Cosmic Gourds: Cucurbit and *Crescentia* Effigy Pottery of Coastal Ecuador[1]

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COSMIC GOURDS: CUCURBIT AND *CRESCENTIA* EFFIGY POTTERY OF COASTAL ECUADOR. This paper treats the identification of modeled images of cucurbits—gourds and squash—in the ceramics of the Late Formative Era (or Chorrera culture) of coastal Ecuador (ca. 900 B.C. to 100 A.D.). These images provide good evidence for the sophisticated cultivation of cucurbits by the native peoples of the coast of South America from very early time periods in Ecuador. Their importance in the iconography of Late Formative cultures certainly demonstrates that the domestication of fruits with both hard and soft rinds must have been well established by the time ceramic production had begun. Depictions of combinations of animals with cucurbit-shaped bodies in the mortuary ceramics of the Late Formative period also demonstrate that cucurbits were an essential part of life (and death) on the coast of Ecuador.

Key Words: Cosmology, Ecuador, gourds, squash, cucurbitaceae, Chorrera, South America, Late Formative.

Introduction

Cucurbits were one of the first cultivars of ancient New World peoples. They have been domesticated in South America for nearly 10,000 years, so perhaps it is not surprising that we should find these fruits depicted in the pottery made by the prehistoric peoples of coastal Ecuador (Piperno et al. 2000; Yacovleff and Herrera 1934–35).

Gourds, pumpkins, and squashes are all beautifully depicted on the bowls and bottles made by very early Ecuadorian cultures—the Early Formative Valdivia (3500–1000 B.C.) and Late Formative or Chorrera (900 B.C.–100 A.D.) cultures in particular (Meggers, Evans, and Estrada 1965). It seems clear that cucurbit-shaped ceramics, and probably also real cucurbits, were very important grave offerings and libation (religious liquid offering) vessels. They are some of the earliest types of vessels, and also some of the most common types to be found in the archaeological museum collections of the Central Bank collections (at Guayaquil and Quito) in Ecuador. The most regularly occurring bowls and bottles in these collections are very lifelike, and even life-sized, representations of cucurbits, with stems and stem scars and small growth flaws.

For the preceramic cultures of Central and South America, cucurbits must have been very important as containers. Their depiction in some of the earliest ceramics may have come about as pottery supplanted many of the functions of gourds and squash in daily life. Cucurbits are useful, of course, and have had a bewildering variety of uses, including as containers for water or food storage, as fish-net floats, and as plates, cups, dippers, and spoons (Heiser, Jr. 1979; Robinson and Decker-Walters 1997:24). Cucurbits have also been used as food, although most archaeologists and botanists tend to believe that the seeds were the first utilized part of the fruit rather than the flesh, which is often bitter (Bailey 1937). With cultivation, and the selection of nonbitter fruits, cucurbits could have become a basic staple in the diets of early inhabitants of the more arid areas of the coast. It appears that the maize-beans-squash complex familiar to Mexicanists may have been fully developed in Ecuador by the Late Formative era (ca. 2500 B.P.), and was certainly present in Panama by

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6000 B.P. (Piperno and Pearsall 1998; Stothert 1985; Whitaker 1983).

Bailey's (1937:14) definition of a gourd as ". . . a hard-shelled, durable fruit grown for ornament, utensils and general interest" covers nearly all the gourds and squashes, most of which belong to the family Cucurbitaceae (Bates et al. 1990; Bates et al. 1995). There is, however, one other type of plant which also meets this definition, that of the tree calabash or *Crescentia cujete* (in Ecuador known as *maté*, *pilche*, or *pilchimaté*), which is not a cucurbit but rather a member of the family Bignoniaceae.

The Assemblage

For this paper (see also Weinstein 1999), ceramic artifacts from the exhibits and in the storage areas of two major museum collections in Guayaquil, Ecuador—the Museo Arqueológico del Banco del Pacífico and the Museo Arqueológico del Banco Central del Ecuador (Guayaquil and Quito)—were identified and analyzed. Both of these collections include ceramics from the Jama Valley and the Río Chico/Portoviejo Drainage regions, as well as some from surrounding areas. As far as can be determined, most of the ceramics in the Banco Central (Central Bank) are from somewhere near the ceremonial site of San Isidro (in the Jama Valley in Northern Manabí province) and most of the ceramics in the Pacific Bank are from the Río Chico, sometimes called Las Chacras (in the Río Chico Valley in southern Manabí) and also from the Río Portoviejo Drainage (Fig. 1). Establishing the provenience of the pieces was taken as far as was possible in reference to their similarities to other pieces, and with reference to those pieces' proveniences as they were recorded by the museum staff at both venues

In addition to the ceramics (and other artifacts) which were examined in the two main collections, some ceramics from the Museo del Banco Central in Quito and the Herbert F. Johnson Museum at Cornell University were also included for comparative purposes. Although the Banco Central in Guayaquil seems to have cornered the market on figural vessels from the San Isidro area over the years, the Banco Central in Quito also has collections of San Isidro material, although not nearly as many as are housed in Guayaquil. (Unfortunately, time did not allow a thorough examination of the collections in Quito, and it was not possible to include this entire collection in the analysis). Some of the pieces which are in the catalogue published by the Banco Central in Quito, and in Valdez and Veintimilla (1992), are therefore included in the discussion here (as illustrations only) for comparison. The categories and types of figural vessels in the Quito collections appear to be essentially the same as those in the Guayaquil collections. The collections of the Herbert F. Johnson Museum at Cornell also has a small corpus of Ecuadorian ceramics. Ten of these were selected and studied as a group to be included in the analysis, also for comparative purposes. A total of 791 vessels were examined for this study.

Chorrera Ceramics as a Mortuary Tradition

The assemblage of ceramics which I (and many others) have been calling "Chorrera"—the group of finely made jars, whistling bottles, bowls, and maté vessels which are housed in museums and private collections all over Ecuador—is, in fact, not an assemblage per se, but a mortuary tradition which was shared by different groups on the coast and in the river valleys of coastal Ecuador. It may also have been shared by highland groups to some extent, but we do not have enough published evidence to infer this as well. As part of this mortuary tradition, particular kinds of vessels may have been made in specific regions and traded to other regions for luxury goods such as ritual kinds of shell (especially *Spondylus*), turquoise, obsidian, and crystal. This brief florescence of a highly symbolic ceramic tradition may have been abruptly ended by volcanic activity in the region or an El Niño event or both. Some continuity of symbolism and technique does appear in the early phases of Jama-Coaque ceramics; however, over time, the emphasis seems to shift more towards representations of human activities rather than natural symbols of animals and plants.

Chorrera ceramics are probably mortuary furniture. I make this assertion based on several lines of evidence, taking into account that no one has yet scientifically excavated a Chorrera burial with grave goods in it and published the results satisfactorily. Many of the ceramics in the assemblage are not particularly functional. Some of the iridescent bat and snake bowls may have been used, since they have use-wear marks on their interiors, but the ceramics do not look as though they were used and reused over long periods of time. Rather the bowls look as though they were used once, but quite intensively, as though for a particular

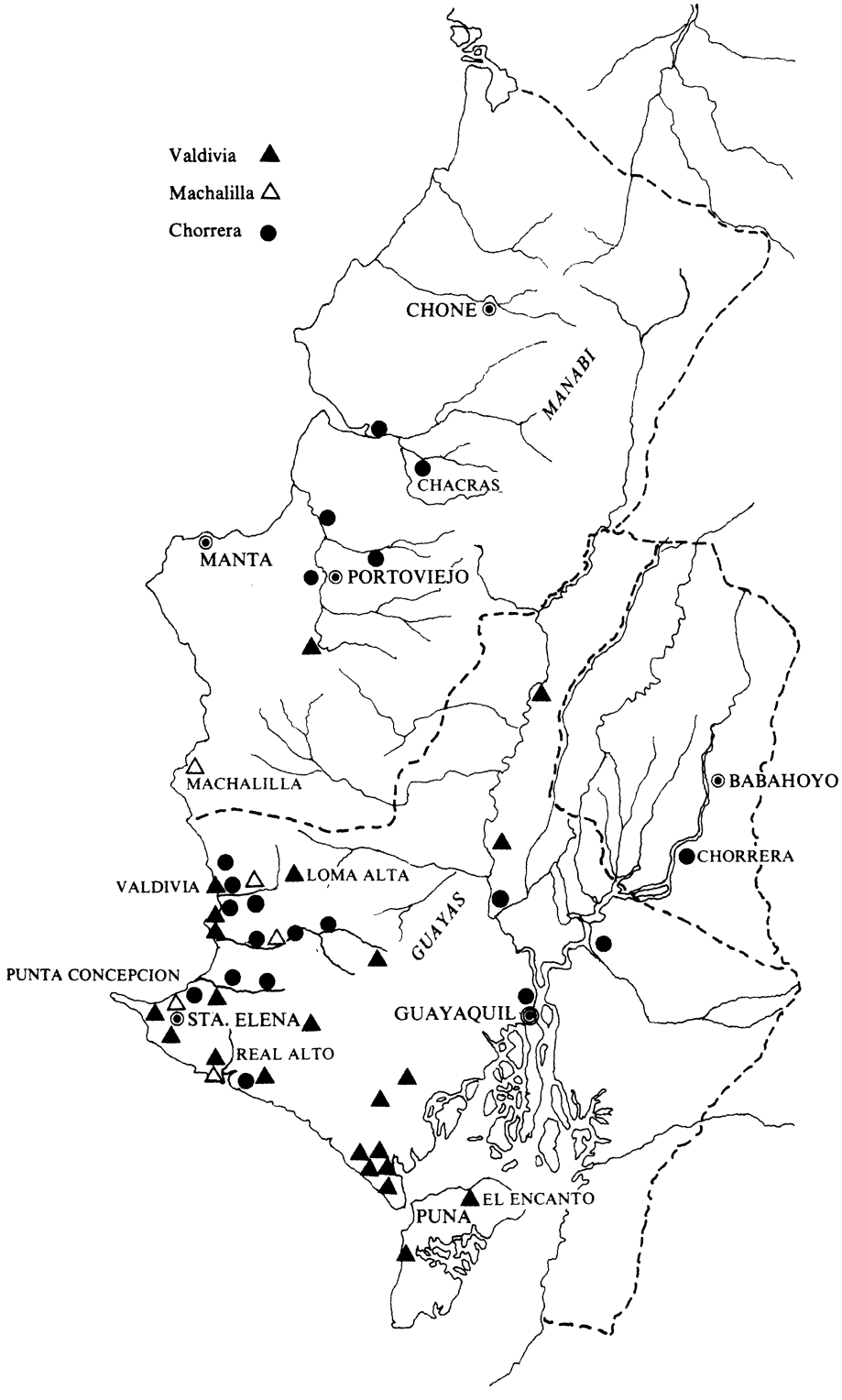

Fig. 1. Map of sites mentioned in the text (after Lathrap et al. 1975:11 Map 2).

ceremony. I would suggest that they were used by a group of mourners in a ritual experience before being interred with the deceased. There are a number of reasons for thinking that this is true.

First, there is a consensus amongst Ecuadorianist archaeologists and art historians that the fine ceramics are grave goods (Cummins 1992:65; Cummins1995:9; Estrada 1957:10; Norton 1992:26; Zeidler and Sutliff 1994:115). This supposition is based to a certain extent on hearsay accounts from tomb robbers, which indicate that the majority of fine ceramics are being taken from shaft tombs or from burial chambers constructed from stone slabs (Evan Engwall, personal communication 1997). Vicús-Moche ceramics from the North Coast of Peru, many of which are very similar to Chorrera forms, definitely come from grave lots (McEwan 1997).

Secondly, although it is possible that not all of the ceramics in the assemblage were mortuary goods, the fact that so many remain whole and intact argues for this supposition. Thirdly, the ceramics in the collections are of a similar style and demonstrate similar types of both form and decoration. There are certainly regional variations on particular themes, but overall the same themes and attributes are repeated over and over again with minor variations.

I would argue that this indicates that the ceramics in the collections are a representative sample of looted mortuary ceramics.

Fourth, ceramic forms from grave contexts which are very similar to the ones in the museums are illustrated or described in Estrada's (1957:94) overview of the prehistory of Manabí, Bushnell's (1951) report on the Engoroy cemetery at La Libertad on the Santa Elena Peninsula, and Zevallos' (1965) report on the Los Cerritos cemetery excavations in the Bahía de Santa Elena. Fifth, whistling bottles (vessels with a tall spout, a strap handle, and a whistle bulb with one or two holes at the base of the spout on the body of the vessel) seem to be one of the more significant forms in terms of the imagery in the assemblage and they also seem to be fairly rare in excavated material (Beckwith 1996). And finally, the imagery used on the ceramics seems to me to emphasize precisely those aspects which would or ought to be significant if the majority were funerary offerings.

The Cosmological Model

The generalized cosmology frequently cited in South American ethnography and iconography consists of three layers or worlds: the Celestial World, the Observable World, and the Underworld; my version here is based largely on the work of Reichel-Dolmatoff (1971), Roe (1982), and Stahl (1984). (A number of tropical forest groups have cosmological models which have more or fewer than three layers; however, Roe [1982] has demonstrated convincingly that, in fact, three essential layers or worlds are the basic building blocks of the model.) The three layers exist in both present time and mythic time, which is sometimes divided into the time of the ancestors and spirit time. The Celestial World and the Underworld, upper and lower, are usually equated with good and evil, respectively, and are invisible to most humans except shamans and those who partake of shamanic ritual power. The three layers are united by the World Tree or *Axis Mundi*, the (usually) hollow pillar which contains water, and which provided the world's edible plants to human beings. In the Observable World, the axis mundi is also the central pillar of the communal dwelling place, which may also be a temple dedicated to the worship of the ancestors and ancestral spirits. The house, or temple, is usually considered to be feminine, representing the womb or the belly, where people reproduce themselves. (Some groups also envision the house with its central pillar as a womb with a penetrating phallus.) The house is in the center, and this center is where ritual activity takes place: the spirits "talk" to men, the shaman does his or her curing, and this is where dances and other communal social activities take place. It is the area which is "safe" because it is tamed or civilized.

Outside of the center or tame place is the forest, the haunt of good and evil spirits and of wild animals. The forest is the source of good things (meat, wild fruits, and useful plants) but there is always danger lurking, either in the form of the animals themselves (e.g., jaguar or wild pig) or Forest Ogres and spirits, which are not *necessarily* malevolent but which might be if not propitiated properly. These evil spirits emerge from the Underworld or from pools and deep water. Houses are usually built close to rivers, and these are particularly important because they are the source of life (in both social and economic senses), but they are also potentially dangerous (because of flooding and the animals and spirits which live in the river). Rivers also connect present and mythic time. Other bodies of water such as lakes, pools, and deep springs connect the Observable World to the Underworld.

The known or Observable World contains the space inhabited by true men—the settlements of the tribe or related kin groups, and, on a smaller scale, the communal houses with their axis mundi or central pillars. It includes the house garden and the paths which lead to the river. Men and women interact in the world to ensure the continuation of the community. This is done through everyday acts and occasional ceremonies that restore harmony between the people and the forest, also part of the observable world but inhabited by animals and spirits which are only accessible to people (usually shamans but sometimes others) who make connections with them ritually.

The Underworld is a dark and earthy place inhabited by dead souls or evil spirits, and is associated with females. The Earth is a womb, albeit a cold one, which contains the dead and all that is decaying. Burrowing creatures such as earthworms (and maggots) and armadillos are associated with the Underworld as well. Gourds and other container-like fruits are also associated with wombs, and may contain stinging or biting insects. Liminal creatures, such as bats or owls, also inhabit this world, and they are often the representatives of dead souls. The Underworld can also be a watery place, inhabited by water spirits and fish. The anaconda and the cayman live here (avatars of what Peter Roe calls "the Dragon"), as does the Black Jaguar, which is associated with thunder and whose children (the Thunder Jaguars, which are malevolent dwarves) live in deep lakes (Reichel-Dolmatoff 1971; Reichel-Dolmatoff 1978; Roe 1982:127–263; Stahl 1984:32–50; Whitten and Whitten 1988).

In this context the ceramics themselves, as containers made of clay and water, make sense as part of the cosmological cycle. They are essentially of the lower level, associated with the uterus, women, and death, yet they are transformed into vessels (which can hold liquids and food) through fire (the sun). Gourd-shaped ceramics, therefore, should represent ideas about death and rebirth through the womb of the Earth Mother, transformed by the Sun Father. If we may take the generalized model as an accurate reflection of a Native Amazonian or Tropical Forest cosmology that has not been greatly changed over nearly three thousand years of Ecuadorian prehistory and history, then we can begin to interpret the figures on Chorrera vessels as part of a wider group of symbols derived from the model.

Method of Classification

The primary classification of the vessels into categories by vessel form was followed by a series of categories based on their iconographic content. Distinctions between the categories of animals and plants were made on the basis of their most immediately obvious natural characteristics (see more detailed descriptions below). All of the representational ceramics are either effigy vessels, which are naturalistic sculptural representations, or they are vessels which have small *adornos* (sculptured ornaments) or incised decorations on them.

Some of the vessels depict both animals and cucurbits. An example of such a vessel depicts a monkey sitting on the top of a type of cucurbit, which probably represents *Lagenaria siceraria* (Mol.) Standl. (Fig. 2).

Phytomorphic or Cucurbit-Form Ceramics

The phytomorphic vessels discussed in this paper were mainly identified as representations of particular species such as *Lagenaria siceraria, Cucurbita maxima* Duch. ex Lam., *Cucurbita moschata* Duch. ex Lam., or *Crescentia cujete* L. (Bignoniaceae) according to characteristics which are represented by the naturalistic modeling of the ceramics. It must be kept in mind, however, that cucurbits are highly variable in form and are more usually and easily identified by the peduncle (stem attachment). The spouts of some of the Chorrera whistling bottles can sometimes, but not always, be identified as peduncles (Fig. 3). Most of the cucurbits were identified by using illustrations from standard reference works (Heiser, Jr. 1979; Tapley et al. 1937; Zhiteneva 1930). Identification of the species represented in some vessels was facilitated by Dr. D. Decker-Walters, a botanist and well-known specialist in the Cucurbita (black and white photographs were sent to her by mail and were tentatively identified by her in 1996).

Numerical Counts of the Collections

In general, all of the numerical counts which are given here should be taken as approximates, since it was often difficult to determine exactly how many pieces there were on the overcrowded shelves of the museum storage facilities. An inventory of the collections was underway at the Banco Central museum while this study was undertaken; however, as the pieces were recorded by number and not by attributed culture, the numerical counts given here of

Fig. 2. Whistling bottle with monkey *adorno* (Banco Central Guayaquil GA-2-394-77).

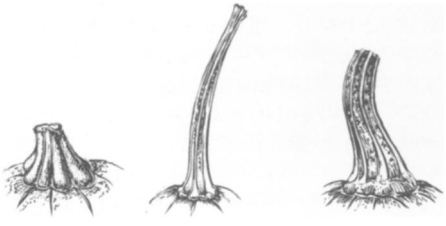

Fig. 3. Peduncles of *C. moschata* and *C. maxima* showing their resemblance to the spouts on Chorrera whistling bottles. Illustration by John A. Copley.

Fig. 4. Zoned incised whistling bottle resembling a bottle gourd (*Lagenaria* sp.) (Lathrap et al. 1975:35 Fig. 44 #390).

the Late Formative cucurbit effigy vessels are probably the best ones available at present.

Additionally, there are many private collectors in Ecuador who also have impressive collections. Fortunately, most of these collectors have complied with Ecuadorian antiquities laws, and their collections remain in Ecuador for study. This study analyzes only the publicly-accessible collections (for obvious reasons), but the private collections which were available for perusal provided some insights into regional differences which might not otherwise have been available. It must be said, however, that the appearance of a new private collection with different proportions of effigy or figural ceramics could change the percentages significantly, as well as the conclusions which are drawn from these percentages (cf. Legast 1993:101).

The whistling bottles from the Chorrera period mimic many of the possible shapes of the bottle gourd. The most common form is a simple globular bottle, tapering upwards, with a spout and strap handle. This vessel is usually not decorated, although the brown or reddish-brown slip is usually polished. A number of these bottles have small modeled animal or bird ornaments or *adornos* perched on their tops. Most of the bottles have one or two whistles, and some of the finest and most elaborately decorated whistling bottles have the

basic bottle gourd form (Fig. 4). Whistling bottles do not have any exact ethnographic parallels today, but a similar kind of ritual instrument/vessel made out of a gourd and a reed, used for various kinds of rituals (including mortuary rituals), can be found in the southern Amazon (Wilbert 1977).

About 25% (49 of 196) of the phytomorphic ceramics which were recorded in the museum collections probably represent *Lagenaria sp.,* but this number does not reflect the many plain slipped and polished whistling bottles, or the even greater numbers of plain polished jars. Some of the most distinctively decorated vessels and series of vessels are clearly based on *Lagenaria sp.* shapes. Many of the vessels with anthropomorphic and zoomorphic body forms (especially the whistling bottles) also seem to depict *Lagenaria* gourd forms simultaneously.

Lobed bottles and jars (sometimes described as "gadrooned" by archaeologists in Mexico and Peru) probably represent either *C. moschata* or *C. maxima.* There are 24 examples (about 12%) of multiple-lobed vessels in the collections, and among these are examples of both whistling bottles and *maté* vessels (*mate* vessels are small, round, flattened vessels with a small hole at the top which look very much like a gourd with a hole cut out where the peduncle is usually found). *C. maxima* is also called "winter squash" in some places, and both the warted variety and the turbaniform varieties seem to be represented in the Chorrera corpus. Vessels representing *C. maxima* and *C. moschata* may also have small animals depicted on them, in combination with the gourd or squash which is represented as the body of the vessel. Double-lobed bottles make up about 10% of the collection (Fig. 5).

Triangle gourds (a variant of *C. maxima* discussed below) and other warty *C. maxima/C. moschata* gourds/squashes make up about 2% of the collection. Representations of cut gourds which are unidentifiable as to species but which usually have a stem scar identifying them as cucurbits represent about 9% of the collection, and other unidentifiable whole gourds or squashes about 27%. The remaining 15% consists mainly of limepots, vessels smaller than 1" in diameter which have been identified as such through testing residue on their interiors (likely used as receptacles for *llipta*, the powdered vegetable ash which today is added to the quid of leaves in the cheek by coca chewers and is the catalyst for the alkaloids in coca [Lathrap et al. 1975:51 n.3]), a few fruits/nuts which are unidentified, and several red- and white-lobed ceramics that might be gourds or squashes but also might be representations of *achira* or other root vegetables, or even possibly *guajilote* or *guachilote* (*Parmentiera edulis*), a fruit tree related to *Parmientera.*

Lagenaria siceraria (Bottle Gourd)

Lagenaria's fruits come in many different sizes and shapes, but the two forms which are most characteristic are 1) the form from which the cucurbit takes its name, the bottle gourd, and 2) the "kettle-race" form which is basically spherical, with no neck. It is also slightly flattened vertically, with dimples in the areas of the blossom and stem scars (Lathrap 1974:121). Bottle gourds usually have a spherical globular body with a long neck, but this form can be altered by mechanical means, such as by tying a rag or a rope around the middle of the developing gourd (Speck 1941).

Whistling bottles from the museum collections depict many of the possible shapes of bottle gourds. The most common form is a simple globular bottle, which tapers upwards, with a spout and strap handle. Most whistling bottles have one or two whistles, and some are extremely finely made with very thin walls. Whistling bottles are usually not decorated, although the brown or reddish-brown slip is usually polished. All whistling bottles are built with the coiled construction typical of Chorrera ceramics in general (although anthropomorphic figurines were made from molds).

Some of the finest and most elaborately decorated whistling bottles have the basic bottle gourd form. One in particular deserves mention here. Figure 4 shows a bottle which is decorated with the iridescent paint (actually a slip applied to the vessel before firing which is made from clay with a very fine suspension of metallic particles in it), which characterizes the Chorrera period in Ecuador. It has very thin, hard walls and a finely-made spout and strap handle. The design on it is geometric, consisting of an incised band around the top of the bottle, with parallel lines forming four incised triangles below the band. Iridescent paint fills the space between the incised parallel lines, and finger spots of the same paint fill the space between the band and the triangles. The whole vessel is smudged black under the iridescent paint and is highly polished to a mirror shine. Some of the most distinctively decorated vessels and series of vessels are based on bottle-gourd forms, and many of the anthropomorphic and zoomorphic vessels also seem to be essentially *Lagenaria* forms.

Double-chambered or double-lobed whistling bottles also represent *Lagenaria* forms. These bottles are composed of two compartments, one of which has the spout at the top and the other which generally has a small *adorno*, usually in the shape of a bird, or sometimes a human, at the top. The compartments (really two bottles or lobes) are joined by a strap handle and a hollow bridge or tube at the bottom. The *adorno* has the whistle holes in it. These bottles were definitely made to whistle when they contain liquids, as no sound is produced when air is blown into the spout. Hernan Crespo Toral (1966:11 Fig. 11) illustrated the whistling technique with a double-lobed whistling bottle containing liquid: as the vessel is tipped sideways, the liquid forces the air out through the airholes in the *adorno*, thus causing the whistling sound. As the bottle is tipped the other way, air enters through the spout, thus beginning the process all over again. Filled halfway with water and tipped back and forth, it produces an eerie hooting noise.

Crescentia cujete (Calabash)

The fruit of wild Crescentia trees is small, with green, gourd-like fruits suspended underneath its branches, perhaps of six to eight inches in diameter, "but in cultivation the globular, oval or oblong fruits may reach lengths of nearly eighteen inches and be a foot wide" (Heiser, Jr., 1979:15). *Crescentia cujete*, or the calabash tree as it is sometimes called, is a small tree. "Few house gardens from southern Mesoamerica to the southern border of the Amazon Basin are without this tree, and it would be very difficult to guess what the original prehuman distribution was" (Lathrap 1973:732). These trees are found growing all over coastal Ecuador today, and it is said by local informants that up until about 40 years ago tree gourds reportedly grew much larger, up to more than two feet in diameter, and they were used for all kinds of storage and transporting goods, often water, in the drier regions of the coast (Evan Engwall, personal communication 1995).

Crescentia has its flowers fertilized by small bats of the Glossophaginae or long-tongued species (and sometimes also *Artibeus* sp.). "This subfamily includes bats that feed on flower nectar . . . These little bats are important or essential pollinators of many plants on whose nectar they feed. Bat-pollinated plants include balsa trees, ceiba (silk cotton) trees, and jícaro (calabash) . . ." (Emmons and Feer 1990:62). Alwyn Gentry (1980:37) also comments that "In the New World *Crescentia*-type or 'bat flowers' have evolved only in the tribe Crescentiae."

Crescentia cujete (Tree Calabash/Tree Gourd) in Chorrera Ceramics

Crescentia sp. might not normally be considered a candidate for identifying the species of gourds represented in Chorrera pottery, but for the fact that many of the ceramic bowls seem to demonstrate a relationship between gourds and bats. These bowls combine the shape of a half-gourd with a small *adorno*, or modeled ornament, in the shape of a bat on the rim of the bowl. The connection between half-gourd bowls and the bat bowls is simply a matter of looking closely at the bowls. Both large and small bowls are made to look like gourds cut in half, with an indentation just below the rim which is clearly intended to represent the stem scar of a gourd.

Bat Bowls

A bowl modeled in the shape of a bat with its wings outstretched is the most diagnostic bowl form for the Late Formative era (Fig. 6). Many of these bowls have a small figure on them which is usually identifiable as a bat (sometimes it looks like an opossum or a monkey) at a point in the rim where two curves meet. Some bowls have just a modeled head at this point, with either modeled hands and feet or nubbins at points in the rim where they would be appropriate if the bowl were really a bat. Bat bowls merge with the category of gourd-shaped bowls, which are similar in form but which may not always have a small figure or nubbins to indicate their identity as bats. The line between bat bowls and gourd bowls is sometimes difficult to define. Many bowls, however, have a characteristic "winged" form, even if they do not have a modeled bat on them. They also have appliqué nubbins to indicate what might have been depicted as the head and/or feet or claws of the bat. Bat bowls with small *adorno* figures on them and a convex base are quite elaborate, with "carved" rims. Most of these bowls have convex bases, but the rim always imitates the shape of the bat's wings. They often have a pair of incised lines (sometimes with incised dots at breaks) around the rim of the bowl and are slipped dark red, dark brown, or smudged black (Fig. 7 and 8).

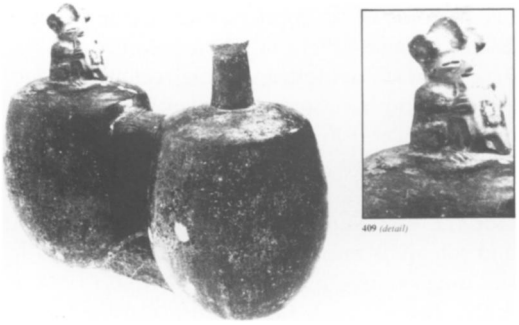

Fig. 5. Double-lobed whistling bottle with panpipe player (Lathrap et al. 1975:36 Fig. 46 #409).

Fig. 6. Bowl modeled in the shape of a bat (Lathrap et al. 1975:36 Fig. 47 #327).

Fig. 7. Bowl modeled in the shape of a bat (Lathrap et al. 1975:91 #329).

Fig. 8. Bowl modeled in the shape of a bat (Lathrap et al. 1975:91 #331).

Bat bowls may also be quite square or oblong. These fine bowls are recognizably similar to the others, but they have become essentially abstract renditions of the animal which they represent. Many of these seem to come from the Río Chico area, and some also have iridescent painting on their interiors. Most of these bowls have convex bases, although a few have annular bases or small pedestals. A series of bowls of this type from the Banco Central collections, which were probably made in the same workshop, have the same incised design on their interiors. Three of these four bowls were sold to the museum in the same year (1981). This indicates that they may have been in the same grave lot, or they may have been found together in a cemetery. One of these is clearly modeled as a gourd form with two interior compartments separated by thin wall (Fig. 9).

The flatter, more rectangular bowls may have been used as vessels for shamanic rituals involving the taking of hallucinogenic drugs such as *Brugmansia sp.* (tree Datura) or *Banisteriopsis* sp. (ayahuasca or yagé). The more brilliantly-decorated ones are often painted with iridescent patterns, which might have reflected the visions seen while under the influence of these substances.

Cucurbita maxima and *Cucurbita moschata*

Cucurbita maxima and *Cucurbita moschata* include a great variety of pumpkins, squashes, and gourds of different forms, colors, and types, and it is often very difficult to tell the difference between the species, especially if one only has the fruit. I believe that the diversity represented in the ceramics themselves indicates that gourds and squashes were fully domesticated, since many of these plants only yield round, melon-like fruits unless they are specially selected and cultivated.

"Triangle," another cultivar represented in the ceramics, is a variety of *C. maxima* which may have originated in South America (D. Decker-Walters, personal communication 1996). Triangle's fruit is described as ". . . unlike any other variety in shape, being trilocular and decidedly thicker-fleshed at the base of the lobes . . ." (Tapley et al., 1937:46). The ceramic forms of Triangle depicted here may be the earliest evidence for the cultivation of these odd gourds. The Triangle variety of *C. maxima* is represented on three bottles, two of which depict this form with a bird, possibly a gull, perched on its top (Fig. 10).

One of the most characteristic forms of *C. moschata* or *C. maxima* is the lobed or segmented form. Bottles and jars which are sometimes called "gadrooned" by archaeologists who have described them for other pre-Columbian cultures (Mexico and Peru) probably also represent either species of cucurbit (D. Decker-Walters, personal communication 1996), although I am inclined to identify them mostly as *C. moschata*, based on the resemblance of the spouts to the peduncles of this cucurbit. True "gadrooned" vessels are actually not very common in the Chorrera collections, but among these are examples of whistling bottles, as well as limepots (Fig. 11).

Warty *maxima* or *moschata* cucurbits are represented on three ceramic artifacts in the collections. One of these is a rattle with a whistle (Fig. 12). The cucurbits represented on these artifacts could be *Lagenaria*, which also has a warty form (Heiser 1979:78), but the occurrence of archaeologically-verifiable botanical remains of *C. maxima* in Peru strengthens the case for their probable cultivation in Ecuador (Towle 1961; Whitaker 1983). A musical instrument which is particularly associated with shamanic activity is the gourd rattle, or *maraca*, which is usually made from a stick attached to a gourd with small pebbles or seeds inside it and is shaken rhythmically. The wood handle is usually made from a special kind of wood (probably *chonta*, possibly either chontaduro (*Bactris gasipaes*) or chonta pambil (*Iriartea deltoidea*), and the gourd may be either *Lagenaria* or *Crescentia cujete* (Wilbert 1977; see also Speck 1941).

Conclusions

All of the ceramics discussed above provide good evidence for the sophisticated cultivation of cucurbits by the native peoples of the coast of South America from very early time periods in Ecuador. Some of the more unusual cucurbits, such as the Triangle variety of *Cucurbita maxima*, may have been domesticated in this region of South America and have spread to other regions (Cutler and Whitaker 1961; Piperno and Pearsall 1998). Their importance in the iconography of the Late Formative era in Ecuador certainly demonstrates that the domestication of fruits with both hard and soft rinds must have been well established by the time ceramic production had begun (Pearsall 1992; Towle 1961). Gourds also continue to be used ritually by many peoples in an enormous variety of ways in both the Lowlands (Reichel-Dolmatoff 1971; Whitten 1976; Wilbert 1963, 1970; Wilbert and Simoneau 1991, 1992) and the Highlands of South America (Reichel-Dolmatoff 1990), but so far no comprehensive ethnographic study of their uses has been undertaken.

In retracing the steps of the thought process which led to the interpretation of the "fancy" or "fine" ceramics of the Chorrera mortuary ceramic assemblage, I began with the representations of gourds. The elaborate bat bowls also seemed to be gourd-shaped, and were perhaps not of the species *Lagenaria siceraria* but of the species *Crescentia cujete* (see discussion above). Human and animal representations in this assemblage also have bodies which are shaped like gourds, especially bottle gourds.

These representations of gourds and squash as ritual vessels seemed to me to be important, partly because they were the most numerous and noticeable group of ceramics, but also because of their inherent meaning as metaphorical containers. In South American myth (past and present), gourds and ceramic objects "contain" both life and death. Gourds were probably the first "containers" of this sort, and were therefore imbued with ritual importance because of this purpose. Their ritual function as metaphorical containers could not be discarded when ceramics became preeminent, but was then incorporated into the creation of the physical container.

Chorrera whistling bottles' gourd-like shapes can be interpreted as representations of both male and female, with the body of the vessel representing a womb and the phallic spout. Many of the animal effigy vessels (representations of monkeys, for example) are modeled with the body in the shape of a *Lagenaria* gourd, and some depict small effigies with a prominent phallus which is part of the spout. Some of the human effigy figurines also appear to have half-gourd-shaped

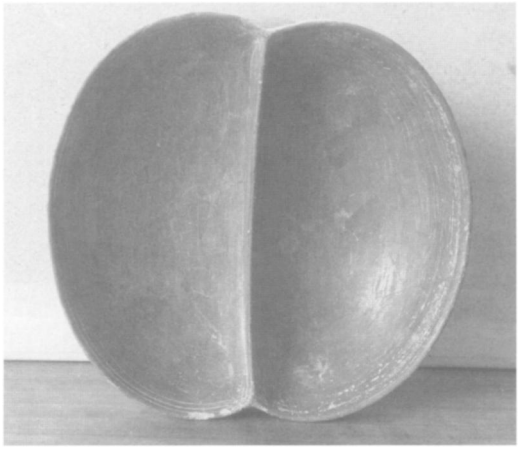

Fig. 9. Gourd-form bowl with two compartments (Banco Central Guayaquil GA-4-2103-81).

Fig. 10. Whistling bottle resembling a "Triangle" gourd (Banco Central Guayaquil GA-2-1500-80).

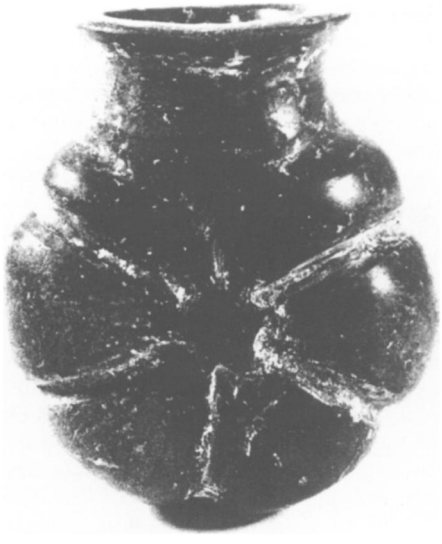

Fig. 11. Limepot resembling the segmented form of either *C. maxima or C. moschata* (Banco Central Guayaquil GA-421-200-76).

Fig. 12. Ceramic rattle with whistle (warty *Cucurbita maxima?*) (Banco Central Guayaquil GA-5-1122-79).

headdresses or helmets. Clearly the ceramic effigy vessels were intended to be an extension of the *ideal* of cucurbits—gourds and squashes as works of art which accompanied the dead into the afterlife, perhaps as food or drink, but possibly with more interesting connotations such as the generative organs.

The effigies may also be seen as part of a cosmology which accepts life in death and death in life as part of a cycle. The ceramics themselves, as containers made of earth and water, transformed by fire and air, make sense as combinations of the four elements of the cosmological cycle. Gourd-shaped ceramics, and, by extension the entire ceramic assemblage, represent in tangible form ideas about death and rebirth (and fertility) through the womb of the Earth Mother, as they do in much of the cosmology of Central and South America.

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