

THE MANY FACETS OF MULLU: MORE THAN JUST A SPONDYLUS SHELL

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Introduction

The use of *mullu* as a term for shells and artifacts made of *Spondylus* implies that both terms are synonymous. However, close examination of Spanish chronicles and indigenous Andean accounts indicates a more complex definition for *mullu*. Archaeological investigation treats *Spondylus* shell, an extremely important ritual and trade object in its own right, as a quantifiable artifact to exemplify patterns of use and distribution over space and time (Blower 1995). However, in the chronicles *mullu* emerges as an enigmatic concept that encompasses many more meanings than simply an indigenous term for *Spondylus*.

Examining references to *mullu* without the preconceived notion that all *mullu* is *Spondylus* shell, it becomes clear that although *Spondylus* is *mullu*, not all *mullu* is *Spondylus*. In this article I argue that *mullu* is a complex concept, not simply a Quechua word for *Spondylus*, and that use of the two terms as completely synonymous is confusing and inappropriate. The term *mullu* encompasses a semantic field that includes both physical and ideological attributes. *Mullu* appears in different geographic regions, various ritual contexts, and in conjunction with other words.

Confusion over the use of these terms began with the interpretation of *mullu* by chroniclers as a sea shell used by the natives to make red and white beads, as observed during initial contact by Bartolomé Ruíz (Sámano 1967 [1527-1528]: 66). This interpretation of the term failed to recognize the complex of concepts behind the

word, treating the shell itself as *mullu* instead of the full range, functions and meanings that it represented. It is understandable that this confusion occurred because, while the chroniclers were learning Quechua vocabulary, the use and significance of *mullu* and *Spondylus* were declining. However, decreased value and extirpation of native religions could not completely eradicate *mullu* use, and such use and its associated concepts survives to the present (Bandelier 1969 [1910]:97; Tello 1967:22; Bolin 1998:39-41). Because *Spondylus* is the primary material identified as *mullu*, it is logical to start an exploration of meaning with a consideration of that shell. Unquestionably it held a high ritual value and this value was a significant determinant in trade relationships. An incipient monetary value appears in the chronicles as beads (*chaquiras*) of *Spondylus* that were traded for other goods. However, the true worth of *mullu* cannot be measured monetarily. In the end it is its cosmological value that must be defined, so that we can understand how Andean peoples viewed it.

The Role of *Spondylus*

There is no doubt that *Spondylus* was a form of *mullu*, possibly the most important type. As such it should still be recognized as a valuable source of *mullu*-related information. *Mullu* in the form of *Spondylus* held a multifaceted position in the ideology of the Andes during many time periods and over a vast geographical region. A symbol of sexuality, agricultural and human fertility, and rain, it was offered as a sacrifice to the springs and rivers that brought water (Murra 1975; Marcos 1986:197; Davidson

1981:80), and it was interred within structures used to contain water (Stothert 1995:144). During ceremonies it was sacrificed with children, animals, and items such as gold, silver, *chicha* [corn beer], coca, and feathers (Molina 1989 [1575]:121; Murúa 1987 [1590]:420; Guaman Poma de Ayala 1980 [1615]:238[240]-239[241], p. 213; 247[249], p. 221; 251[253], p. 225; 265[267], p. 239). At times, the sacrifice of *mullu* was made as an offering for good health (Molina 1989 [1575]:133). It is unclear if the *mullu* given was a form of *Spondylus* or some other sort of *mullu*. On some occasions ground shell and beads were thrown into fields to promote agricultural fertility.¹ At other times crushed *Spondylus* shell was scattered on the ground in front of lords as they walked (Cabello Valboa 1951 [1586]:327). Ground *mullu* was mixed with corn flour and the blood of sacrificed animals,² added to *chicha* as a drink offering (Acosta 1962 [1590]:248; Murúa 1987 [1590]:422; Carrión Cachot 1955:38),³ and used whole as dedicatory offerings in the post-holes and floors of ceremonial buildings. Of course, the mythological position of *Spondylus* as 'food of the gods' (Taylor 1987:147-155; Salomon and Urioste 1991:67-8, 116) should not be overlooked.

¹ The highly acidic nature of many Andean fields may have been ameliorated by the addition of significant amounts of ground sea shell added over a long period of time. However, the quantity of shell required may have made such a mitigation unlikely. Whether *mullu* was used solely as an offering, as food for the gods, or also functioned as a general fertilizer, is unclear.

² The use of *mullu* mixed with llama blood was recorded in a lawsuit initiated in 1558 by the Chaccla ethnic group against the Canta people over ownership of coca lands near Quivi in the Chillón Valley, Peru (Rostworowski 1988:123). The ceremony mentioned in this document dealing with the delineation of land ownership is known as *capacocha* (*capac cocha*).

³ "... Usan de estas conchas cuasi en todas las maneras de sacrificios, y aun el día de hoy echan algunos el mollo molido en la chicha por superstición (Acosta 1962 [1590]:248).

In archaeological contexts *Spondylus* appears in both worked and unworked forms (Figures 1-3) and is often found as burial accompaniments or dedicatory offerings. Its appearance in burials as pendants or necklaces may indicate another function of the shell as a status marker often associated, although not exclusively, with female skeletons. Taking all these examples into account, we see that the problem with identifying universal characteristics of *Spondylus* use is that such use varied chronologically and geographically (Blower 1995).

The importance of *Spondylus* as *mullu* in Andean ritual is demonstrated by visual representations of the *Spondylus* shell itself. From diving and the harvesting of *Spondylus* to its representation in design motifs, *Spondylus* shell appears as a recurring image in art ranging in time and space from Chavín (Cordy-Collins 1978) and Carhua (Wallace 1991) to Chan Chan (Davidson 1980; Pillsbury 1996) and beyond. Cupisnique stirrup spout vessels and Chimú-Inca plates from the north coast (Carrión Cachot 1955:38; Pérez Bonany 1975:141, 178; Davidson 1980) all show variations of the *Spondylus* shell theme. These visual representations indicate the place of *Spondylus* in Andean belief systems and its status as a valued object. The importance of visual images is corroborated by the representation of *Spondylus* and *Strombus* identified in the hands of the Smiling God at Chavín de Huántar. Just as the myths of Huarochirí exemplify *Spondylus* as food of the gods, Chavín de Huántar's Smiling God convincingly illustrates the system of duality and complementary oppositions associated with *Spondylus* and *Strombus* (Cordy Collins 1978). Such oppositions include upper/lower, right/left, and male/female.

Another important aspect of *Spondylus* research is its identification as an indicator of trade or exchange, providing information that allows us to infer networks. In the Spanish colonial era a piece of *Spondylus* shell "smaller than a fingernail" could be bought for four *reales* (Arriaga 1968 [1621]:45). Why it held such

value was unknown to the Spanish. This in itself indicates how little some of the Spanish understood about the meaning of *mullu*. That *Spondylus* kept its value over an extended period of time can be explained by its role in sacrifice, accumulation of wealth, conversion to jewelry, and burial offerings, all of which took it out of circulation. This constant need for a consistent flow of new shells helped to maintain a system of trade and manufacture (Marcos 1986:201) that has been discussed in greater detail elsewhere.

Mullu in the Chronicles

Defining *mullu* is more problematic than identifying *Spondylus*. *Mullu*'s semantic field includes a group of abstract concepts that vary according to geographic location and usage. By understanding the full range of *mullu*'s meanings, an understanding of its place within the socio-cultural belief systems and rituals of the Andes, and the trade networks that handled its distribution, can be developed. Early dictionaries defined *mullu* in a purely physical way, referring to sea shells of a white or coral color. González Holguín defines *mullu* as red shells of the sea, or coral of the land (1952 [1608]:249).⁴ According to Santo Thomas (1951 [1560]), *mollo* (*sic*) also refers to coral, or pearls. The reference to pearls confirms an ambiguity of definition that could include alternative sea shells such as the *Pinctada mazatlantica* or *Pteria sterna*, more commonly known as pearl oysters, taking their place alongside *Spondylus* as *mullu* (Mester 1990:21). The color of some parts of the *Spondylus* shell, when seen as finished beads, may be responsible for the addition of coral.

Confusion over the inclusion of coral may have been created by the use of the plural form "*corales*" which also referred to bracelets of coral material (Spain, Real Academia Española 1976

[1726]:589). If the coral material was actually *Spondylus*, then the bracelets may have been made of *Spondylus*, called *mullu*, but referred to as *corales* by the Spanish. This is an example of the semantic problems that hinder the precise definition of *mullu*. In the chronicles, *Spondylus* is called (interchangeably) *mullu*, *mollo*, and *mullo*. All three spellings appear in toponyms, phrases, and chronicles of Peru and Ecuador. The 'u' and 'o' are variants of the same phoneme, and as such refer to the same object or concept.

The problem of spelling variation in Spanish interpretations of the Quechua language might be explained by regional differences in pronunciation, but the problem is complicated further with the inconsistent use by researchers of the various spellings. In some cases the more recent, albeit erroneous spelling of *muyu* for *mullu* is used when describing *Spondylus* (Rostkowski 1977:176; Hyslop 1984:248). Both now, and in colonial times, *muyu* relates to the quality of roundness or circularity and to the action of winding or circulating (González Holguín 1952 [1608]:254; Lastra 1968:91; Parker 1969:164).

Problems of pronunciation, orthography, and literacy were experienced by the Spanish as they attempted to put a written form to an unwritten language, *runa simi*. Written Quechua, filtered through a foreign linguistic system, reflected what the writers thought they heard, not the actual sounds (Mannheim 1991:127). Even the indigenous chroniclers faced problems in rendering their own meanings into another language (Harrison 1982:68). One difficulty in translating Quechua phrases arises from differences in language patterns and word signification based on pronunciation of similar spelled words (Garcilaso de la Vega 1609: Book II, Chapter v, folio 31 cited in Mannheim 1991:135). By slightly altering its sound it is possible to change the meaning of a word. The issue is further complicated by the absence of a single form of the Quechua language. Dialectic variations of Quechua were a reflection of ethnic identity and differed from valley to valley (Cobo

⁴ "Concha colorada de la mar chaquira, o coral de la tierra" (González Holguín (1952 [1608]:249). "Colored sea shell bead, or coral of the land."

1979 [1653]: Book I, Chapter 9, p. 39; Harrison 1989:35; Mannheim 1991: 50).

Things that are *Mullu*

The identification of *mullu* has at times been hampered by an uncertainty over its physical character. Spanish chroniclers may have referred to the material as *mullu* based on its similarity in color and material to *Spondylus*. Perhaps there is a clue here to the identification of other materials as *mullu*, not just *Spondylus*. It is within reason to believe that objects called *mullu* by chroniclers may have been fabricated out of other materials because it was the concept associated with an object, not its material, being identified as *mullu*.

The confusion of *Spondylus* beads with bone is based on *mullu*'s early identification as worked fish bone material simply because it came from the sea (Olaf Holm, personal communication, 1994). A description by Cieza de León of *chaquira*, commonly made of red and white *Spondylus* shell, described them as "long strands of fine white and red bone beads" (Cieza de León 1962 [1553]:99).⁵ Again, the mistaken identifications included in historical accounts makes the determination of material difficult. Was it bone, or was it *Spondylus*? In either case, the finished product may have served as *mullu*.

There are references to *mullu* in the form of necklaces or jewelry called *mullo*, made of pearls and precious stones (Guaman Poma de Ayala 1980 [1615]:332[334], p. 306). Because some of these objects have no *Spondylus* in them, it is difficult to determine whether it is the jewelry and its use that is regarded as *mullu*, or if the alternate materials used in its manufacture can also be considered as *mullu*. In Ecuador, small

necklaces of green and gold colored material are currently called *mullu*. Women in Otovalo, north of Quito, who wear necklaces of gold-plated glass beads refer to them as *kori mullu*, a name also found in Quitanian Spanish (Monica Barnes, personal communication, 1998). In Majipamba, another Ecuadorian community, many girls and women wrap long strings of tiny seed beads of various colors around their wrists. These ornaments are called *maki watana* (literally, "hand wrap") or *mullu* (Meisch 1998:201). In Salasaca red coral or multicolored glass beads worn at the neck are called *mullu* (Miller 1998: 135). In Saraguro, tiny glass or plastic seed beads are also called *mullu* (Meisch 1998:260). Luis Cordero, in his *Diccionario Quichua-español/español-quichua* defines *mullu* as "chaquira. Cuentas de barro, vidrio, madera u otra materia"⁶ (Cordero 1967 [1892]:60).

In the Museo del Banco Central in Cuenca a miniature necklace made of green stone from the site of Pumapungo was listed as *mullo* by Max Uhle (*vidi* 1994). Discussing the site of Chinguilanchi, near Loja, Uhle drew a distinction between *Spondylus* shell, stone *mullu*, and offerings filled with green, red, and white inlays in this way: "all of the subsoil of the floor contained numerous shells of *Spondylus* (*pictorum*) offerings inlaid with green, red, and white "*mullus*" of stone and shell. In various parts of the subsoil we also found groups of different classes of unattached *mullu*; below the same altar were piled a group of 40, more or less, *Spondylus* shells (Uhle 1922:208).⁷

⁶ "Bead. Beads of clay, glass, wood, or other material."

⁷ "... Todo el subsuelo del piso contenía numerosas conchas de *Spondylus* (*pictorum*) votivas rellenas con mullus verdes, colorados, blancos, de piedra y concha, y objetos de otras clases. En varias partes del subsuelo se encontraron también grupos de las diferentes clases de mullus, en estado libre; debajo del altar mismo, un grupo de, más o menos, 40 conchas de *Spondylus* amontonadas."

⁵ "... Traen atados grandes ramales de cuentas de hueso menudas, blancas y coloradas, que llaman *chaquira*" (Cieza de León 1962 [1553]:99). "... They bring hanks of long strings of small white and red bone beads called *chaquira*."

Uhle's use of the term *mullu* (*mullo*) may, or may not, be based upon pre-Columbian indigenous identifications or Ecuadorian usage current in his day. The identification of red and white *mullu* can be related to the red and white of the *Spondylus* shell, but the reference to green *mullu* brings a new dimension to *mullu*'s full definition. Modern ethnographers have identified the importance of the color green to Andean culture through its association with ancestors and souls of the dead (Isbell 1978:147; Allen 1988:164). The problem of defining *mullu* increases when the question of *mullu* material is combined with questions of color associations.

The Color of Mullu

Mullu color symbolism appears in several historic records. That the shells have different names according to their color and were offered for different purposes, is indicated by Acosta (1962 [1590]: 247)⁸ and Cobo (1990 [1653]: Book I, chapter 22, p. 117).⁹ This difference in shell type and color classification was also noted by Cristóbal de Molina (1989 [1575]:68) when he described *mullu* as red and yellow sea shells.¹⁰ Martín de Murúa (1987 [1590]:420) described the ground sea shells used in sacrificial offerings as *paucar mollo* and *yahuar mollo*.¹¹ Mester

⁸ "... [Conchas ... llamaban mollo] tienen diferentes nombres según el color, y así sirven a diferentes efectos." "... [Shells ... called mollo] have different names according to color, and thus serve for different effects."

⁹ "... According to the color, the shells were offered for different purposes, sometimes whole, other times ground into powder, other times broken into pieces, and in addition, some figurines were made from the powder" [translation by Roland Hamilton].

¹⁰ "... y conchas de la mar que llaman mullo, colorado y amarillo, hechas a manera de maíz. ..." "... and sea shells which they call mullo, red, and yellow, made like maize. ..."

¹¹ "... Otras veces ofrecían polvos de almejas de la mar, molidas, que dicen paucar mollo y yahuar mollo. ..." "... Other times they offer ground clam powers which

(1990:213) defines *paucar* as light and bright, although resplendent might be more appropriate, indicating that the yellowish shine of mother-of-pearl is the *paucar mullu*, while *yahuar*, or blood(y) refers to the deep red *Spondylus* shell. The association of *yahuar* to red *Spondylus* may be apt, but Murúa may have associated *paucar mullu* with the white part of the *Spondylus* shell when polished to a high gloss. This interpretation may be more appropriate, considering that Murúa (1987 [1590]: 420) was aware of *chaquira* of *mullu* that included both red and white beads of the shell. In either case, according to the definitions supplied by González Holguín (1952 [1608]:281-282) that refer to *paucar*, a relationship to purity and excellence of color can be made. Rather than a symbolic definition for types of *mullu*, perhaps *paucar* and *yahuar* were simply designations for the two different colors, white and red, and the quality of their lustre.

Another possibility that should not be overlooked is that *yahuar mollo* does not refer solely to the red shell, but to the concoction made of sacrificial llama blood and ground shell. In the case of the capacocha ceremony (Rostrowski 1988:123; Note 2, this article) *yahuar mollo* indicates the bloody *mullu* mixture, referring to its composition and not just its color. Certainly the color and material cannot be separated, and possibly neither can the purpose, or sacrificial object, created by the combination of blood with *mullu*. To follow this reasoning one step further, then, raises the question of what comparable combination of *mullu* would be indicated by *paucar mollo* in the absence of blood.

As the material and color associations of *mullu* become clearer, its definition becomes broader, to the point that objects are not just *mullu*, but *mullu*-like. Molina (1989 [1575]: 133) describes a ceremony to bring about good health where several varieties and colors of

they call *paucar mollo* and *yahuar mollo*. ..."

maize, including some with red and yellow stripes,¹² are gathered with colored *mollo mollo* that is known as *yamaymana mollo*,¹³ and then ground together and offered to *guacas*.¹⁴ The term *yamaymana mollo* refers to all kinds of *mullu*, while the use of the reduplicative noun *mollo mollo* connotes likeness or similarity to *mollo* (Parker 1969:100). It is obvious from this that not all *mullu* is made of *Spondylus*, nor is it all of the same color. Cobo's (1990 [1653]: Book I, chapter 14, p. 69) list of shrines and *guacas* on the road to Antisuyu includes a *guaca* called Lampapuquiu to which were sacrificed "shells of two colors, yellow and red."¹⁵ The use of red and yellow colors within the context of ritual or sacrificial offerings has survived to the present day. Modern ritual traditions in Peru include the use of *mesas* (charm bundles whose contents are arranged in altar-like configurations) that incorporate red and yellow maize (Gifford and Hoggarth 1976:64) for ceremonies like those mentioned above by Molina. In the myths of Huarochirí, the god Paria Caca sent red and

yellow rain onto his rival god Huallallo Caruinchu. This rain was dammed up by one of Paria Caca's alter egos, Llacsá Churapa, creating the lake known as Mullo Cocha (Taylor 1987:147-155; Salomon and Urioste 1991:68). The rains are the same colors as the types of corn used in sacrifice and the two types of shell.

Mullu color association is further augmented by the addition of bluish-green, or turquoise,¹⁶ to that of red and yellow, and green. The first part of Llacsá Churapa's name means the "bright greenish-blue color that blew from the mouth of Maca Uisa like smoke as he spoke" (Taylor 1987:343; Salomon and Urioste 1991:115) after the god ate *mullu*. The original Quechua term used in *The Huarochirí Manuscript* (Salomon and Urioste 1991:214) for describing this colored smoke is *llacsa* (*llacsá*), a term that also refers to smelted or alloyed metal materials such as copper or bronze (González Holguín 1608 [1952]:207). The color *llacsá* is also defined as a green powder or stone, like copper oxide (Arriaga 1968 [1621]:46), similar in color to turquoise. If *llacsá* is a by-product of *mullu* consumption, then the association between turquoise-colored objects and *mullu* is strengthened. The ritual value and relationship of *llacsá* to *mullu* was illustrated during sacrificial ceremonies at which offerings of *mullu* and *llacsá* were required (*Ibid.*). The connection between *llacsá* and *mullu* forms a foundation for the suggestion that the color green, or greenish-blue, is also associated with *mullu* in a strong symbolic way. On the basis of color association, and the use of the word *llacsá* to describe both the color and materials, turquoise-colored material might also be associated with *mullu*.

The *llacsá* and turquoise relationship may be based on color, or on the fact that turquoise, a phosphate of aluminum, includes traces of

¹² "... y maíz entre vetado de colorado y amarillo que llaman çunaçara." "... and maize streaked with red and yellow which is called *çunaçara*."

¹³ "... y otras conchas de la mar que llaman ellos mollo mollo de todas las colores que pueden aver, que llaman ymaymana mollo." "... and other sea shells which they call *mollo mollo*, of all the colors that one can have, that are called *yamaymana mollo*."

¹⁴ "... A todas las guacas y uilcas quatro partidas desta tierra, agüellos y antepasados míos, recevid este sacrificio doquiera que estáis y dadme salud." "... To all the *huacas* and *wilcas* [shrines and the powerful spirits embodied in them] of the four parts of this land, to my grandparents and ancestors, receive this sacrifice wherever you are and give me good health."

¹⁵ "[AN-9:1] la primera se decía, lampapuquiu, era una fuente que estaua en [tachado: vndamarca] Vndamacha [sic; debe decir Andamacha] sacrificauanle conchas de dos colores, amarillas, y coloradas" (Rowe 1979:38). "[AN-9:1] the first was called Lampapuquiu. It was a fountain which was in [struck out: vndamarca] Undamacha [sic; should be Andamacha]. They sacrificed shells of two colors, yellow and red, to it."

¹⁶ Turquoise in this sense refers to the generic blue-green color that characterizes several different minerals such as true turquoise, lapis lazuli, and chrysocolla, that often occur with *Spondylus* in tombs and ritual deposits.

copper that give it its bluish-green hue (Clark 1986:69; Grieder 1988:87). The material called *llacsa* was important enough in Inca times for the creation of a position known as the *llacsa camayoc*, a person who worked turquoise and stones from the sea (Rostworowski 1975:335). Copper is one source known to produce the powdered oxides called *llacsa*, but is it the green-blue color, or a specific substance that is referred to as *llacsa*? Bluish-green smoke, bluish-green turquoise, and bluish-green copper oxide all can be defined as *llacsa*.

Nevertheless, the association of turquoise and *mullu* goes deeper than just the color of exhaled *mullu* gas. Turquoise and *Spondylus* appear together in many archaeological contexts, suggesting a ritual connection. Near Cusco, two collections, each containing forty turquoise figurines, were found at Pikillacta in context with *Spondylus princeps*, *Strombus* shell, and a bronze bar (Cook 1992:344).¹⁷ At Marcahuamachuco, turquoise material carved in the shape of small *Spondylus* shells was found in association with real *Spondylus* (Topic and Topic 1989). This association appears again at Huacho, north of Chancay, where a *Spondylus* bivalve was recovered with a small green stone idol and three small stones inside (Cook 1992:359). A direct association between copper and *Spondylus* appeared at Túcume where metal miniatures made of a copper-silver alloy were recovered from inside articulated *Spondylus* shells (Heyerdahl et al. 1995: 111).

The correlation between *llacsa* and *mullu* would seem to indicate a relationship between objects of a greenish-blue color and objects manufactured from *Spondylus* found in the archaeological record. However, as it is the

copper oxides that take on the bluish color, then the appearance of copper objects at the time of use or burial must be taken into consideration. Were the figures intentionally oxidized prior to burial, to achieve the bluish-green color, or were they interred with the knowledge that they would change color in time?

Chronicle color descriptions aside, the physical characteristics of *Spondylus* shell also include the colors orange (*Spondylus princeps princeps*) and purple (*Spondylus calcifer*), which, when added to the above list of yellow, red, white, gold, and bluish-green, create the impression that *mullu* can be a many-colored thing.

Food for the Gods, Food for the People

Another use for *mullu* comes again from the myths of Huarochirí (Taylor 1987:147-155, 347; Salomon and Urioste 1991:67-8, 116), where the idea that it was consumed by the gods appears. The meaning of *mullu* is translated into *Spondylus* as it refers to eating the thorny oyster shell. When the Inca provided the god Maca Uisa with food as payment for services, Maca Uisa replied, "I am not in the habit of eating stuff like this. Bring me some thorny oyster shells, [eating] them all at once, making them crunch with a *Cap Cap* sound" (Taylor 1987: 347; Salomon and Urioste 1991:116). It is apparent from this passage that Maca Uisa is eating the shell. No reference has been found indicating that humans ever ate the unprocessed shell, although, as previously mentioned, it was crushed and mixed with *chicha*. *Spondylus* flesh could be consumed by humans, and still is (*vidi*), but if there is a reference in the chronicles to human consumption of the meat, it is ambiguous.

¹⁷ The 'bronze' bars mentioned by Cook have been identified by Juan Larrea (1960:59-94, cited by Cook 1992:358) as copper scepters known as *yauri*, the Quechua word for the Inca royal staff, or a long, thin object such as a large needle (Lira 1944:1186). *Yauri* is also an Aymara word for copper, and the presence of the staff possibly indicates royal status for the figurines.

The suggestion that *Spondylus* meat is harmful to humans at certain times of the year, capable of causing death (Davidson 1981), is based on the seasonal ingestion by the mollusc of toxic dinoflagellates commonly known as *aguajes* or red tides (Rojas de Mendiola 1978: 183). This may contribute to the view that it is

only the gods who are capable of eating *Spondylus*, but there is no indication in the Huarochirí myth that anything more than the shell is being used. Humans eat the sometimes poisonous meat,¹⁸ while the gods supposedly eat the shell. It is this point that appears to support the idea that *Spondylus* can only be a food of the gods, but an examination of historic records fails to locate any sources other than the Huarochirí manuscript that specifically mention direct *mullu* consumption by the gods. Such ritual ingestion of *Spondylus* by the gods should not be overlooked, even if evidence for it is not widespread. However, there is no indication in the Quechua version that *mullu* refers specifically to *Spondylus*.¹⁹ Rather, the god is simply asking for *mullu*, an otherwise unidentified material, to be brought. Likewise, there is no indication of the physical character of *mullu* apart from the act of crunching, which implies toughness. In many cases, both modern researchers and chroniclers have restricted the definition of *mullu* to a specific meaning, *Spondylus* shell, and thus help propagate the idea that it is only this.

Other references indicate that *mullu*, or *huacamullu*, a herb used in cooking, was eaten by people, or, at the least, used as a condiment. The identification of *huacamullu* as a herb is confirmed by González Holguín (1952 [1608]:165) who defined "*huaccamullu*" as

¹⁸ The seasonal bloom of toxic dinoflagellates which are ingested by the molluscs have in recent centuries been linked to the deaths of fish, guano birds, and, in some instances, humans (Rojas de Mendiola 1978:183).

¹⁹ The Quechua is "[299] chaysi micoy yaya ñispa carachiptina manam ñocaca cay ynacta micoccho cani mullocta apamuy ñispas mañarcán chaysi mullocta coptinca cap cap ñichispa tuilla micorcan . . ." (Salomon and Urioste 1991:215). "... 'Father, eat! and [the Inca] had some food served to him, but Maca Uisa replied with a demand: 'I am not in the habit of eating stuff like this. Bring me some thorny oyster shells.' As soon as the Inca gave him thorny oyster shells, Maca Uisa ate them all at once, making them crunch with a 'Cap cap' sound (Salomón and Urioste 1991:116).

"cierta yerba de comer",²⁰ but the type of plant is not identified. Can a herb be a type of *mullu*, although it is clearly not *Spondylus* shell? If *mullu* can refer to objects not made from shell, then there must be a larger complex of associations.

In the *Relación y descripción de la ciudad de Loxa* near the southern border of Ecuador, Juan Salinas Loyola (1965 [1571]:296) described the use of various vegetables and herbs, including one called *guacamollo* that is eaten with or without vinegar and cooked with meat.²¹ A similar description by Sancho Paz Ponce de León (1965 [1582]:238) in the *Relación y descripción de los pueblos del partido de Otavalo* concerning the area north of Quito refers to the herb called *guaca-mullos*.²² In both cases the reference is to an herb called *guacamullu* or *huacamullu*. In the Salinas de Loyola account (1965 [1571]:296) it is described as green (*verde*) and prepared by boiling. An alternative meaning for *verde* might indicate that the herb was used when unripe and not be an indication of its color (Smith *et al.* 1988:738), but the relationship between *mullu* and the color green could be relevant in this case.

A third reference is found in Guaman Poma de Ayala's account (1980 [1615]:333[340], p.

²⁰ "A certain edible herb."

²¹ "... La yerba que más sirve allá de hortaliza que tenía los naturales, llámase *guacamollo* [*huaccamullu*]; verde se come con vinagre y sin ello, y cocida, con carne; es muy buena y para días de cuaresma asimismo." "... The herb which most often serves as a vegetable which the natives had is called *guacamollo* [*huaccamullu*]; Raw, it is eaten with and without vinegar, and cooked, with meat; it is very good, also, for Lent."

²² "... Ya he dicho que en esta tierra los indios naturales della se sirven y han servido para su sustento del maíz y fríoles y altramuces y papas y camotes, que son batatas, y de unas yerbas que ellos llaman *guaca-mullos*." "... I have already said that in this land the Indians use, and have used, maize and beans, tarwi [a lupine], potatoes, and *camote* which is sweet potatoes, and some herbs they call *guaca-mullos*."

311).²³ There *huacamullo* is glossed by Murra, Adorno, and Urioste as "caracol ofrecido a las deidades" (conch offered to deities). Nevertheless, its context in a list of aquatic plants such as watercress suggests that it is another such plant.

A more exact definition of the term *guacamullu* from the information available is difficult. Ethnobotanical records of modern and post-Spanish conquest Peru indicate several possibilities. One herb that may have been called *guacamullu* is *Amaranthus*, also known as *bledos*, and mentioned by Bernabé Cobo (Book 4, chapter 2, p. 337, cited by Herrera and Yacovleff 1935:84-85) and by Juan López de Velasco (1971 [1574]: 10). The green leaves of *bledos* (cf. *Amarantus paniculatus*) were eaten in boiled salads and used as a condiment like chili pepper (Herrera and Yacovleff 1935:85). The red and white seeds (Towle 1961:37), also a source of food, sound similar to the red and white beads of *chaquira* of *Spondylus* shell, although amaranth seeds are extremely tiny. Perhaps these seeds represent a form of pseudo-*mullu* due to their physical resemblance to *chaquira*. The definition of *mullu* as "small, round, seed-like objects" (Olaf Holm, personal communication, 1994) describes both *chaquira* and *bledos* seeds. This identification of *bledos* as *guacamullu* cannot be proven beyond doubt. More important to the discussion of *mullu* is that a term which incorporates *mullu* relates to a herb or other food with no direct physical link to *Spondylus*. If the identification refers to plants from the sea, such as watercress, seaweed, or sea moss (*coralina*) that sometimes appear entangled in the *Spondylus*

spines, then an indirect relationship may have existed.

Given the possibility that *mullu* can represent herbs and other food items, then the possibility also exists that ground *mullu*, when mixed with *chicha* or blood (Note 3), may not be referring to ground sea shell, unless shell is specifically indicated. While eating ground-up calcium carbonate may have beneficial properties for human health, it seems just as likely that herbs (as *mullu*) were used in *chicha* for medicinal purposes.

Water Associations

The association between *mullu*, the sea, and sacrificial offerings is related by several chroniclers. Acosta (1962 [1590]:247) described the offering of "conchas de la mar", that the natives called *mollo*, to the fountains and springs.²⁴ The shells were said by Acosta and Murúa (1987 [1590]:422) to be daughters of the sea, Mamacocha, the mother of all the waters. A similar version of this theme is presented by Bernabé Cobo (1990 [1653]: Book I, chapter 22, p. 117), although he identified the springs and fountains as the daughters of the sea, not *Spondylus*.²⁵

Whether or not it is the shells or the springs that are the daughters of the sea is an interesting point. *Spondylus* comes from the sea and could be seen as its offspring. It may be that

²³ "Y le dauan . . . hasta dalle carneiros, mays, papas, agí, sal, lana, algodón, pescado y camarones, chiche; conejo. Hasta dalle uaca mullo, ocororo, cancaua, llullocha, murcota, llachoc, onquena. Estas cosas seruí a de tributo." "And they even gave him rams [that is, male llamas], maize, potatoes, chili peppers, salt, wool, cotton, fish, and shrimp, chicha, rabbits [that is, guinea pigs], to the point of giving him uacamullo, ocororo, ancaua, llullocha, murcoto, llachac onquena [aquatic plants]. These things served as tribute."

²⁴ ". . . Iten también sacrificaban u ofrecían conchas de la mar, que llamaban mollo, y ofrecíanlas a las fuentes y manantiales, diciendo que las conchas eran hijas de la mar, madre de todas las aguas." ". . . Item: they also sacrificed or offered sea shells which they called *mollo*, and offered them to the fountains and springs, saying that the shells were daughters of the sea, the mother of all water."

²⁵ ". . . These Indians were also accustomed to sacrifice sea shells, especially when they made offerings to the springs. They said that this was a very appropriate sacrifice because the springs are the daughters of the sea, which is the mother of all waters" (translation by Roland Hamilton).

both descriptions are appropriate because both the shells and the springs are important to the provision of water and as such could both be daughters of the sea. The shells would contain some of the "water-power of the great ocean" (Karsten 1926: 384) as daughters of the sea, and as such could transfer some of the ability to always supply water through their sacrifice to the springs. The reasoning behind this assumption can be found in Cobo's (1990 [1653]: Book I, chapter 13, p. 60) list of *guacas*. On the seventh *ceque* of the road to Chinchaysuyu were a spring called Callancapuquiu, to which was "offered shells so that it would always flow."²⁶

The suggestion that sacrificing *mullu* to the gods could be responsible for the production of water appears in the myth of Paria Caca found in the *Huarochari Manuscript* (Salomon and Urioste 1991:66). In a battle between Paria Caca and Huallallo Caruíncho, Paria Caca defeated Huallallo Caruíncho's fire by flooding the area with red and yellow rain. The sudden rush of water was dammed by Llacsa Churapa, one of Paria Caca's alter egos, creating the lake known today as Mullo Cocha (Taylor 1987:147-155; Salomon and Urioste 1991:68). It is likely that the name Mullo Cocha was associated with this location either because the myth required the presence of *mullu* to account for the sacrifice to the god who produced rain, or that quantities of *Spondylus* shell had been sacrificed at this location. The color associations of this myth should not be overlooked and have been presented above in the context of the myth of Maca Uisa (Taylor 1987:347; Salomon and Urioste 1991:114-116), son of Paria Caca.

The relationship between women, water sources, *mullu*, and the daughters of the sea is made all the more complex by the suggestion

that a relationship exists between women urinating and the creation of springs and other water sources (Silverblatt 1981:33; Reinhard 1998:93). If women could create water sources through urination, and if *mullu* and the water sources are "daughters of the sea", then the association becomes stronger. An alternative explanation for the relationship between urination and the creation of springs might be that it is the amniotic fluid emitted prior to childbirth, and not urine, that is seen as causing the creation of water sources (Joan Vastokas, personal communication, 1995). Women, water, and *mullu* are all related to each other.

A more direct association between water and *mullu*, as represented by *Spondylus* shell, can be found at the site of Achallán located on the Santa Elena Peninsula, south of La Libertad, Ecuador. Excavations of the *albarrada* at Achallán, an earth-walled construction used to collect rainwater for later use, revealed three *Spondylus* shells buried at the base of the structure (Stohtert 1995:144). The placement of shells in this way indicates not only the relationship of *Spondylus/mullu* with water, but also the ritual importance of offering *Spondylus* to the gods to ensure the supply of water.

Female Supernatural Beings and the Vagina Dentata

By drawing together the morphological characteristics of *Spondylus* shell, chronicle information, and the metaphorical gender associations of *mullu*, it is possible to identify a visual representation of *Spondylus/mullu* in the archaeological record. The recognition of the *vagina dentata* as an identifying feature of the female supernatural being (Lyon 1978), or staff goddess, is important in its own right, but when viewed within the context of *mullu* and *Spondylus*, the *vagina dentata* takes on additional significance.

An entry in the dictionary of González Holguín (1952 [1608]:249) lists the words "*mulluysimi pucaysimi mulluy virpa*", and trans-

²⁶ "[CH-7:6] la sexta se decia, callancapuquiu, es el manantial de Ticutica [sic; debe decir Taticata], al qual ofrecian conchas por que siempre manase (Rowe 1979:24). [CH-7:6] the sixth was called Callancapuquiu: it is the fountain of Ticutica [sic; should be Taticata], to which they offered shells so that it would always flow."

lates them as "el de los labios colorados hermosos". The words hold similar meanings, all relating to the mouth or lips that can be rendered into English as the person with beautiful red lips. Whether the words can be translated directly in this way is questionable, and it is possible that the words refer to a more abstract concept that is not yet clear.

There is a similarity between the use of *mullu* and its connection to red lips and the red margins that encircle the edges or lips of the *Spondylus* shell. The physical appearance of *Spondylus* as an object with red lips is one characteristic that relates it to female genitalia and the labia in particular. The *Spondylus* shell has been described as a representation of the female genitalia, representing a 'mythical' vulva that was protected by its intertwined spines (Marcos 1986:198). It should also be noted that *almeja*,²⁷ a contemporary Spanish word for 'clam', a mollusk, is also a derogatory and vulgar term for female genitalia. An understanding of all the definitions of *mullu* may be dependent upon understanding the full range of gender related associations.

González Holguín's definition might refer to a female with unusually lovely lips, but it is possible that it refers to the female genital area. As an important ritual object, the value of *mullu* may be partially related to the visual resemblance of *Spondylus* to a vulva and the associated aspects of birth and the bringing of new life, regeneration, and fertility. Clearly the use of the word *mullu* in these phrases does not relate directly to *Spondylus*, but instead to a conceptual representation of the shell.

The female metaphor continues with the appearance of *Spondylus* in the dyadic structure of left/right, female/male, and is based in part on the physical characteristics of the shell (Paulsen

1974; Cordy-Collins 1978; Burger and Salazar-Burger 1993). This duality is represented through the separation of left valve/right valve and the gender identification of the male valve/female valve, an assignment of gender attributes that can still be found today among the Desana Indians of the northwest Amazon (Reichel-Dolmatoff 1971:167-71). In the municipal market at Chiclayo, where *Spondylus* shells must be bought in pairs with a "male" and a "female" valve necessary to complete a set, this duality is still evident (Monica Barnes, personal communication, 1998).

The relationship of *mullu* to water, water sacrifice, and female characteristics is an important one. These associations relate *mullu* to the female symbolic characteristics. Associating the woman with beautiful red lips with the deep red lips of *Spondylus princeps* and the belief that *Spondylus* represents a "mythical vulva" (Marcos 1986:198) presents a visual image, or physical manifestation, that is not difficult to locate in the archaeological record. The bright red lips of *Spondylus* with its interlocking teeth appear in visual representations as a female figure with a *vagina dentata*.

Such personages are the female staff goddesses on Carhua textiles. The prime identifying characteristic of these supernatural females is the *vagina dentata* (Lyon 1978; Figure 4). The *vagina dentata* is not unique to the Andes, appearing in the mythologies of many cultures (Thompson 1955:833). However, its general identification can be made more specific when it is based upon particular indigenous beliefs. What is interesting about the *vagina dentata* and *Spondylus* is the similarity between the definitions and symbolic representations of the two objects. Both have lips with interlocking spiked teeth.

The *vagina dentata* motif represents women who have teeth in their vaginas (Lyon 1978:98), the significance of which is not known in this instance. Visualizing the spiny projections as teeth could make the *Spondylus* shell appear as

²⁷ *Almeja* nf (a) (zool) shellfish, cockle, clam (US) (b) (vagina) cunt; mojar la -- to have a screw (Smith et al. 1988:33).

a disassociated *vagina dentata*. With the female associations, ideological implications and genital references to *mullu* already discussed, *Spondylus princeps* appears as a living representation of the *vagina dentata*. Whether the *vagina dentata* symbolism was based on the *Spondylus* shell and its metaphoric imagery, or whether the already gendered shell was imbued with the female characteristics of rebirth and fertility due to its physical similarity to the *vagina dentata* is unknown.

The use of *vagina dentata*, a Latin term, to describe this mythological imagery does not indicate that Andean people were applying a general concept. It might be more appropriate to consider that *vagina dentata* is a useful term for something that is similar by definition, but which is more correctly referred to as a *Spondylus vagina*. I also suggest that the words *mullusimi*, *pucaysimi*, and *mulluy virpa* are references to this concept of a *Spondylus vagina* and represent the verbalization of the image, and possibly the concept, or even a lewd action, in everyday life. This connection is further strengthened by the secondary imagery identified on staff goddesses of the breasts as eyes and the *vagina dentata* as the lips and mouth. In this sense the relationship between a woman with beautiful red lips and genitalia comes full circle. What is unknown is the context and emphasis that would have been placed on the above words during conversation. Vocal inflection would have affected their meaning, creating either a noun for description, or a verb indicating an action to be performed.

Mullu Survival in the Colonial Period and Beyond

While *mullu* did not disappear overnight in the Colonial Period, its value as a trade commodity decreased and its use was outlawed, subjecting native users to physical punishment and legal action. During the period when the Spanish attempted to stamp out idolatry and native beliefs, regulations were enacted which made it a crime to keep *mullu* or *llacsa*, among

other objects. Those caught breaking this rule received one hundred lashes, had their hair cut off, and faced court proceedings (Arriaga 1968 [1621]:171).²⁸

The importance of *mullu* and its ritual connection was not completely eradicated after the Spanish conquest. *Mullu* appears in several instances as an item found in the tool kits of shamans who were charged as sorcerers, and as an item of ritual importance to sacrifice. Around 1700 A.D., in the southern highlands of what is now Colombia, a known shaman was charged with being a sorcerer. In his package of magical objects was a collection of pre-Columbian artifacts that included *mullu* and a special conch trumpet used by *mullu* couriers" (Salomon 1983: 418). Later, in the mid-eighteenth century town of Andagua, near Arequipa, Sebastián Tintaya was similarly charged with having magical abilities. His llama-skin pack included *mullu* shell, coca, maize, and prehispanic statuettes (Salomon 1987:155). Both instances show not only the survival of the word *mullu* but also its continued connection to matters of ritual significance.

²⁸ "Item. From now on no Indian of either sex will keep *mullu*, *paria*, or *llacsa*, or will make a *sancu* or *tecti*, nor will he have an *asto*, nor keep the corn they call *huantay*, *airigua*, *micsazara* or *collazara*, nor will they keep with potatoes, *ocas*, *camotes*, or *yucas*, and anyone who breaks this rule will be given one hundred lashes and his hair shorn, and proceedings will be started against him for having lapsed into idolatry" (Arriaga 1968 [1621]:171). Some of these cult objects are identifiable. A "*paria*" may be a type of small bird (Fernández Chiti 1997:196, s.v.). "*Sancu*" is a ball of ground maize mixed with blood and used in religious rites (*Ibid.* 1997:244, s.v.; Ludeña de la Vega 1982:206). "*Tecti*" is thick chicha (Arriaga 1920 [1621]:210, s.v.). "*Asto*" is plumes, or a bird from which feathers are procured (Arriaga 1968 [1621]: 176, s.v.). "*Huantay*" is a tall ear of corn (*Ibid.*:179 s.v.). "*Airigua*" = "ayriwaki" or a double ear of corn (Academia Mayor de la Lengua Quechua 1995:38 s.v.). "*Micsazara*" is possibly corn mixed with *datura* to make it hallucinogenic (Fernández Chiti 1997: 171, "*misha*" [*Datura*] + "*sara*" [maize]) or the first corn that ripened (*michacasara*) (Arriaga 1968 [1621]:181 s.v.). "*Collazara*" = "*Qollasara*", or "medicine corn", in the sense shared by North American Indians (Fernández Chiti 1997:224 s.v., *qolla*).

An even later use of the word and concept of *mullu* was recorded by Adolph Bandelier (1969 [1910]). In 1895, a ceremony performed by the Aymara on Titicaca Island prior to archaeological excavation required such ritual items as coca, *uira-koa*²⁹ leaves, llama tallow, fetuses of a llama and a pig, a piece of the skin of a *titi* or wildcat, grape brandy, wine, and, especially, *mullu* (*Ibid.* 1969 [1910]:97). In this case the *mullu* was an object in the form of a small white amulet. Bandelier concluded that *mullu* was a fetish of white alabaster representing a bull or cow, similar to those found in New Mexico, but also known on the Bolivian Altiplano. Today, among Bolivian Aymara speakers, *mullu* is a square, rectangular, or triangular alabaster plaque used to obtain good harvests or riches (van den Berg 1985:131). In Quechua, similar small stone figures are at times referred to as *illas*, *enqas* (Cook 1992:356) or *kantas* (Gose 1994:205), depending on geographic location. The recovery of small llama figurines and other objects made of *Spondylus* in archaeological sites may explain how the Aymara came to refer to them as *mullu*. The description by Bandelier implies that it was the use and ritual power of the object that was referred to as *mullu*, not the material from which it was manufactured. Similarly, in Huaquirca, Peru, the term *kanta* has been equated with *ánimo*, the vital force or essence of whatever the figure represents (*Ibid.*: 206).

In 1942 offerings of *mullu* mixed with guinea pig or llama blood were still being made to marshes and streams for rain and the fertilization of the earth (Tello 1967:22). It is possible that the present sacrifice of small animal figurines, formerly made of *Spondylus*, to the gods for water and fecundity is the continuation of the prehispanic sacrifice of *mullu* for water and

crop fertility. In modern Peru small stone *illas* in the shape of cattle, sheep, and horses are used today as sacrifices to the *Wamanis*, the water controlling mountain deities (Isbell 1978:151). The pre-Columbian figurines shaped like llamas and alpacas were also identified as *illas* and are considered to be power-generating objects (*Ibid.*; Allen 1988:54) sacrificed to the *Wamanis* to increase the herds of guanacos, llamas, and alpacas (Gose 1994:205). *Illas* have a mythical quality that may bring about death or aberration at birth in children, animals, or crops, caused by exposure to certain types of light. At times *illas* bring good fortune, always to an extreme degree (Arguedas 1983:62). Inadequate offerings to the deities may result in lightning strikes on animals. The relationship between a violent discharge of energy and *illas* can be found in the archaic Quechua word for lightning, *illapa* (Gose 1994:220). Recent identifications of this sort might more accurately portray the original relationship between *mullu* and ritual objects than is presently believed. It is the essence of *mullu* that must be determined. By defining *mullu* as only *Spondylus* we have blinded ourselves to the possibility that it could have been anything else.

Andean healers include pearls, scallop, and snail shells, as well as unidentified bivalve shells, in their altar-like *mesas*. In one such Peruvian *mesa* the bivalve shell is called "Concha San Juan Bautista" and is a large oyster shell from the ocean symbolizing rebirth (Sharon 1978:168). Here the terms *mullu* and *Spondylus* are not used, but references to rebirth are reminiscent of *mullu*. However, in Cusipata, near Cusco, ceremonies of offerings continue much as they did when Bandelier (1969 [1910]:97) visited the island of Titicaca. The rituals employ *Spondylus* shells, called *mullu*, as vessels to serve wine and alcohol (Bolin 1998:39-41).

Conclusions

There is too much contradictory information available to justify the use of *Spondylus* and *mullu* as perfectly synonymous terms. While

²⁹ Bandelier does not elucidate the nature of these leaves used in rituals beyond writing that they are "leaves of a plant not found on the island and called by them *uira-ko-ua*" (Bandelier 1969 [1910]:95). Tschopic identifies them as a high-altitude mint, *Menta pulegium* (1951:246).

mullu definitely applies to *Spondylus* shells, it is not restricted to them. The multiple uses, and representations of *Spondylus* shell and *mullu* indicate that a far more complex definition of *mullu* is required. The possibility that *mullu* may refer to *Strombus*, mother-of-pearl, turquoise artifacts, colored maize, or even herbs, should indicate that *Spondylus* may be just one of a number of items that are included in the concept of *mullu*. Likewise, the *illas* made of bone and stone may have been legitimate objects of *mullu* in the conceptual sense. Perhaps the early chronicles were more accurate in their descriptions of bone, stone, and shell *mullu* than is presently thought. Misunderstanding may originate with present interpretations of *mullu* and not the identifications of the past. It is only because we have restricted our view of *mullu* to *Spondylus* that we consider other interpretations from the past to be errors in identification.

Mullu's gender associations and its position in male/female oppositions, visual representations, and use as an offering for water are significant in the multi-purpose concept of *mullu*. The woman with beautiful red lips could be a deity symbolized at times by the staff goddess, or perhaps something more down-to-earth, such as a female associated with goddesses. As food for the gods, or food for the people, the consumption of *mullu* or *guacamullu* may have brought more spiritual than physical nourishment. The color associations of red, yellow, turquoise, and green with *mullu* appear in mythology and ritual. The recognition of both color associations and *mullu*-like objects gives a strong indication that there is a complex of characteristics or traits that can be ascribed to *mullu*, and that it should not be defined as just *Spondylus* shell.

The archaeological value of *Spondylus* as an indicator of trade and exchange often overshadows the cultural information available by studying its alter ego, *mullu*. The identification of *mullu* characteristics in the record of *Spondylus* artifacts indicates that those traits generally assigned to *mullu* are not pan-Andean. Instead, the concept of *mullu* changes, depending upon

its geographic location and chronological position. In the past twenty-five years, the study of *Spondylus*, with its associated contexts, has become an important part of Andean archaeology and provides a useful source of information on material culture. Ideological information is a different matter. It is now time for a complete investigation into the use and concepts behind *mullu*.

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References Cited

- Academia Mayor de la Lengua Quechua/Qheswa Simi Hamut'ana Kurak Suntur
1995 *Diccionario quechua-español-quechua/qheswa-español-qheswa simi taqe*. Cusco: Municipalidad del Qosqo [Cusco].
- Acosta, Joseph de
1962 [1590] *Historia natural y moral de las Indias*, edited by Edmundo O'Gorman. México: Fondo de Cultura Económica.
- Allen, Catherine J.
1988 *The Hold Life Has: Coca and Culture in an Andean Community*. Washington, D.C.: Smithsonian Institution.
- Arguedas, José María
1983 *Los ríos profundos*. In *Obras completas*, Volume 3, pp. 11-213. Lima: Editorial Horizonte.
- Arriaga, Pablo Joseph [José] de
1920 [1621] *La Extirpación de la idolatría en el Perú*, edited by Horacio H. Urteaga. Biography by Carlos A. Romero. Lima: Sanmarti.
- 1968 [1621] *The Extirpation of Idolatry in Peru*, translated and edited by L. Clark Keating. Lexington: University of Kentucky Press.
- Bandelier, Adolph F.
1969 [1910] *The Islands of Titicaca and Koati*. New York: Kraus Reprint.
- Blower, David
1995 *The Quest for Mullu: Concepts, Trade, and the Archaeological Distributions of Spondylus in the Andes*. Master's thesis. Trent University,

- Peterborough, Canada. Ann Arbor, Michigan: University Microfilms International. (Now a division of Bell & Howell Company.)
- Bolin, Inge
1998 *Rituals of Respect: The Secret of Survival in the High Peruvian Andes*. Austin: University of Texas Press.
- Van den Berg, Hans
1985 *Diccionario religioso aymara*. Iquitos, Perú: Centro de Estudios Teológicos de la Amazonia (CETA) and Puno, Perú: Instituto de Estudios Aymaras (IDEA).
- Burger, Richard and Lucy Salazar-Burger
1993 The Place of Dual Organization in Early Andean Ceremonialism: A Comparative Review. In *El mundo ceremonial andino*, edited by Luis Millones and Yoshio Onuki, pp. 97-116. *Senri Ethnological Studies* 37 (Osaka, Japan).
- Cabello Valboa, Miguel
1951 [1586] *Miscelánea antártica: Una Historia del Perú antiguo*. Lima: Universidad Nacional Mayor de San Marcos, Facultad de Letras, Instituto de Etnología.
- Carrión Cachot, Rebecca
1955 *El Culto al agua en el antiguo Perú: La paccha elemento cultural pan-andino*. Lima, offprint of the *Revista del Museo Nacional de Antropología y Arqueología*. 2(2).
- Cieza de León, Pedro de
1962 [1553] *La crónica del Perú*. Madrid: Espasa-Calpe.
- Clark, Grahame
1986 *Symbols of Excellence: Precious Materials as Expressions of Status*. Cambridge: Cambridge University Press.
- Cobo, Bernabé
1979 [1653] *History of the Inca Empire: An Account of the Indians' Customs and their Origin together with a Treatise on Inca Legends, History, and Social Institutions*, translated and edited by Roland Hamilton. Austin: University of Texas Press.
- 1990 [1653] *Inca Religion and Customs*, translated and edited by Roland Hamilton. Austin: University of Texas Press.
- Cook, Anita G.
1992 The Stone Ancestors: Idioms of Imperial Attire and Rank among Huari Figurines. *Latin American Antiquity* 3(4):341-364.
- Cordero, Luis
1967 [1892] *Diccionario quichua-español/español-quichua*. Cuenca, Ecuador: Universidad de Azuay Publicaciones 14.
- Cordy-Collins, Alana
1978 The Dual Divinity Concept in Chavin Art. *El Dorado* 3(2):1-31.
- Davidson, Judith R.
1980 *The Spondylus Shell in Chimú Iconography*. Master's Thesis. California State University, Northridge.
- 1981 El Spondylus en la cosmología chimú. *Revista del Museo Nacional* 45:75-87.
- Fernández Chiti, Jorge
1997 *Diccionario indígena argentino: de shamanismo, mística, esoterismo, simbología, espiritualidad y cosmovisión andina*. Buenos Aires: Ediciones Condorhuasi.
- Garcilaso de la Vega, El Inca
1609 *Primera parte de los comentarios reales que tratan del origen de los Yncas . . .* Lisbon: Pedro Crasbeeck.
- Gifford, Douglas and Pauline Hoggarth
1976 *Carnival and Coca Leaf: Some Traditions of the Peruvian Quechua Ayllu*. New York: St. Martin's Press.
- González Holguín, Diego
1952 [1608] *Vocabulario de la lengua general de todo el Perú llamada lengua quichua o del inca*, edited by Raúl Porras Barrenechea. Lima: Instituto de Historia.
- Gose, Peter
1994 *Deathly Waters and Hungry Mountains: Agrarian Ritual and Class Formation in an Andean Town*. Toronto: University of Toronto Press.
- Grieder, Terence
1988 Burial Patterns and Offerings. In *La Galgada, Peru: A Preceramic Culture in Transition* by Terence Grieder, Alberto Bueno Mendoza, C. Earle Smith, Jr. and Robert M. Malina, pp. 87-95. Austin: University of Texas Press.
- Guaman Poma de Ayala, Felipe
1980 [1615] *El Primer nueva corónica y buen gobierno*, edited by John V. Murra and Rolena Adorno. México: Siglo Veintiuno.
- Harrison, Regina
1982 Modes of Discourse: the *Relación de antigüedades deste reyno del Pirú* by Joan de Santacruz Pachacuti Yamqui Salcamaygua. In *From Oral to Written Expression: Native Andean Chronicles of the Early Colonial Period*, edited by Rolena Adorno, pp. 65-100. Syracuse, New York: Maxwell School of Citizenship and Public Affairs, Syracuse University.
- 1989 *Signs, Songs, and Memory in the Andes*. Austin: University of Texas Press.
- Herrera, F.L. and Eugenio Yacovleff
1935 El Mundo vegetal de los antiguos peruanos (conclusión). *Revista del Museo Nacional* 4:31-102. Lima.
- Heyerdahl, Thor, Daniel H. Sandweiss, and Alfredo Narváez
1995 *Pyramids of Túcume: The Quest for Peru's Forgotten City*. London: Thames and Hudson.

- Hyslop, John
1984 *The Inka Road System*. Orlando, Florida: Academic Press.
- Isbell, Billie Jean
1978 *To Defend Ourselves: Ecology and Ritual in an Andean Village*. Austin: University of Texas Press.
- Karsten, Rafael
1926 *The Civilization of the South American Indians with Special Reference to Magic and Religion*. New York: Alfred A. Knopf.
- Larrea, Juan
1960 *Coronica incaica*. Córdoba, Argentina: Universidad Nacional de Córdoba.
- Lastra, Yolanda
1968 *Cochabamba Quechua Syntax*. Paris: Mouton.
- Lira, Jorge A.
1944 *Diccionario kkechuawa-español*. Tucumán, Argentina: Universidad Nacional de Tucumán, Departamento de Investigaciones Regionales, Instituto de Historia, Lingüística y Folklore 12.
- López de Velasco, Juan
1971 *Geografía y descripción universal de las Indias*, edited by Marcos Jiménez de la Espada. Biblioteca de Autores Españoles, Madrid: Atlas.
- Ludeña de la Vega, Guillermo
1982 *Nueva coronica y buen gobierno: vocabulario y quechua utilizado por el cronista indio Felipe Guamán Poma de Ayala*. Prologue by Alcides Mendoza Castro. Lima: Perugraph Editores.
- Lyon, Patricia J.
1978 *Female Supernaturals in Ancient Peru*. *Nawpa Pacha* 16:95-140.
- Mannheim, Bruce
1991 *The Language of the Inka since the European Invasion*. Austin: University of Texas Press.
- Marcos, Jorge G.
1986 Intercambio a larga distancia en América: el caso del *Spondylus*. In *Arqueología de la costa ecuatoriana: nuevos enfoques*, edited by Jorge Marcos, pp. 197-206. Guayaquil: Centro de Estudios Arqueológicos y Antropológicos.
- Meisch, Lynn A.
1998 Columbe Area. In *Costume and Identity in Highland Ecuador*, edited by Ann Pollard Rowe, pp. 199-203. Washington, D.C.: The Textile Museum and Seattle, Washington: University of Washington Press.
- 1998 Saraguro. In *Costume and Identity in Highland Ecuador*, edited by Ann Pollard Rowe, pp. 263-277. Washington, D.C.: The Textile Museum and Seattle, Washington: University of Washington Press.
- Mester, Ann
1990 *The Pearl Divers of Los Frailes: Archaeological and Ethnohistorical Explorations of Sumptuary Good Trade and Cosmology in the North Andes*. Ph.D. dissertation, University of Illinois at Urbana-Champaign. Ann Arbor, Michigan: University Microfilms International. (Now a division of Bell & Howell Company.)
- Miller, Laura M.
1998 Salasaca. In *Costume and Identity in Highland Ecuador*, edited by Ann Pollard Rowe, pp. 126-144. Washington, D.C.: The Textile Museum and Seattle, Washington: University of Washington Press.
- Molina, Cristóbal de
1989 [1575] *Relación de las fábulas y ritos de los Incas*, edited by Henrique Urbano and Pierre Duviols. Madrid: Historia 16.
- Murra, John V.
1975 El tráfico de mullu en la costa del Pacífico. In *Formaciones económicas y políticas del mundo andino*, pp. 255-268. Lima: Instituto de Estudios Peruanos.
- Murúa, Martín de
1987 [1590] *Historia general del Perú*, edited by Manuel Ballesteros Gaibrois. Madrid: Historia 16.
- Parker, Gary John
1969 *Ayacucho Quechua Grammar and Dictionary*. Paris: Mouton.
- Paulsen, Allison C.
1974 The Thorny Oyster and the Voice of God: *Spondylus* and *Strombus* in Andean Prehistory. *American Antiquity* 29(4):597-607.
- Pérez Bonany, Alfonso, editor
(incorrectly catalogued by the Library of Congress under Hermann Buse de la Guerra et al.)
1975 *La Pesca en el Perú prehispánico*. Lima: Editoriales Unites, SBA, Lima for the Empresa Pública de Producción de Harina y Aceite de Pescado.
- Pillsbury, Joanne
1996 The Thorny Oyster and the Origins of Empire: Implications of Recently Uncovered *Spondylus* Imagery from Chan Chan, Peru. *Latin American Antiquity* 7(4):313-340.
- Ponce de León, Sancho Paz
1965 [1582] Relación y descripción de los pueblos del partido de Otavalo. In *Relaciones geográficas de Indias* 2, edited by Marcos Jiménez de la Espada, pp. 233-241. Biblioteca de Autores Españoles, Madrid: Atlas.
- Reichel-Dolmatoff, Gerardo
1971 *Amazonian Cosmos: The Sexual and Religious Symbolism of the Tukano Indians of Colombia*. Chicago: University of Chicago Press.
- Reinhard, Johan
1998 The Temple of Blindness: An Investigation of the Inca Shrine of Ancocagua. *Andean Past* 5:89-108.
- Roe, Peter G.
1974 *A Further Exploration of the Rowe Chavin Seriation and Its Implications for North Central Coast*

- Chronology. Studies in Precolumbian Art and Archaeology* 13, Washington, D.C.: Dumbarton Oaks.
- Rojas de Mendiola, Blanca
1978 *Red Tide Along the Peruvian Coast. In Toxic Dinoflagellate Blooms*, edited by Dennis L. Taylor and Howard H. Seliger, pp. 183-190. New York: Elsevier.
- Rostworowski de Diez Canseco, María
1975 Pescadores, artesanos y mercaderes costeros en el Perú prehispánico. *Revista del Museo Nacional* 41:311-350.
- 1977 Coastal Fishermen, Merchants, and Artisans in Pre-Hispanic Peru. In *The Sea in the Pre-Columbian World*, edited by Elizabeth Benson, pp. 167-186. Washington, D.C.: Dumbarton Oaks.
- 1988 *Conflicts over Coca Fields in XVIth-Century Peru. Memoirs of the Museum of Anthropology*, University of Michigan 21.
- Rowe, Ann Pollard
1998 *Costume and Identity in Highland Ecuador*. Washington, D.C.: The Textile Museum and Seattle: University of Washington Press.
- Rowe, John H.
1979 An Account of the Shrines of Ancient Cuzco. *Nawpa Pacha* 17:1-80.
- Salinas Loyola, Juan
1965 [1571] Relación y descripción de la ciudad de Loxa. In *Relaciones geográficas de Indias* 2, edited by Marcos Jiménez de la Espada, pp. 291-306. Madrid: Atlas.
- Salomon, Frank
1983 Shamanism and Politics in Late-Colonial Ecuador. *American Ethnologist* 10:413-428.
- 1987 Ancestor Cults and Resistance to the State in Arequipa, ca. 1748-1754. In *Resistance, Rebellion, and Consciousness in the Andean Peasant World, 18th to 20th Centuries*, edited by Steve J. Stern, pp. 148-165. Madison: University of Wisconsin Press.
- Salomon, Frank and George L. Urioste
1991 *The Huarochiri Manuscript: A Testament of Ancient and Colonial Andean Religion*, translated from the Quechua by Frank Salomon and George L. Urioste. Austin: University of Texas Press.
- Sámano, Joan
1967 La Relación Sámano-Xerez (1527-1528). In *Las Relaciones primitivas de la conquista del Perú*, edited by Raúl Porras Barrenechea, pp. 64-68. Lima: Instituto de Estudios Peruanos.
- Santo Thomas, Domingo de
1951 [1560] *Léxico, o vocabulario de la lengua general del Perú*. Lima: Instituto de Historia.
- Sharon, Douglas
1978 *Wizard of the Four Winds: A Shaman's Story*. New York: Free Press.
- Silverblatt, Irene Marsha
1981 *Moon, Sun, and Devil: Inca and Colonial Transformations of Andean Gender Relations*. Ph.D. dissertation, University of Wisconsin. Ann Arbor: Michigan, University Microfilms International. (Now a division of Bell & Howell Company.)
- Smith, Colin with Manuel Bermejo Marcos and Eugenio Chang-Rodríguez
1988 *Collins Spanish/English English/Spanish Dictionary*. London: Collins.
- Spain, Real Academia Española
1976 [1726] *Diccionario de la lengua castellana. Diccionario de autoridades: Edición Facsíl A-C*. Madrid: Editorial Gredos.
- Stoher, Karen E.
1995 Las albaradas tradicionales y el manejo de aguas en la península de Santa Elena. *Miscelánea Antropológica Ecuatoriana* 8:131-160.
- Taylor, Gerald
1987 *Ritos y tradiciones de Huarochiri del siglo XVII*. Lima: Instituto de Estudios Peruanos.
- Tello, Julio C.
1967 Medio geográfico andino. In *Páginas escogidas*, edited by Toribio Mejía Xesspe, pp. 1-26. Lima: Universidad Nacional Mayor de San Marcos.
- Tello, Julio C. and Toribio Mejía Xesspe
1979 *Paracas, segunda parte: Cuevas y Necrópolis*. Lima: Universidad Nacional Mayor de San Marcos.
- Thompson, Stith
1955 *Motif-Index of Folk-Literature: A Classification of Narrative Elements in Folktales, Ballads, Myths, Fables, Medieval Romances, Exempla, Fabliaux, Jest-books and Local Legends*. Volume 6, Index. Bloomington, Indiana: Indiana University Press.
- Topic, Theresa and John Topic
1989 Ritual Caches at Marcahuamachuco. Paper presented at the 20th Annual Meeting of the Institute of Andean Studies, Berkeley, California.
- Towle, Margaret A.
1961 *The Ethnobotany of Pre-Columbian Peru*. Chicago: Aldine.
- Tschopik, Harry Jr.
1951 *The Aymara of Chucuito, Peru: I Magic*. Anthropological Papers of the American Museum of Natural History 44(2).
- Uhle, Max
1922 Influencias mayas en el Alto Ecuador. *Boletín de la Academia Nacional de Historia* 4(10-11):205-240 (Ecuador). Wallace, Dwight, T.
- 1991 A Technical and Iconographic Analysis of Carhua Painted Textiles, in *Paracas Art and Architecture: Object and Context in South Coastal Peru*, edited by Anne Paul, pp. 61-109. Iowa City: University of Iowa Press.

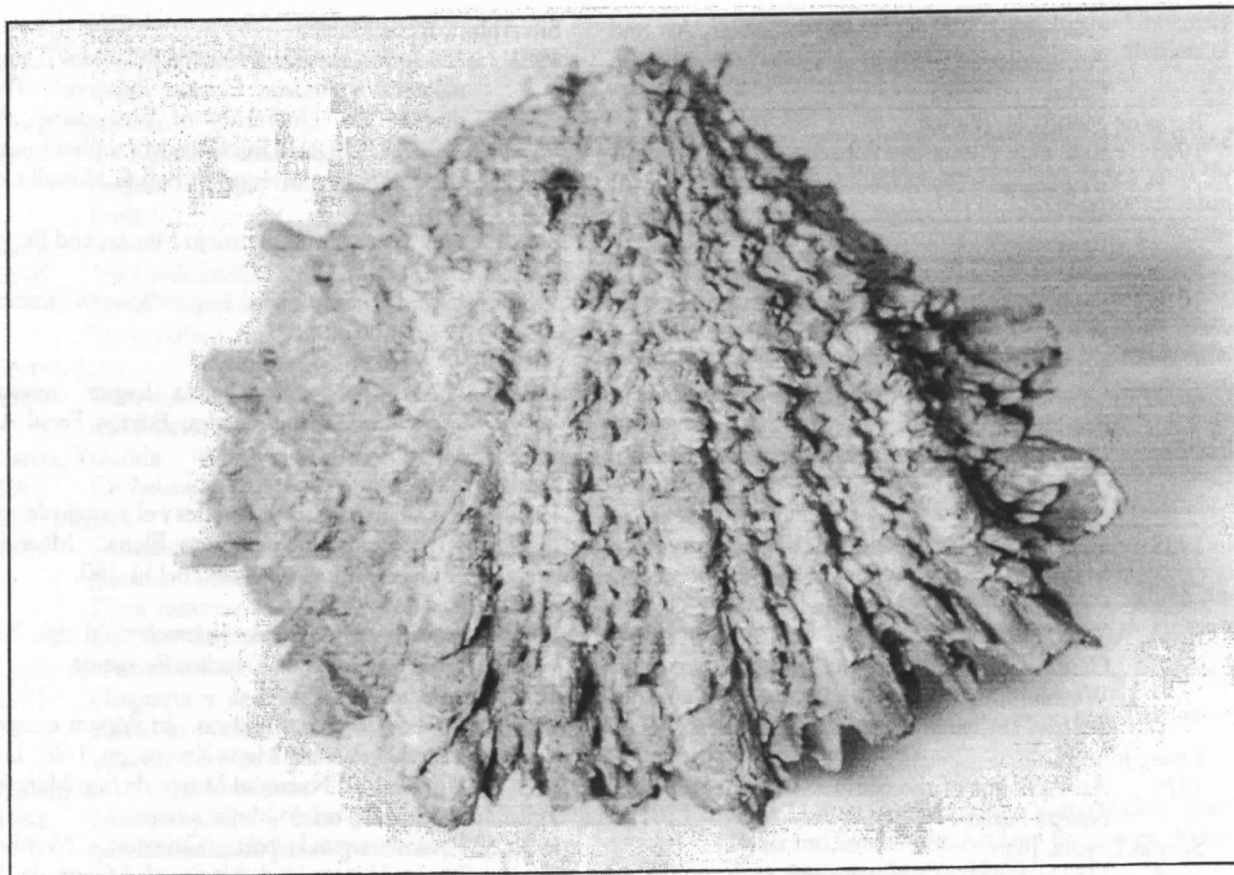


Figure 1. *Spondylus princeps* shell with spines removed (approximate width 12 cm). Photograph by author.

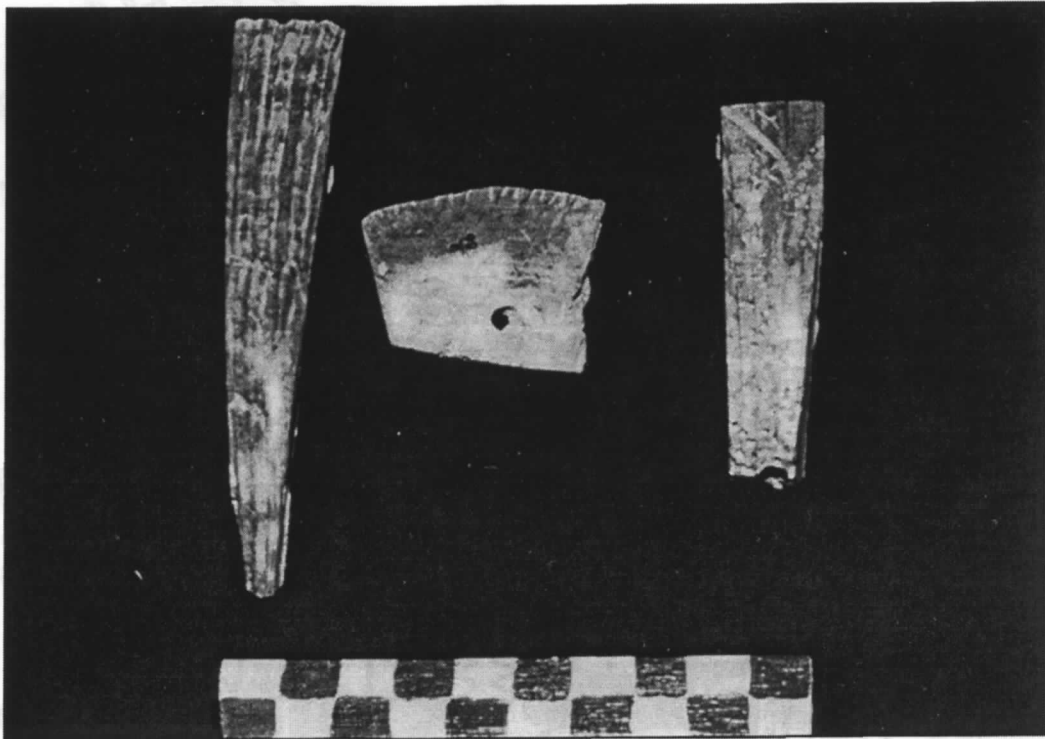


Figure 2. *Spondylus princeps* artifacts from the Cerro Narrío site in the Jacinto Jijón y Caamaño collection at the Universidad Católica del Ecuador, Quito. Photograph by author.

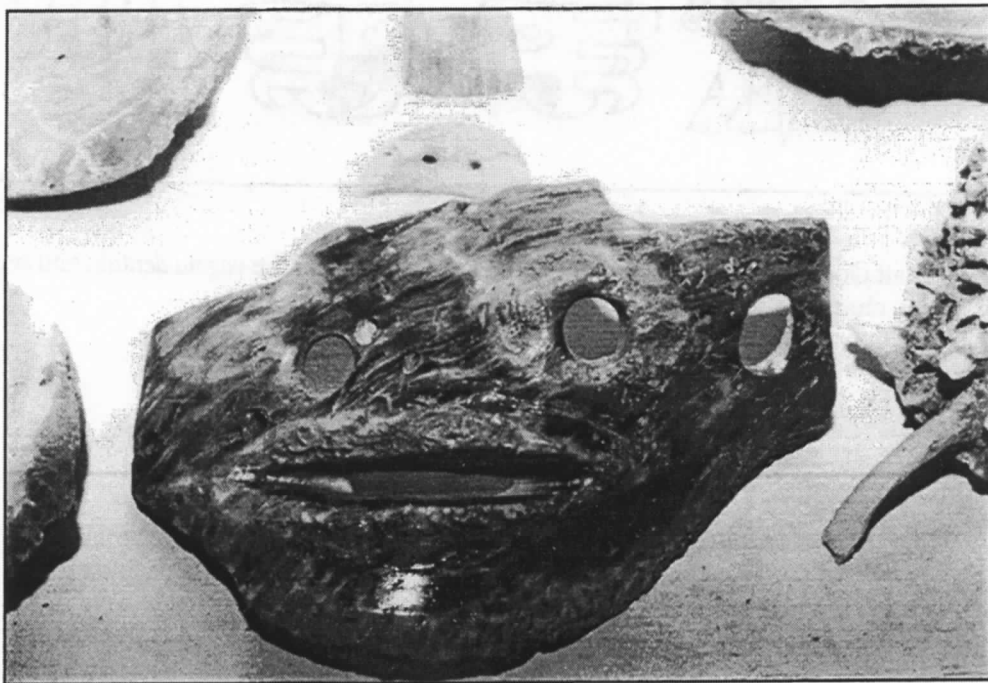


Figure 3. *Spondylus princeps* "feline mask" from Cueva de los Tayos surrounded by additional *Spondylus* artifacts. In the collection of Padre Pedro I. Porras G. at the Centro de Investigaciones Arqueológicas, Quito. Mask is approximately 24 cm. wide. Photograph by author.

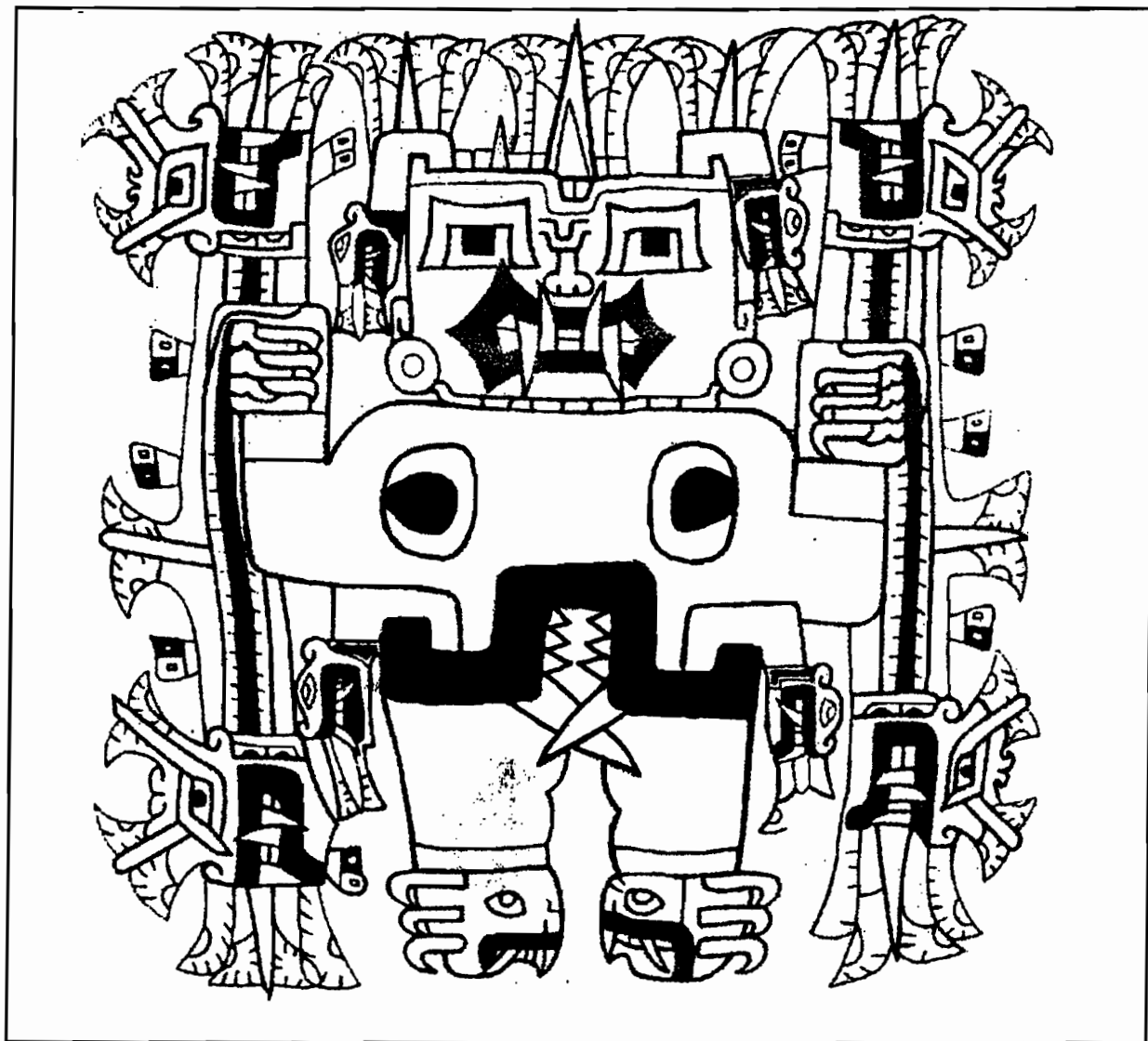


Figure 4. Staff Goddess from a Carhua-Chavín textile illustrating the *vagina dentata* and secondary female sex characteristics (from Roe 1974: figure 14).