with Richard Schaedel and Abel Toro (Schaedel, Nielsen and Toro 1957). After his death, Nielsen's collection was purchased by the municipal authorities of Iquique, and in 1966 this material came to constitute the beginning of the Uni-

... highly efficient system of exploitation of marine resource. It has been possible to define early phases of Bird's "First Pre-Pottery Period" (or Shell Fishhook Culture) by locating new preceramic components in the littoral and inland environments, thus suggesting an early settlement system that seasonally rotated from inland to coastal settings. Faldas del Moro has been subsumed into the Alto Ramírez Complex (ca. 1000 B.C. to A.D. 300), now divided into three subphases which correlate with cultural development in the Circum-Titicaca region (Chiripa, Classic Pukara, and Tiahuanaco expansion).

However, in spite of these and other changes in our conceptions of the cultural development in Northern Chile, our current interpretation of the Chinchorro Culture is much as it was six years ago, and the problems pertaining to its origin and development persist in one way or another. In a revised version of her study referred to in this paper (published in 1979 in *Actas del VII Congreso de Arqueología Chilena*, 1: 131 – 165, Santiago: Ediciones Kultrún), Fernández Distel reaches conclusions quite similar to our own, in the sense that the "mayor difusión" of spear throwers occurred in the Archaic Stage of Southamerican indigenous development, and that at the present time it is not possible to detect any morphological homogeneity characteristic of the spear throwers found in the Andean area. For these reasons we have not altered the original manuscript.

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versity of Chile Archaeological Museum. It contains archaeological remains pertaining to several periods and cultures (Munizaga and Martínez 1961), including artifacts and artificially prepared mummies characteristic of a culture which was first designated "Period of the Aborigines of Arica" by the German archaeologist Max Uhle (1917, 1919, 1922, 1974) and later — on the basis of different concepts — renamed the "Chinchorro Complex", "Chinchorro Phase", "Chinchorro Tradition", and "Chinchorro Culture" (Alvarez 1961; Dauelsberg 1963; Núñez 1965; Munizaga V. 1974; Rivera 1975; Bittmann and Munizaga 1976; Munizaga and Bittmann 1977). The mummy with the *atlatl* or spear thrower, which is the main subject of this paper, belongs in the Chinchorro Culture.

### THE CHINCHORRO CULTURE

In a general way, the archaeological material recovered in Northern Chile indicates the existence of stages or periods of time, each characterized by a distinctive economic orientation. The earliest known dated evidence pertains to an "Early Archaic Stage", beginning — according to radiocarbon determinations — between 9,000 or 10,000 years ago (Llagostera 1977; Núñez 1977) at both inland and coastal sites. Archaeological remains reflect a population whose economic activities involved exploitation on inland as well as littoral resources, and recent evidence suggests that cultivated plants began to be utilized during this period. During the later part of the Archaic Stage, perhaps from about 5000 B.C., exploitation of marine resources began to assume primacy, resulting in the highly specialized maritime economy evidenced at many coastal sites. The following Ceramic Stage began about 1000 B.C. or even earlier, involving along with the use of pottery various cultural changes. The Chinchorro Culture belongs to the Late Archaic Stage, but is generally believed to have been non-agricultural.

The Chinchorro Culture is defined principally by its mortuary aspects, which include the presence of artificially prepared mummies. There are less than a dozen sites which, on the basis of such remains, have been attributed to this culture. Known sites are distributed along the desert coast of Chile, between Arica in the north and Antofagasta in the south. The results of radiocarbon dating of two of these, namely Pisagua Viejo, located north of Iquique, and Play Miller 8, Arica, are  $5220 \pm 170$  years and  $4880 \pm 320$  years (on the same wood sample) from the former (Núñez 1966), and about 2120 B.C. from the latter site. Although full details are not yet available, recent information obtained at the mouth of Río Camarones suggests that the Chinchorro Culture dates back to more than

4000 B.C. (Niemeyer and Schiappacasse 1977). The site in question is characterized by cultural materials similar to those of Bird's (1943; 1946) First Prepottery Period. Twenty-two burials were excavated, and among these were found two artificially mummified bodies of infants.

The Chinchorro cultural inventory reflects an economy relying mainly on the sea and the littoral in general, although finds of quinoa, gourds and other elements point to contacts with different environments too (see Rivera 1975). The principal arms were probably the harpoon and the spear thrower, but bows have also been reported (Uhle 1919; Bittmann and Munizaga 1977; Munizaga and Bittmann 1979). As mentioned above, the Chinchorro population was preceramic and probably non-agricultural.

The distinctive feature of the Chinchorro Culture was its mortuary programme which included artificial mummification, a practice unknown by earlier as well as later human groups in Northern Chile. The mummification process sometimes involved emptying of the cranial, thoracic and abdominal cavities, which were then stuffed with different materials such as small pieces of skin, leather, feathers, small sticks, human hair or earth. The face of the deceased was provided with a mask made of unfired paste, and often a wig was fastened to the head which had been shaved. Some mummies wore a turban or a headband. Sticks were inserted into the body and limbs to make them rigid, and a skirt-like garment or pubic covering placed around the loins. Often the whole body was covered with paste, sometimes coloured red, or with a layer of "cement" making them look like statues. In many cases, mummies were encased in leather, wrapped in robes or blankets of animal or bird skins, and subsequently packed in mats made of *totor*, which were lashed with ropes (see Uhle 1919; Bittmann and Munizaga 1976). Not everyone was mummified, but, on the other hand, we have observed that male, female and infant populations as well as fetus and even some animals were admitted to mummification. Grave goods were generally few, and seemingly bear no evidence on social distinction between individuals with respect to wealth or status. We have been able to isolate some variety in mummification practice. However, although age, state of preservation of the corpses or changes through time may explain some variation, present data are not sufficient to reveal all the factors responsible for the differences observed. From the evidence at hand, it is also difficult to make inferences about the reasons which entitled some persons to be mummified, while others were left to simple interment (Munizaga and Bittmann 1978). Apart from the effort spent in the preparation of the dead, the Chinchorro Culture has some outstanding characteristics which, as far as present knowledge goes, include the following:

a) The earliest direct evidence of the use of the bow in the New World.

- b) The earliest evidence of the annular (or circular) type of cranial deformation in the New World.
- c) Evidence for trepanation, possibly done post mortem. If this is confirmed, it is the earliest occurrence of skull surgery in the New World.
- d) The earliest direct evidence of the use of copper in Chile (employed as an element in the preparation of mummies).
- e) The earliest evidence of anthropomorphic figurines in Chile and probably in the Southern Andean Area. These figurines, made of unfired paste of wood, and found with human burials, possess a series of characteristics in common with the artificial mummies including, in some cases: wooden sticks wound with wool yarn or plant fibres, used for modeling limbs and body; the use of facial masks; a wig made of human hair parted in the middle; headbands, and a skirt. Some figurines contain elements of human or non-human skeletal material (see True and Núñez 1971). Figurines with essentially naturalistic features look like prepared mummies, while others – oval in outline and tapering toward the termination – are reminiscent of the mummy packages.
- f) Direct evidence of the use of the spear thrower.
- g) The earliest evidence of the occurrence in Chile of high-vaulted, brachycranial individuals.

There are many important gaps in our knowledge of the lives of the Chinchorro people, including questions and problems concerning the origin of their culture and affinities between their material items and similar objects found in other cultural contexts. Although various parallels in material culture with coastal Peru, for example, may argue for cultural relationships, the origin of the practice of artificial mummification is currently unknown. It is the oldest in America and possibly in the world. The practice of artificial mummification of different kinds has been reported from South America in ethnohistorical and ethnographic records, including both Andean and Tropical Forest Cultures (Bittmann and Munizaga 1976). Archaeological evidence indicates that interaction between the Andean area and the Tropical Forest had existed for a long time (see f. ex. MacNeish, Patterson and Browman 1975). Nevertheless, in the absence of data on the antiquity of mummification outside Chile, the possibilities of any historical relationships remain purely speculative. Tello (1928) reported what he believed to be a process of artificial mummification of the corpses recovered at the Necropolis, located on the Paracas peninsula, Peru. However, many writers are skeptical of his evidence (see f. ex. Stewart 1943) and, for the moment, this problem cannot be resolved without more investigation. The fact is, that if the scope of the comparison is widened to include areas outside America, the closest analogies to the Chinchorro mummies are found in New

Guinea, in protohistoric and later times (Bittmann and Munizaga 1976), but we have no evidence concerning the antiquity of mummification practices in the latter area. Nevertheless, these analogies obviously bear on the question of trans-Pacific contacts, a subject which is beyond the scope of this study. On the other hand, in the absence of more solid evidence, it is probably best to view such similarities not as indications of intercultural connections, but rather as a possible means to obtain understanding – in terms of new ideas and hypothesis to be tested – on some of the more elusive aspects of the distant past.

In terms of relationships, Chinchorro has many artifact resemblances to material recovered at other coastal sites in Northern Chile. One way to approach this problem has to do with the possibility that maritime adaptations, particularly with respect to subsistence techniques – in an environment that offers few alternate resources – tend to take on similar configurations through time (see Clark 1975). Similarity of artifactual remains would therefore not be sufficient indication to show that no cultural changes had occurred in other aspects, not directly related to economic techniques, such as the mental systems of the people. The Chinchorro Culture is a case in point. The tremendous care taken of the dead obviously indicates change with respect to earlier cultures, in the belief system, for instance. Evidence from physical anthropology suggests that change occurred, at least in part, through population movements.

The nature of the assumed relationships between Bird's (1943; 1946) First and Second Pre-Pottery Periods in Chile – dated to  $4200 \pm 220$  B.C. and  $3680 \pm 145$  B.C., respectively – and the Chinchorro Culture are not clear. Furthermore, the question of continuity of the latter is still open to debate. The beginning of the next cultural stage in the area which interests us here was until recently thought to be represented by the "Faldas del Morro Complex" (or Phase), tentatively dated to about 700 B.C. at Arica, characterized by the presence of cultigens and pottery (Dauelsberg 1969). However, as indicated above, elsewhere in Northern Chile there is now evidence of the use of cultivated plants several millennia earlier, and pottery may date back to the second millennium B.C. The "Faldas del Morro Complex" is poorly understood. It was first defined at Arica (Dauelsberg 1969), but has later been linked to both coastal and inland sites elsewhere in Northern Chile (see True 1976). Two radiocarbon determinations at one of these sites, Tarapacá-40, located along the lower reaches of the Quebrada Tarapacá, place it at about A.D. 290 and A.D. 360 (see Nuñez 1976). Further to the south, at Pisagua on the coast, Uhle (1919) defined a "period" which he named "Proto-Nazca", contemporary with Chavin, according to this author. It was characterized by a population wearing large turbans. Some recent research suggests affinities

between “Proto-Nazca”, Faldas del Morro and possibly the Paracas cemeteries in Peru. On the other hand, Rivera (1976) thinks that Tarapacá-40A and other sites in Northern Chile, should be included in the Alto Ramírez Phase, dated approximately between 400 B.C. and A.D. 800. At present, the questions of definition, chronological position and possible connections between the Faldas del Morro Complex and other ceramic cultures, remain open. In any case, by Faldas del Morro times, the practice of artificial mummification had disappeared.

Although recent excavations and absolute dating at sites such as Caleta Huelén-42 (Núñez, Zlatar and Núñez 1975), Quiani-7 (Dauelsberg 1974), Camarones-15 (Rivera et al. 1974), and Cañamo (Moragas 1977) have contributed much to clarifying the prehistoric sequence, the questions pertaining to the duration of the Chinchorro Culture and the definition of cultures designated “Chinchorro-derived” – lacking evidence of artificial mummification – have not been solved.

At Caleta Huelén-42 – located at the mouth of the Loa River, south of Patillos, and dated to about 2830 B.C. and 1830 B.C. – finds of mummies treated in a manner reminiscent of the Chinchorro specimens have been reported. These are associated with the later radiocarbon determination. However, full details are not available, and the correct interpretation of the Caleta Huelén mummies must await further analysis. At Cañamo-1 and 13, situated on the coast about 60 km to the south of Iquique and two kilometres to the south of Patillos, the earliest levels have been dated to  $2010 \pm 136$  B.C. The cultural manifestations and remains of fauna and flora point to a culture oriented mainly toward the exploitation of maritime resources with some additional terrestrial collection. Pottery and evidence of the use of cultigens occur from about 1210 B.C. With respect to the early phase, Moragas (1977: 154, 159) sees some relationship with Bird’s Second Pre-Pottery Period, on the one hand, and a “population derived from Chinchorro, or something similar”, on the other. However, artificial mummification is absent. Nevertheless, the proximity of Patillos, where Nielsen recovered a large amount of prepared mummies and figurines of unfired paste, constitutes an argument in favour of the latter hypothesis.

The excavations at the site of Quiani-7 – located about 10 km south of Arica and dated to about 1640 B.C. – have helped to define a culture showing strong artifact parallels with the Chinchorro Culture and Bird’s Second Pre-Pottery Period, as well as evidence for culture change. Rivera (1975) has also noted the possibility of contacts with pre-ceramic cultures on the southern Peruvian coast in this period.

At the partially excavated site of Camarones-15 – located at the mouth of the Río Camarones – a radiocarbon date of 1110 B.C. has been ob-

tained for a population whose cultural inventory also indicates both change and some artifact parallels or continuity with Chinchorro. Southern Peruvian affinities have also been suggested (Rivera 1975). However, evidence of the practice of artificial mummification is lacking at both Quiani-7 and Camarones-15.

The population at the sites mentioned above are characterized by an essentially maritime economic adaptation, supplemented in some cases with agricultural products, which may have been obtained by some exchange mechanism. Artifact parallels, similar economic adjustments or other similarities with the Chinchorro Culture may constitute an argument for historical interrelationship. On the other hand, this seeming uniformity may also be a reflection of the lack of large scale, controlled excavations aimed at providing answers to specific questions. As indicated earlier, the Chinchorro Culture is known principally through its highly developed mortuary practices, which distinguish it from other Archaic or later cultures. So far, it has not been possible to relate Chinchorro burials with any degree of certainty to habitation sites, but judging by the attention paid to the mummies, a "cult of the dead" – possibly ancestor worship -- may be postulated as perhaps the dominant aspect of the culture. It should also be emphasized that, in our opinion, the mortuary programme characteristic of the Chinchorro population points not to homogeneity but some type of social or perhaps cultural or ethnic differentiation during the Late Archaic Period.

Scholarly debate has continued over the nature of the "Chinchorro Culture". Up to now, some authors have considered the mortuary practices and everything which these may have meant to the Chinchorro people as evidence of a distinct "culture" or "complex". An alternate hypothesis is that the "Chinchorro component", i.e. artificial mummification and mummy-like figurines of unfired paste or wood, represents a variation of a single "complex" or "tradition" – to be explained in terms of chronology ("phase"), social distinction ("elite") or ritual (at selected cemeteries) – which was shared by a population who used fish-hooks of shell and cactus spines. In this manner, Bird's two preceramic periods together with our "Chinchorro Culture", Quiani-7, Camarones-15, Faldas del Morro and El Laucho (see below), among others, may represent one great "tradition" (see Rivera 1975). Moreover, Tropical Forest contacts have been postulated for this tradition. There are various problems which arise from these explanations, however, and further work is needed to prove or disprove any of the possibilities mentioned here.

## DESCRIPTION OF THE DOUBLE MUMMY AND THE SPEAR THROWER

The double mummy, as previously mentioned, was found at the site of Patillos. In point of fact, it consists of a mortuary "packet", which is composed of an outer layer of relatively coarse totora matting fastened by cords of the same material (Fig. 2a, b). It is ovaloid in outline, 88.0 cm long, and has a maximum width of 26.5 cm approximately in the middle from where it tapers toward the terminations. At the proximal end it measures 24.0 cm in cross section. When first examined, this specimen had an artificially mummified head – probably of an adult – placed at the proximal and thicker end (Fig. 2a). It was discovered, however, that this head was in no way connected with the bundle and could not originally have been part of it (Fig. 2b).

The double mummy is practically complete but damaged on one side at the proximal end and in the centre of the upper surface at the distal portion. Probing at the thicker end revealed a partially broken cranium of an infant, stuffed with small pieces of animal skin. A wig of human hair had been fastened over the head and a headband of wool yarn wound around it. At least two objects of bone had been stuck into the band, a feature quite common in the Chinchorro mummies. X-raying of the bundle showed the presence of two infant bodies, placed side by side with heads and skeletal parts in articulation, supplied with facial masks, and at least one of the mummies appear to be wearing a skirt of wool yarn. Apparently both corpses were first encased in leather sewn together, and then wrapped in a piece of cloth which covers the dorsal part and the sides. On top of this is a mat, similar to that forming the outer layer, but less coarse. Wool was probably stuffed into the abdominal cavity of one of the corpses, and the same kind of material seems to have been placed between the mummies.

The only fabrics so far recorded for Chinchorro are thought to be fragments of bags, made of undyed wool or cotton in simple looping techniques (Uhle 1919; Rivera et al. 1974: 98, Figs. 1 and 2). A similar fabric has been described by Bird (1943: 244) from his Quiani excavations, and looped textiles also occur at Camarones-15, "Proto-Nazca", El Laucho, Alto Ramírez (Fuentes 1965: 54 – 56, Fig. VI; Rivera et al. 1974: Figs. 1 – 3; Ulloa 1974: Fig. 1), and possibly Quiani-7 (see Dauelsberg 1975) in Chile, and at several Peruvian preceramic sites. They were not created by the use of the loom, but their construction involved finger manipulation, i.e. interworking of a single continuous element with itself, and, perhaps, the use of a needle. Radiocarbon dates obtain at Guitarrero Cave, Callejón de Huaylas, Perú, suggest that the simple looping process was known by hunters and gatherers as early as 10,000 years ago (Adovasio and Lynch 1973).

The cloth for wrapping the infant mummies from Patillos is made by twining, the predominant weaving process on the Peruvian coast in pre-ceramic times, according to Bird (1952). This form of weaving is similar to basket work except that softer, flexible fibres are used. By perhaps 9000 B.C., the groups inhabiting the area of Guitarrero Cave were making basketry in this way (Adovasio and Lynch 1973). Structurally, the Patillos textile (Figs. 2a, b and 3) bears resemblance to those recorded by Rivera et al. (1974: 98, Figs. 4 and 5), Ulloa (1974, Fig. 2) and Fuentes (1965: 55, Fig. V) from Quiani-7, Camarones-15, "Proto-Nazca", and El Laucho, respectively. It is made of undyed, presumably camelid wool. The warps are relatively thick, Z twist, while the weft threads are extremely thin, S spun. The cloth is produced in such a manner that the warp threads placed closely together, dominate the surfaces, while the weft elements are barely visible. It is manufactured without any true loom, using a technique which probably involved "sewing" the warps with the wefts or "two-strand warp twining", according to Emery's (1966) terminology. It is, however, likely that some kind of frame – or other contrivance – was used for setting the warp threads up. In this fabric structure a pair of extremely thin wefts appears to have been passed simultaneously over and under each warp thread, taking a half turn around one another between the warps, thus forming a chain-like element. In this manner, the wefts were firmly "locked" to the warps. An alternate hypothesis is that a single weft thread was first sewn across the warp, and then passed back again to "lock" the threads together. However, the first hypothesis seems more likely. In any case, this specimen is technically well made, and indicates long term antecedent development for the craft. Rivera (Rivera et al. 1974; Rivera 1975) mentions the possibility that a "rudimentary loom" was used at Quiani-7, and says that the backstrap loom appears at Camarones-15.

The technique employed in the manufacture of the two mats used for wrapping the mummies is of interest too. They are produced with relatively rigid, untwisted plant material representing the warps. The weft elements – of twisted, flexible fibres – are passed through perforations made in the warps at fairly regularly spaced intervals, leaving the warps exposed (Fig. 4a, b). This type of matting was commonly used for wrapping the artificial mummies at Patillos, and, according to Schaedel, Nielsen and Toro (1957), was used for the same purpose at Bajo Molle. Moreover, one of the prepared mummies from Arica in the "Max Uhle Collection" in the Museo Nacional de Historia Natural, Santiago, was covered with a mat produced in an identical manner (Bittmann and Munizaga 1976).

## THE SPEAR THROWER

As a class of objects, spear throwers of various specific kinds represent a weapon, used "as an extension of the arm" for hurling projectiles. It is an instrument – dating back to at least Upper Paleolithic times in the Old World – which survived into history in many parts, including South America. Direct evidence from the latter continent shows that its use dates back at least to the Late Archaic Period.

While examining the mummy packet, we found a portion of an artifact protruding from the inside, approximately in the centre of the upper surface. On closer inspection it appeared to be the handle of an instrument of polished, hard wood. Subsequently it was discovered to be the handle of a well preserved spear thrower which had been inserted lengthwise, probably between the mummies inside the leather casing. The use of sticks (sometimes artifacts or parts of artifacts) forced along the bones of the limbs or passed through the body is a feature typical of Chinchorro mummies. The purpose of the sticks or other objects was probably to hold the mummies rigid.

In this paper, the term "proximal" will be used for that part of the spear thrower which served as a handle. The opposite end will be designated "distal". We use the term "upper surface" for the side – sometimes characterized by the presence of a lengthwise groove – which was meant to receive the dart, while the opposite surface is designated "lower". The spear thrower recovered from the mummy packet is 51.7 cm long, made of a single piece of wood (Fig. 5a, b). The upper surface has a V-shaped groove – 0.6 cm deep and 1.5 cm wide at the top, running along the medial line from the distal extremity to a point 35.5 cm along the shaft. The latter is 2.0 cm wide and 1.0 cm thick. The lower surface is convex with a V-shaped slot – 0.2 cm deep and 0.6 cm wide at the top – placed transversely across the shaft, at 1.0 cm from the distal extremity. The slot may have been intended for fastening a hook with string to the grooved surface. No hook was found, but at present we cannot discount the possibility that one is hidden inside the mummy packet. Between the grooved part of the shaft and the handle, is a 2.5 cm long, slightly raised portion, with the sides meeting at a point or ridge along the medial line, while the opposite surface is rounded. The handle, 13.7 cm long and ovaloid in cross section, diminishes abruptly to a diameter of 1.0 cm, tapering toward the proximal extremity. At 1.0 cm from the ungrooved portion of the shaft, the ovaloid cross section changes for about 2.0 cm of the length of the handle and becomes flat along one edge. Above the flat part a strap, possibly made of sinew, is fastened in such a manner that it appears to have been intended for passing a finger through. It is

1.0 cm wide and about 0.2 cm thick. At one end of the strip of sinew is a 2.0 cm long opening made lengthwise, approximately in the middle, through which the handle of the spear thrower was inserted. The remainder of the strip is made to form a semicircle over the flattened edge of the instrument (Figs. 5a, b and 6). The opposite end of the strap is lashed to the handle by a strip of a material, perhaps sinew too, 0.5 cm wide, which continues along 3.5 cm of its length, leaving the proximal extremity free.

## DISCUSSION

### 1. The Double Mummy

Although the mortuary packet and its contents are still under study, there is no doubt that the two infant mummies represent examples of the artificially prepared corpses characteristic of the Chinchorro Culture. The "Anker Nielsen Collection" contains several artificial mummies as well as anthropomorphic figurines of unfired paste recovered at Patillos. No radiocarbon determinations exist from this site, but judging by those known from Chinchorro sites elsewhere, a date in the third or second millennium B.C. may be proposed.

Double mummies are apparently rare. The only published parallel known to us is a specimen found at Arica, which Skottsberg (1924: Figs. 20 and 21) describes as the "twin mummy". The latter consists of the corpses of two infants — two or three months old — that had been placed side by side and wrapped in a mat of totora fastened with strings to form a single mortuary packet. Although damaged and incomplete, Skotteberg was able to establish that the bodies had been prepared according to a pattern used by the Chinchorro people. The front of the mummies had been covered with a brown paste and the legs with a greyish "cement". The brains, thoracical and abdominal cavities had been emptied and filled with various substances including sticks introduced to make the bodies and limbs rigid. Wigs of human hair with a median parting, covered with red paste, had been attached to the back of the heads. The faces wore masks made of a hard, grey paste, perforated with holes to indicate mouth and eyes. Furthermore, one of the bodies wore a skirt or "apron" of wool. Two instruments which look like harpoon foreshafts were placed with one of the mummies.

## 2. The Spear Thrower

Due to its association with the artificially prepared double mummy from Patillos, the spear thrower described above can without doubt be considered an element of the Chinchorro Culture. However, this is not the only weapon of this kind found in Northern Chile. In the following we shall describe and compare the rest of the specimens known from that area.

Uhle (1919: plate X, Figs. 2, 2a; see also Núñez 1963: plate 3, Fig. a) describes a spear thrower, bought at Arica, and said to have been found in a tomb at the "Morro of Arica, cemetery of the Aborigines, to the east above the station of Santa María". Uhle attributes this to the "Aborigines of Arica", i. e. the Chinchorro Culture. It is made of a piece of hard wood, 44.0 cm long, with a U-shaped groove along the upper surface. The reverse side is rounded. The instrument is provided with a handle with a convexity along one edge from where it tapers to the proximal extremity (Fig. 6b). The handle, except for its proximal portion, is whipped with wool yarn covered with pitch or tar. A bone hook is secured to the distal extremity of the shaft on the grooved surface. The handle has a convex portion along one edge and a "ring" of leather, seemingly consisting of a strip which was doubled transversely across the handle and perforated near the point where the two ends meet at the convex edge. It may have been intended for inserting a finger to secure a firm grip on the handle. The handle is decorated with punctate marks near the leather adjunct and at the distal extremity on the concave surface. At the latter portion some shell beads are glued on too. This spear thrower was probably utilitarian, although a magical or ceremonial motive may be suggested for the punctate marks and the beads (see Uhle 1919). In general shape, it resembles the instrument found in the mortuary packet, which probably also had a hook at the distal end as indicated by the presence of the slot. The principal difference between these specimens lies in the manufacture of the adjunct of the handle. Although no ornaments or magical charms were found on the spear thrower from the double mummy, another mummy in the same collection, also from Patillos, has a necklace and a skirt made with small perforated beads of shell.

Spear throwers have been reported from the site of Playa Miller-8, Arica, found in association with artificially prepared mummies (Focacci 1974), and Rivera (1975: plates 3, 4) presents an illustration of a fragment of a spear thrower, which he ascribes to the Chinchorro Culture. It is not described in the text, but to judge from an illustration, it has an ungrooved shaft, ovaloid in cross section. The proximal part is missing, but the shaft shows a hook-like termination (Fig. 6c). Considering the

extant portion of this spear thrower, it is distinguishable from those discussed above by reason of its ungrooved shaft and the hook made in the same wood as the instrument.

Another specimen, briefly described and commented upon by Carlos Munizaga (1964), may be related to the Chinchorro Culture too. It was found during engineering works on the north-western slopes of the "Morro of Arica", where an anthropomorphic figurine of wood of the kind referred to above was also recovered. To judge from the illustration (C. Munizaga 1964: Figs. 1 and 2), this spear thrower is rectangular in outline with a short handle projecting from the proximal end. The shaft is ungrooved, relatively wide with flat surfaces. A hook of bone, secured with sinew and resin, is placed at the distal extremity (Fig. 6d). Munizaga (1964) relates the spear thrower and the figurine to Bird's Second Pre-Pottery Period. In general configuration, this instrument is different from the remainder found in Northern Chile. On the other hand, it is reminiscent of a spear thrower found in the region of the Río Doncellas, in association with a burial located in a cave at more than 4000 m above sea level in the Province of Jujuy, Argentina (Casanova 1944). The latter measures 58.0 cm in length, and has a lateral curvature. The main part of the shaft is 3.0 cm wide, the handle 9.0 cm long and 1.8 cm wide. On the shaft close to the handle are two small perforations, which, according to Casanova, may have been intended for the attachment of lateral loops, but there is little evidence to substantiate this hypothesis. At the distal end, a bone hook is fastened by sinew to a concavity made in a prolongation of the shaft, which is 2.5 cm long and 1.4 cm wide (Fig. 61). Other features which distinguish this spear thrower from that found in Arica include the presence of an incised line on one surface and carved motifs – depicting a serpent according to Casanova – on the opposite side. The chronological position and cultural affiliation of this specimen are currently unknown (see Krapovickas 1968).

During his excavations at Quiani, Bird (1943; 1946) found two spear throwers in association with burials:

Burial No. 1 (Bird 1943: 244 – 247, fig. 20m), which had been exposed by erosion, contained the body of an adult male, lying in an extended dorsal position, resting on and covered by reed matting. He wore a headband of hair, a string with two concave shell disks around the neck and a piece of twisted cord, also of hair, around the waist, probably supporting a leather pubic covering. The body showed no traces of artificial mummification. A spear made of a reed-like wood, lacking the tip, measuring 1.58 m in length, lay along the right arm. A spear thrower, with part of the distal end missing, lay on the chest. According to Bird, the latter must have measured at least 48.0 cm in length. It has a V-

shaped groove along the upper surface, except for the handle. The reverse surface is rounded. The handle measures 14.0 cm in length, transverse cross section is round, and the surface lashed with sinew, except for a short space in the middle. A leather loop or strap – similar to that found on the instrument from Patillos – was secured at each end by the sinew and placed over a concavity along one edge of the handle (Fig. 6e). However, the loop disintegrated and is not described in detail. It is unknown whether the distal end had originally held a hook. In general configuration, this specimen resembles that from Patillos and that described by Uhle (1919) from Arica (Fig. 6a and b).

The second spear thrower was found in Burial No. 10, which had been opened previously to Bird's excavations. It contained the body of a male showing no evidence of artificial mummification. It was placed in a flexed position, resting on and covered with rush matting. It had the hair tied in a bunch on top and wore a cord of wool about the waist and a skirt-like woollen garment around the loins. With the grave were found a chipped instrument made of a rib bone of a sea lion, a harpoon fore-piece, some tubular lapis lazuli beads and the spear thrower. The latter is 55.5 cm long, round in transverse cross section. Diameter ranges from 1.0 to 1.3 cm, tapering toward the distal extremity (Bird 1943, fig. 20,1). The shaft is not grooved but has a concave slot cut at the distal end, believed to have been intended for a hook; but none was found. The handle is wrapped with cord and has a bone finger rest or "hook" set at an angle pointing toward the distal end of the shaft (Fig. 6f).

The presence of a hook at the proximal portion of the instrument discovered in Burial No. 10 is a feature which differentiates it from the spear throwers discussed above. On the other hand, the absence of a lengthwise medial groove is a feature shared with two of the specimens from Arica (Fig. 6c, d). Gambier and Sacchero (1969: plate 3) record a find of a spear thrower and other cultural materials associated with a mortuary packet containing an infant wrapped in a net, from a cave at the site of Los Morrillos de Ansilta, department of Caligasta, province of San Juan, Argentina. The mortuary packet pertains to Morrillos II, the earlier of two cultural levels identified in caves. The early level has one radiocarbon date  $4410 \pm 150$  years ago, making it comparable in time with the Chinchorro Culture in Chile. Although some artifact similarity has also been pointed out, Morrillos II has apparently no evidence of artificial mummification. The spear thrower is 49.0 cm long with a proximal hook or finger rest of wood fastened to the shaft with sinew covered with bitumen. A distal hook, made of a puma claw, is attached in the same manner (Fig. 6m). Spear throwers characterized by a hook at both ends have also been reported from Northwest Argentina by Vignati

(1936), Casanova (1944), and Fernández Distel (1977), whose evidence indicates a considerable temporal range for this form. Furthermore, similar forms have been recovered by Uhle (1909) at Nievería, in the Lima Valley, and at the *hacienda* Chaviña, located to the south of Nazca, Peru. It is interesting to note that two of the Chaviña instruments were made of *chonta* wood, clear evidence for Tropical Forest relationship. In summary, when compared with the examples known from Argentina and Peru, on the one hand, and those found in Northern Chile, on the other, the spear thrower from Burial No. 10 at Quiani most closely resembles the former.

Among the twelve burials found by Bird at Quiani, No. 2 was the corpse of a baby, first encased in leather sewn tightly to the body, then wrapped in bird skins, seemingly secured by woollen cords, and subsequently covered with another layer of bird skins, with the feather side out. The wrappings were not removed, and it is consequently not known if the body had been artificially mummified. However, Bird compares it to prepared mummies encountered at Arica and at Punta Pichalo (Pisagua), a site located to the north of Iquique. The baby lay beside the right shoulder of the body of an adult woman placed in an extended position.

Bird was unable to correlate the Quiani burials with the material he excavated in the midden, but he believes that the extended bodies are older than those placed in a flexed position. With respect to the chronological position of the spear throwers, Bird (1946: 589) says: "In either this [Second Pre-Pottery or Pre-Agricultural Period], or the Early Period, if not in both, throwing sticks were used." However, elsewhere in the same paper, he attributes the spear thrower to his Second Period.

A fragment of a spear thrower was found at Quiani (Quiani-7) by Dauelsberg (1974: plate 4d, photo 41h), adhered to the turban of a naturally desiccated mummy in Burial No. 6. The extant portion of the instrument is 24.0 cm long, 1.4 cm wide and has a groove along the upper surface. A bone hook with an enlarged base, 5.0 cm long with a projection in the middle, 1.7 cm high, is fastened to the shaft at each end (Fig. 6g). According to Dauelsberg (1974), the fragment constitutes the "posterior" part of a spear thrower. However, although the possible function of the hook is still uncertain, it seems likely that the portion with the hook corresponds to the handle, i.e. the proximal end. This being the case, the hook would have served as a finger rest, a feature linking it with the instrument recovered by Bird in Burial No. 10 (Fig. 6f). At the same time, the grooved shaft is an element shared with the specimens from Patillos (Fig. 6a), Arica (Fig. 6b), and Burial No. 1 (Fig. 6e) at Quiani, respectively. On the other hand, it should be noted that, in Dauelsberg's

opinion (1974), the spear thrower in question bears no resemblance to those described by Uhle (1919) and Bird (1943).

Spear throwers were apparently not found at Camarones-15 nor associated with the Faldas del Morro Complex at Arica, but Núñez (1963: plate 3b–e; see also 1969; 1970) has reported four specimens from Pisagua. They were excavated by Max Uhle (1919: 16), and are preserved in the Museo Nacional de Historia Natural, Santiago. They are not complete, but all are characterized by a U-shaped groove along the upper surface. The distal extremities are missing except on one fragment. Hooks were not found, but may have been present originally. Three of these instruments are very similar in shape. The best preserved is characterized by a handle which widens from the grooved portion to about the middle, where it has a concavity along one edge. From the latter it tapers to a rounded tip (Fig. 6h). The handle is wrapped with vegetable fibres and covered with resin except in the middle, at the concavity. Above the latter is a piece of leather, fastened to form a strap, very similar to that of the spear thrower found by Bird in Burial No. 1 at Quiani (Fig. 6e). The specimen in question pertains to the period which Uhle named "Proto-Nazca" at Pisagua, which may be linked to the Faldas del Morro Complex according to some authors. On the basis of the sample examined in the present study, it may be suggested that the spear thrower from Patillos, one of those recovered at Arica (Uhle 1919), the specimens found in Burial No. 1 at Quiani, and those from Pisagua represent a single group or "type" (see Fig. 6a, b, e, h).

Focacci (1974) reports finds of spear thrower projectiles in burials of the Laucho Complex (or Phase) which, according to some archaeologists, follows Faldas del Morro at Arica, dating to around 530 B.C. Spear throwers connected with El Laucho have not been described in print, but Rivera (1975: plate 3,3) presents an illustration of one belonging in the latter complex. It has a U-shaped groove along the major part of the shaft, the ungrooved proximal portion or handle tapering to a rounded tip. A hook is placed at the distal extremity of the shaft, looking as if it were made in the same piece of wood as the instrument (Fig. 6i). No lashings or other adjuncts are visible. The presence of a distal hook and a grooved shaft have been considered essential attributes of a certain "type" of spear thrower, and from that point of view, the specimen described here may be related to some of the remainder from Northern Chile. On the other hand, the structure of the hook is a feature shared with the ungrooved fragment (Fig. 6c), ascribed to Chinchorro by Rivera (1975).

The culture which follows El Laucho in Arica, the Alto Ramírez Complex, bears evidence of contacts with the Bolivian Highland, as indi-

cated by the appearance of “trophy heads”, for example (Rivera 1975; 1976). Among the elements which may have continued from earlier times is the spear thrower. To judge from a drawing presented by Rivera (1975: plate 3,2), the Alto Ramírez specimen is curved when seen laterally. It has a relatively narrow V-shaped groove along the upper surface, and a hook, at the distal extremity. The illustration suggests that the latter was made in the wood of the shaft. The handle is apparently not set off from the rest of the shaft, but it is equipped with a wrapping. A short rounded stick or peg is fastened transversely across its lower portion with the extremities projecting slightly on each side. The latter must have been intended to serve as a support for the finger (Fig. 6j). The structure of the handle and curvature of the shaft are features which differentiate this weapon from the other grooved and hooked forms. The structure of the distal hook is similar to that found on the ungrooved spear thrower from Chinchorro (Fig. 6c), and the grooved specimen from El Laucho (Fig. 6i).

In later times, the use of spear throwers may have been rare. Perhaps they were replaced by the bow and arrow or other arms. Núñez (1963: plate 2) describes an example from the “Anker Nielsen Collection”, encountered at Molle Bajo, a site located on the coast, some 20 km to the south of Iquique (see Schaedel 1957: 24 f.). It may belong in a later period than the spear throwers discussed above, and possibly represents Tiahuanaco influences (Núñez 1963). It is elaborately decorated and may have been ceremonial rather than utilitarian in function (Fig. 6k). It is 56.0 cm long, triangular in cross section at the distal portion where it has a hook made of a shark tooth. On the opposite surface, further along the shaft, are two carved anthropomorphic heads placed at each end of a lengthwise perforation. From the second head, the shaft widens to form a “ring”, the hole in the centre being intended for inserting a finger. Beyond the ring is a short handle, cylindrical in section, through which has been drilled a narrow perforation through which a string may have been passed, permitting the instrument to be suspended. This spear thrower is obviously quite different from the other specimens discussed in this paper, particularly with respect to the hole forming part of the shaft, a feature found on some spear throwers from Peru and elsewhere in South America.

The specimens of the sample described above were recovered at coastal sites, and little is known about the use of the spear thrower in the interior of Northern Chile. Núñez (1963; 1969; 1970) reports spear thrower projectiles from Tarapacá-40, a site ascribed to the Faldas del Morro Complex by some authors. Moreover, Latcham (1938) mentions finds of a fragment of a spear thrower and stone hooks at Ancachi (Taltape), on the Loa River, a site believed to be related to the Tiahuanaco Culture.

## CLASSIFICATION OF SPEAR THROWERS

Several authors, basing their conclusions on different criteria, have attempted to classify the spear throwers known from South America and elsewhere, and to show the distributions of the respective categories established.

In 1907, Uhle, following Krause, classifies South American specimens -- archaeological and ethnographical -- into two types (see also Uhle 1909 and Vignati 1936):

1. Shaped like a stick or baton with two hooks.
2. Shaped like a board or a stick with a hook at the distal extremity and a hole or "ring" instead of a hook at the proximal end.

According to Uhle, the second type was the more ancient.

With respect to the Chilean sample, the spear thrower found in Burial No. 10 at Quiani (Fig. 6f) may belong to Type 1, and that from Molle Bajo would fall into Type 2 (Fig. 6k).

In a later work, Uhle (1917; see also 1974) formulated three South American types, based upon further evidence obtained in Peru and Northern Chile.

1. A stick with a "handle" of leather intended for inserting a finger.

According to Uhle, this type was known only from the cemeteries of the "Aborigines of Arica", the most ancient burials at Pisagua, and from Mexico.

2. With a hole in the board or shaft instead of a handle.

In Uhle's opinion, the latter was derived from Type 1. It is known ethnographically from the Trans-Andean regions and has been found in a cemetery at Nievería, near Lima, and in Colombia (see Uhle 1907).

3. With a hook instead of a "handle" or hole at the proximal end.

According to Uhle, this is the most recent of the types, and might have been introduced from the north (see Uhle 1909). It was used in the Peruvian, Ecuadorian and Colombian "civilizations".

Concerning the Chilean sample, the spear-thrower found inside the double mummy (Fig. 6a), as well as those described by Uhle (1919) from Arica (Fig. 6b), by Bird from Burial No. 1 at Quiani (Fig. 6e), and by Núñez from Pisagua (Fig. 6h), respectively, would belong to Type 1. Concerning relative antiquity, the three first mentioned specimens are also among the earliest known in Chile, but other forms seemingly existed during the Archaic Period too. The spear thrower from Molle Bajo (Fig. 6k) falls into Type 2, and is believed to be later than the rest. Those recovered by Bird in Burial No. 10 at Quiani (Fig. 6f), and by Dauelsberg at Quiani-7 (Fig. 6g) would fall into Type 3, considered by Uhle to

be more recent than the other types. However, the latter specimens apparently belong in the Late Archaic Period.

In 1928, Mason describes a number of spear throwers from different parts of America, ranging from Alaska in the north, to Peru and Brazil in the south. The Peruvian specimen studied are from the Nazca district and, according to Mason, "all of one definite type, although differing greatly in details". They bear close resemblance to those of Uhle's (1917) Type 3 (see also Uhle 1907; 1909), and consequently to the spear thrower found by Bird in Burial No. 10 (Fig. 6f), equipped with a handle-grip at the proximal portion and with a slot at the distal end that indicates that a hook was originally present. The extant portion of the Quiani-7 specimen also suggests affinities with this type.

Montandon (1934: 398 – 406) has classified spear throwers and shown their distributions on a worldwide scale. He distinguishes between flexible and non-flexible kinds, noting that the "real" spear thrower is rigid, a conclusion which cannot be upheld on current evidence (see f. ex. Palter 1976). Montandon uses the following classification based upon the forms of spear throwers.

1. Male. A stick with a hook at the distal end, intended to be introduced into a cavity made at the base of the projectile used with it.
2. Female. A stick with a groove along the medial line of the shaft, terminating in a "cul-de-sac" or raised piece hollowed out lengthwise, against which the butt end of the projectile rested.
3. Androgynous (a combination of Types 1 and 2). A stick equipped with a groove and a hook placed on the upper surface of the hollow portion at the distal end.

Montandon, however, is aware that the spear throwers he studied contained various attributes in addition to those of a "sexual" nature. In his classificatory scheme of three large geographical groups: a) Oceanian, b) Arctic-American, and c) Magdalenian (European Upper Paleolithic), he subsequently defines a number of types for each group. With respect to the Andean Area, Montandon (1934: no. 192) mentions a "male" type, presenting an illustration of a single example equipped with a hook at some distance from the distal end, and a second hook or prong fastened at right angles to the shaft, below a short handle. This specimen roughly corresponds to Uhle's (1917) Type 3. On the basis of sexual attributes, the following examples from Northern Chile would be "male" too: a) Bird's specimen from Burial No. 10 at Quiani (Fig. 6f), b) that described by Munizaga from Arica (Fig. 6d), c) that belonging in the Chinchorro Culture at Arica (Fig. 6c), and d) perhaps that from Molle Bajo (Fig. 6k). The latter, however, may also be considered "androgynous". On the other hand, disregarding the "cul-de-sac" at the distal portion,

and considering only the presence or absence of a groove placed lengthwise on the shaft and the hook at the distal end, the following Chilean specimens may be either "female" or "androgynous": a) that found in the mummy from Patillos (Fig. 5a, b; Fig 6a), and those from b) Burial No. 1 at Quiani (Fig. 6e), c) Quiani-7 (Fig. 6g), and d) Pisagua (Fig. 6h), respectively. The transverse slot placed at the distal portion of the specimen found inside the double mummy, however, strongly indicates that this was "androgynous" like the remainder of the Chilean sample (Fig. 6b, i, j). It is consequently difficult to discern neat temporal or cultural distributions for the types formulated on the basis of sexual attributes.

Casanova (1944), like Uhle (1907; 1917), is of the opinion that the spear thrower equipped with a finger hole — forming part of the weapon — and a hook at the distal end is older than that having hooks at each end. The latter type — rigid, "male" in Montandon's terminology — Casanova regards as a relatively late Andean adaptation representing a "cultural phase" within the American group of spear throwers, although other kinds, always "male", also existed. Basing his judgement on iconographic evidence, finds of isolated hooks and the spear thrower from Doncellas described above (Fig. 6l), this author concludes that such had been the case in Argentina too (see also Vignati 1936; Munizaga 1957; Fernández Distel 1977). In this connection, it is noteworthy that Casanova does make a reference to spear throwers recovered by Uhle, and particularly one characterized by a handle with a loop of leather, without mentioning the presence of a groove and a hook at the distal portion. However, the latter is evidently that described by Uhle in 1919 (Fig. 6b), which Casanova also compares to Mexican specimens equipped with two lateral finger loops. With respect to Casanova's general conclusions, the nature, and temporal aspects of the Chilean spear throwers studied in this paper do not lend support to his opinion that the "male" form, furnished with two hooks, represents a single cultural phase nor that it occurs later than other forms.

Casanova (1944) also formulates a classification of the handles of spear throwers, distinguishing the following two principal groups, each of which yields a number of varieties:

1. Simple handles, ranging from those presenting no modifications with respect to the remainder of the instrument, to those with pronounced lateral notches separating the handle from the rest. In the first mentioned kind, the extreme proximal portion is sometimes reinforced by a wrapping, while in the second it may be covered with resinous substances.
2. Complex handles, presenting more profound modifications. Two principal types may be distinguished: a) equipped either with one or two

finger holes forming part of the instrument or with other devices attached to serve the same purpose, and b) equipped with a hook intended to serve as a support for the hand.

With respect to the Chilean sample, the specimens presented in Fig. 6d and i, from the Chinchorro (or Second Pre-Pottery Period) and Laucho cultures, respectively, fall into the first group, while the others belong to the second.

According to Métraux (1949: 245): "All South American spear throwers belong to the 'male type', i.e. all have a prong or spur on the distal end which engages the butt of the dart so that in South America this weapon can be differentiated only on the basis of minor details, such as the presence or absence, of a hole near the distal end, or of a supplementary prong."

Métraux distinguishes the following three main categories with some subdivisions (1949: 244 – 247):

1. "A stick from about 38 to 60 cm long with two hooks or prongs inserted in grooves at each end and lashed with cotton twine or sinew. The hooks at the distal ends are of different materials (stone, bone, shell, copper) in conventionalized shapes of birds or human figures."

According to Métraux, the spear throwers of this category are limited mainly to "ancient Peru", but weapons of this kind were also used in Ecuador, by the Chibcha, the tribes of the Cauca Valley, perhaps by the Cueva of Darien, and the Taino. The Jivaro spear thrower, characterized by a hook at the distal end and a perforation near the proximal end through which a string was passed, permitting the implement to be fastened to the wrist, also falls into this category. The latter apparently, also includes specimens "found in the Second Pre-Pottery Period and in the Pottery layers of the north Chilean Coast", and those from Northern Argentina (see Casanova 1944). This category partly corresponds to Uhle's (1917) Types 1 and 3, and those spear throwers which Casanova (1944) describes as representing an "Andean adaptation".

2. "Characterized by a shaft which widens near the grip to allow for a hole for the forefinger."

With variations, this category seems to be largely typical of areas located to the east of the Andes, and represents Krause's "Amazonian type", although it also occurs elsewhere such as in Peru (see Uhle 1907; 1909), and at Molle Bajo, Chile (Fig. 6k). Métraux, however, also includes here specimens with a groove running the full length of the shaft, i.e. with "androgynous" attributes, according to Montandon's terminology. Due to the characteristics of the handle, the spear throwers falling into this group correspond mainly to Uhle's (1917) Type 2.

Trade or other types of interaction may have been responsible for the widespread use of different sorts of spear throwers in South America. It is therefore interesting to note that Métraux (1949: 247) mentions ethnohistorical evidence for carved spear throwers being traded to "other nations" by certain tribes of the Purús River.

3. "The third category is represented by a single specimen preserved in the National Museum in Copenhagen" (see Birket-Smith 1966: 307, no. 6).

It was collected in the 17th century from a "Tapuya" tribe in Eastern Brazil. It consists of a tapering piece of wood equipped with a medial groove and a horizontal peg lashed to the "proximal" and narrower end of the implement. According to Montandon's terminology, this specimen would be "female", and it does not seem to correspond to Métraux's "male South American type", as it has no hook or spur at the distal end. In fact, Métraux (1949) says that the horizontal peg was used to engage the projectile. The distal hook might also have been lacking on some of the Chilean implements studied in this paper. Métraux does not make any judgement on the relative antiquity of the categories he established.

The different "categories" or "types" referred to above were formulated according to different principles. Obviously, a greater consistency in descriptive and typological procedures is necessary for research that aims at solving problems of identifying significant clusterings or combinations of attributes that can be shown to have historical meaning. Moreover, the evidence concerning the age, distributions and questions of continuity appears at present to be based on inadequate knowledge for further speculations on origins of different forms of spear throwers or the directions in which they may have spread in South America. The main thing that can be said about the Chilean sample studied in this paper is that it has yielded a number of varieties of spear throwers attributed to a single culture or to different cultures, stages or periods of time. As far as the initiation of the use of the weapon in Northern Chile is concerned, the earliest evidence comes from the Late Archaic Period, but the specimens recovered are not homogenous, and consequently neat cultural or temporal distributions are difficult to discern. As regards the spear thrower found inside the double mummy from Patillos, it can without doubt be attributed to the Chinchorro Culture. As to general structure, it bears great resemblance to the Chinchorro specimen described by Uhle (1919), one of those recovered by Bird at Quiani (Fig. 6a, b, e), and to those found at Pisagua, "Proto-Nazca" according to Uhle's terminology (Fig. 6h). The latter fall into Uhle's Type 1, which he thought represented the oldest of the types he established. However, other types seem to have

occurred contemporaneously. Some authors have regarded Montandon's "male" type as being characteristic of the Andean Areas, representing a "local adaptation", which appeared relatively late in time. Taking the evidence from Chile – and probably Argentina too – into consideration, this opinion seems debatable.

#### SUMMARY AND CONCLUSIONS

The main purpose of the above presentation has been to describe and discuss a mortuary packet containing the mummified bodies of two infants and a well preserved spear thrower. In order to place this information in perspective, we have summarized current knowledge pertaining to the Chinchorro Culture as well as to other cultural manifestations in Northern Chile. We have placed particular emphasis on those which show evidence of some kind of relationship with the former, mainly with respect to similar economic adaptations and artifacts. However, concerning cultural relationships, we are faced with a problem when considering the presence of artificial mummification in the Chinchorro Culture and the differences, especially with respect to the social and belief systems which this practice may signify. Obviously, the existence of an elaborate mortuary programme reflects upon the structure of the Chinchorro society and the probability that social organization may have been more complex than formerly realized during the Late Archaic Period. This question can only be solved by more excavations of both cemetery and living sites. Concerning the problem of origins, there are no known antecedents of artificial mummification in other parts of South America.

As far as the spear thrower found within the mortuary packet is concerned, probably it is one of the oldest of until now published finds from South America. Its purpose may have been to hold the mummies rigid and prevent breakage, while, on the other hand, the possibility that it served some "magical", "symbolic" or "ceremonial" motive should not be discounted (see Hall 1977). We have, for example, also found a bow inserted lengthwise into the corpse of an artificially mummified adult male (Bittmann and Munizaga 1977; Munizaga and Bittmann 1977). We have compared the spear thrower from Patillos to others recovered in Northern Chile, some of which belong in the Late Archaic Period, others in the ceramic periods. Except for making a few comparisons, we have not attempted to establish wider cultural correlations of the Chilean specimens. We have summarized some of the classifications formulated for spear throwers, the result being that the specimen from Patillos see-

mingly corresponds most closely to Type 1, established by Uhle in 1917, or Montandon's "androgynous" form.

Considerable variability of form obviously existed with respect to the spear throwers ascribed to the Chinchorro Culture and those belonging in the Late Archaic Period in general.

This also appears to have been the case in the "Agricultural-Pottery Period", as indicated by the finds connected with El Laucho, Alto Ramírez and Bajo Molle. It is interesting to note the similarity between the implement from Patillos, one of those recovered at Quiani, and those described by Núñez (1963) from Pisagua. This may indicate continuity of this element into the so-called Faldas del Morro Complex. However, as stated earlier, the chronological position and exact definition of the latter are at present uncertain. Although spear throwers have apparently not been found at Tiahuanaco, the presence of this element has been postulated on iconographic evidence. We have described a specimen from Molle Bajo (Fig. 6k) believed to represent contacts with Highland Bolivia. It differs from the remainder of the Chilean examples, falling into Uhle's (1917) Type 2 and Métraux's Category 2. Moreover its purpose may have been purely "ritual".

Regarding the spatial distribution of the spear thrower in Northern Chile, present evidence suggests that it was more popular on the coast than in the interior.

The spear thrower is believed to be an ancient element in South America, and this instrument was undoubtedly in use earlier than the bow and arrow. Bows have been found sporadically inside Chinchorro mummies (Uhle 1919; Munizaga and Bittmann 1979a), but they do not occur elsewhere in Chile until El Laucho times. The use of bows continued until the Spanish Conquest, whereas the spear thrower seems to have been discarded, at least in its utilitarian form. According to some authors, the spear thrower was not very common in Peru in the Inca period (Métraux 1949; Rowe 1946), although it is mentioned by some of the chroniclers (see Cobo 1890-93, IV: 196; Las Casas 1892: 40, 108; Garcilaso 1960-63, I: 504). Some authors believe that its use was restricted mainly to the soldiers from the coast. On the other hand, Mariño de Lobera (1865: 45) reports having seen spear throwers among the Picunches in Central Chile, who had arms "que traían en las manos como dardos arrojados, con tiraderas ...". However, there is no ethnohistorical evidence from the period of the Spanish Conquest of the use of spear-throwers by the Indians of Northern Chile.

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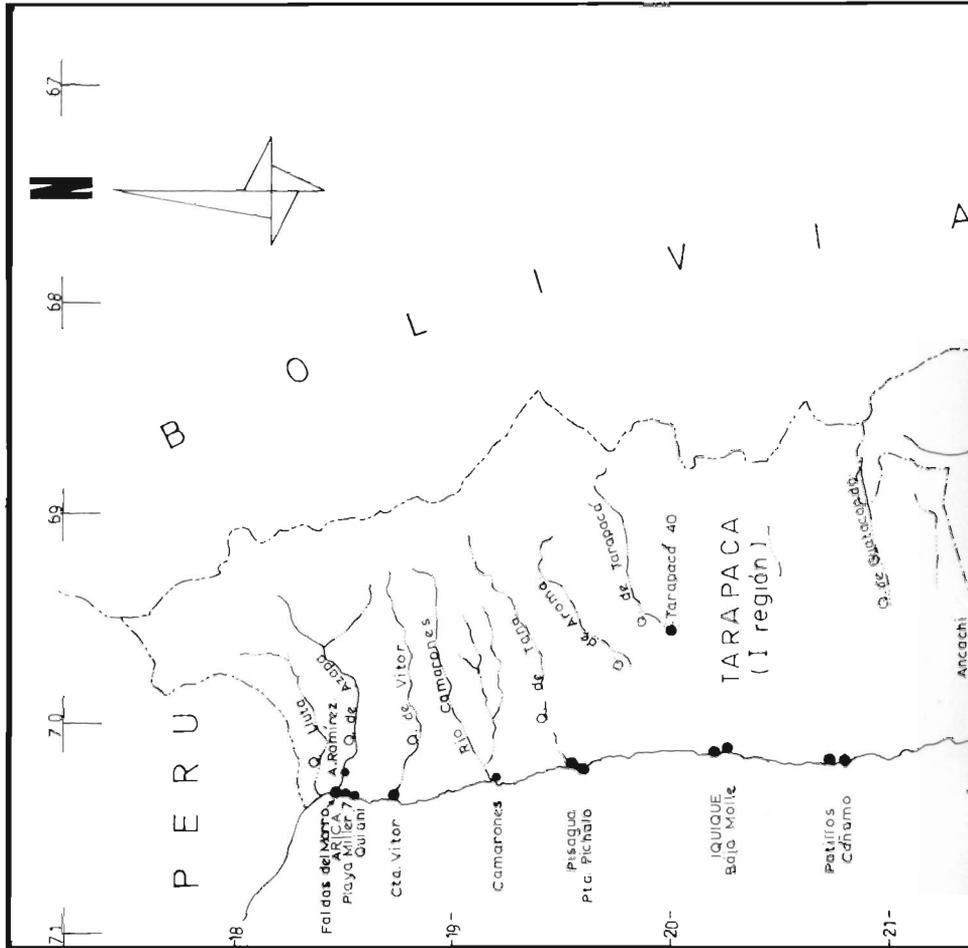
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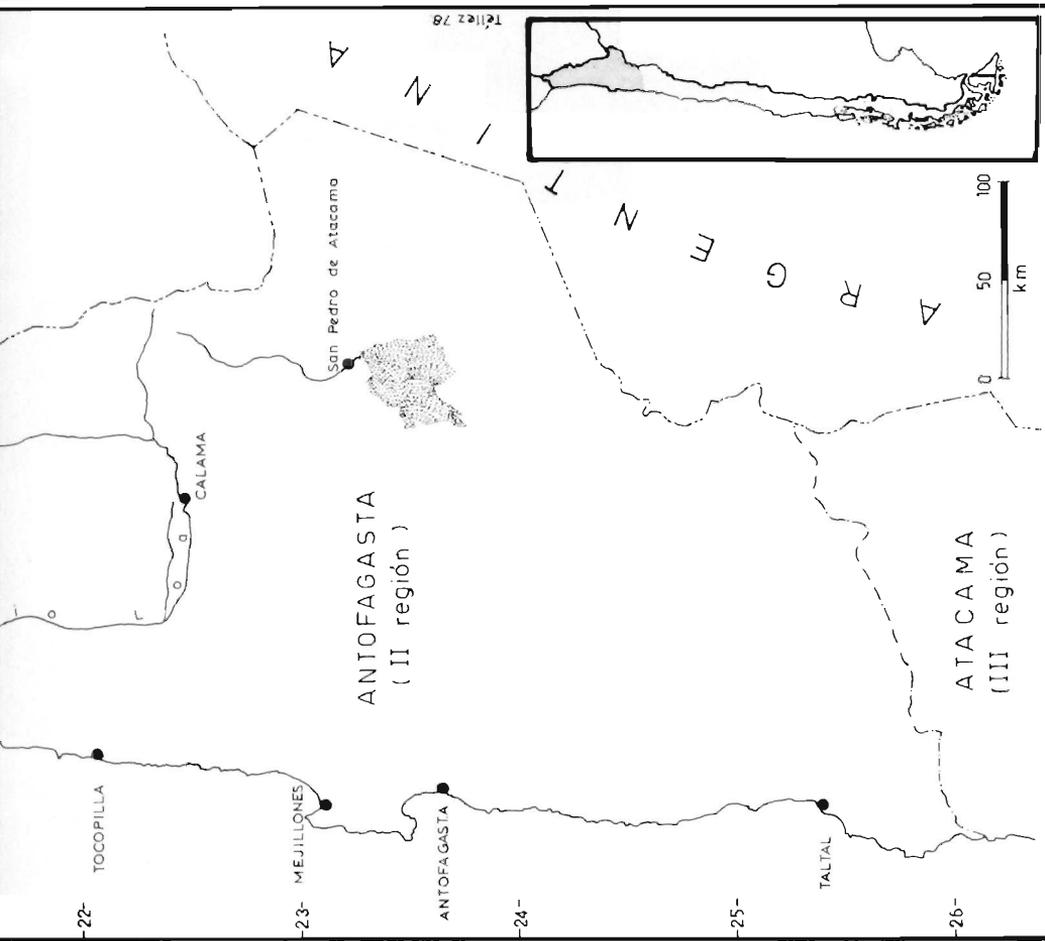
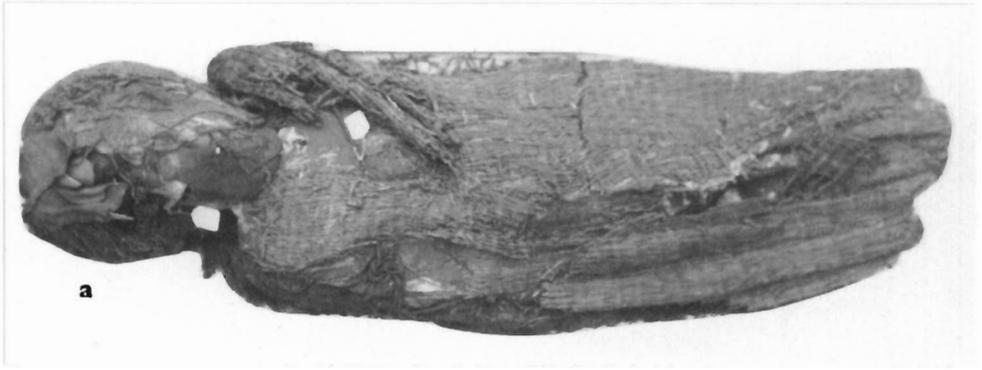


Fig. 1. Map of Northern Chile showing location of sites discussed in the text.



2a

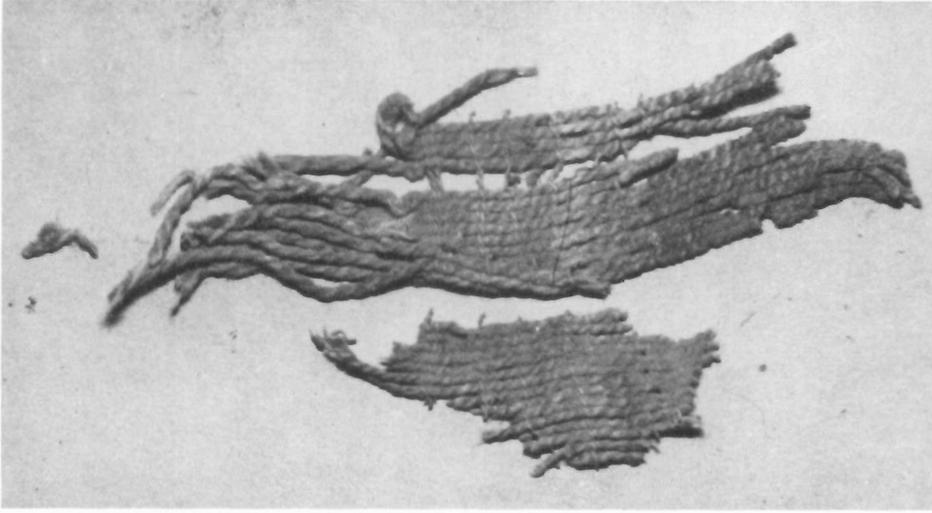


2b

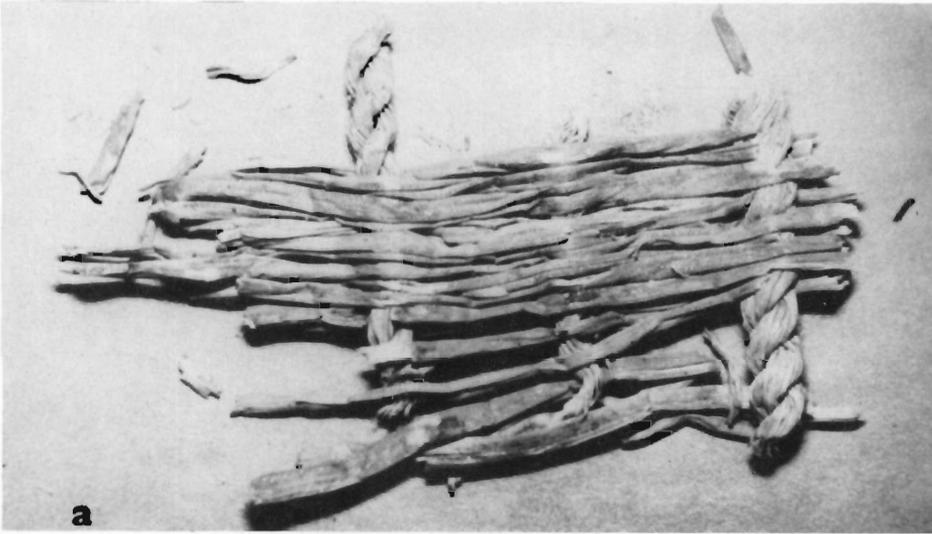
Fig. 2: The double mummy (The “Anker Nielsen Collection”, Museo Arqueológico, Universidad de Chile, Iquique; Specimen No. P. 2569). a: The mummy packet with a head placed at the upper end. b: The mummy packet without the head.

Fig. 3 Fragments of textile used for wrapping the double mummy.

Fig. 4: Fragment of mat used for wrapping the double mummy. a: Showing warp and weft elements. b: Showing perforated warp element.

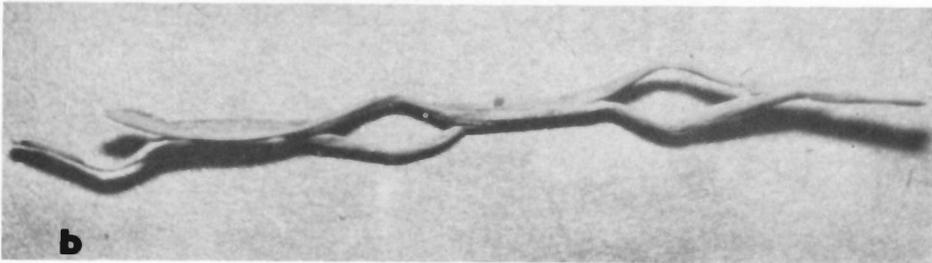


3



4a

**a**



4b

**b**

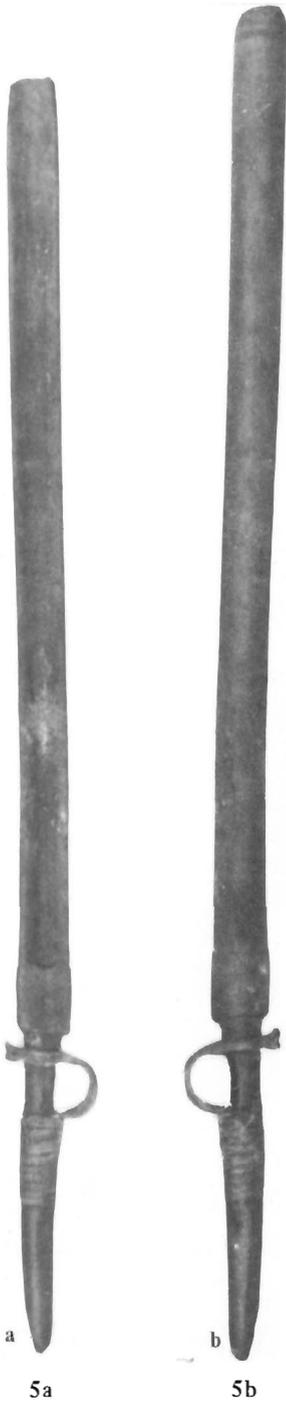


Fig. 5: The spear thrower found inside the double mummy. a: Upper surface. b: Lower surface.

Fig. 6: Schematic drawings of spear throwers found in Northern Chile and Argentina. Provenience: a: Double mummy, Patillos. b: Arica, "Aborígenes de Arica" (after Uhle 1919). c: Arica, "Chinchorro Culture" (after Rivera 1975). d: Arica, "Second Pre-Pottery Period" (after C. Munizaga 1964). e: Quiani, Burial No. 1 (after Bird 1943). f: Quiani, Burial No. 10 (after Bird 1943). g: Quiani-7, Burial No. 6 (after Dauelsberg 1974). h: Pisagua, "Proto-Nazca" (after Núñez 1963). i: Arica, "El Laucho Complex" (after Rivera 1975). j: Arica, "Alto Ramírez Complex" (after Rivera 1975). k: Bajo Molle (after Núñez 1963). l: Río Doncellas, Jujuy Province, Argentinian (after Casanova 1944). m: Los Morrillos, San Juan Province, Argentina (after Gambier and Sachhero 1969).

