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A STUDY OF THE INTERRELATIONSHIP OF THE AUTHENTICATION  
OF ZAPOTEC URNS AND THE EVOLUTION OF MAIZE

by

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MARY W. EUBANKS. A Study of the Interrelationship of the Authentication of Zapotec Urns and the Evolution of Maize (Under the direction of DONALD L. BROCKINGTON.)

This study identifies races of maize on Zapotec urns which were made in pre-Columbian Oaxaca, and relates these identifications to our understanding about the evolution of maize in Mexico. Criteria for determining whether an urn is authentic or fake are established. Numerous fake urns in museums have escaped detection by experts and pose a problem for archaeologists and art historians. The botanical evidence, the criteria of provenience and attributes of deities represented on urns are considered. The urns are organized into categories of authentic, suspected authentic, suspected fake, and fake on the basis of how these criteria are interrelated. The races of Nal Tel, Chapalote, and Maiz Blando de Sonora were found to have existed in Oaxaca prior to the Spanish arrival, and the funerary urns have not, as previously assumed, established that dent corn is pre-Columbian.

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## CHAPTER I

### INTRODUCTION

The topic of this thesis is Zapotec funerary urns with molded representations of maize. Since the majority of them have been found in association with tombs or inside tombs, they have become known as funerary urns, a term which is not altogether fitting because many urns have been found as part of offerings buried in the floors of ceremonial centers, apparently unassociated with burial customs. Almost all these urns have been found in the Valley of Oaxaca, an area dominated by Zapotec speakers; thus they are called Zapotec funerary urns.

The purposes of this study are to identify the races of maize on these urns, to utilize the identifications in authenticating the archaeological specimens, and to contribute to the understanding of the distribution of the races of prehistoric maize.

#### Ceramic Background

Zapotec urns are ceramic vessels, usually cylindrical in shape with a figure depicted in front. The body of the figure is built out from the cylinder. The figures represent deities from the Zapotec pantheon, and are most frequently depicted seated cross-legged, wearing elaborate headdresses. There are hundreds of these urns in museum collections all over the world; a number of these urns have representations of maize depicted on them in the headdress of the figure, on the sides

of the figure, surrounding the vessel, or adorning other parts of the figure. The maize represented is often an impression taken from a mold which was made from an actual ear of maize. In one respect, the molded ceramic specimens are more helpful in making identifications of the races of maize than a modern photograph would be because measurements of the external characters of the ear can be determined and compared to other data that are available from collections that have been made of the different races of maize that exist in Mexico today.

Some archaeologists have expressed doubt that the maize on these urns is naturalistic, and they doubt it is possible to identify the races of maize on the basis of these specimens (Gordon Willey personal communication; James Griffin personal communication). Frank Boos refers to the impressions as "stylized representations of the stripped ear of maize," (1966b:178). There are many ceramics that have stylized representations of maize on them, but it is possible for a number of reasons to distinguish these from the molded naturalistic ears.

#### Botanical Considerations

The main reason the realistic ears of maize can be detected with a high degree of certainty is due to the unique morphological characteristic of the pairing of the rows of kernels, usually forming an easily detected zigzag pattern between the rows which are not paired. Pairing of rows is unique to maize of all the cereal grasses, and is a major difference from teosinte and *Tripsacum*, the closest relatives of maize (Mangelsdorf 1945:35). Prehistoric races of maize have been found by archaeologists, but these finds in Mexico have been of the cobs only, and botanists have had to make their identifications of the races on

the basis of the cobs alone. These ceramic biological specimens provide corroborative evidence for those identifications. It has been observed that an even number of paired rows results in straight kernel rows and an odd number in spiral rows (Nickerson 1953:79). It is this spiraling that makes some of the specimens appear, upon superficial examination, to have uneven rows, but the pairing can be detected by someone with a trained eye. Other morphological characteristics which are helpful in identifying the race of maize indicate that the specimens were molded from actual ears of maize. These are the size and shape of the kernels, the shape of the ear, and the number of rows of kernels. On stylized representations of maize the kernels appear to either be all even or all alternating. In the stylized forms the kernels are highly regular in shape, much more so than they are naturally. Impressions of maize have been found in prehistoric lava (Wellhausen 1952:15), and ceramic impressions of primitive wheats have been found in the Near East (Dimbleby 1967:133). These clear-cut impressions found in ceramics and lava are due to the tendency of grasses to build up silica in their fruits, leaves and stems. When the plants are burned, the silica remains leaving good impressions of the plant (Dimbleby 1967:133). Of all the plant remains found at archaeological sites, the maize cob occurs most frequently (Nickerson 1953:80), and Anna O. Shepard states that maize cobs are often used for smoothing the clay surface in the manufacture of ceramics (1971:67). It is easy to see how Zapotec potters in observing impressions from the cob in the wet clay could have readily extended this one step further by using the impression as a mold from which they were able to turn out exact

replicas of ears of maize. This argument is supported by the evidence that the use of the press mold is a common feature in Zapotec ceramics beginning as early as Monte Alban III-B, when the figures on the urns were made up of molded elements attached to the body rather than having all been carved out of clay (Paddock 1970:128). This is evident upon inspection of these pieces, especially when a group of five identical urns are found. The urns have frequently been discovered in groups of five in tombs, sometimes they represent five different deities and on occasion all five are exactly alike representing the same deity (Caso and Bernal 1952:10-11).

#### Archaeological Context

The capital of the Mexican state of Oaxaca is the city by that name which is located at the convergence of three valleys, a natural location for a capital. Monte Alban, a Zapotec political and religious capital for centuries, is located on a mountain just outside the city of Oaxaca. The urns in this study come from all parts of the valley, but the excavated ones are mainly from Monte Alban. The Valley of Oaxaca is in the southern highlands of Mexico; the average elevation of the valley floor is 1,550 meters. The climate is semi-arid with an annual rainfall of 500-700 millimeters which occurs mostly during the summer months. The temperatures in the valley are well adapted to the year-round planting of maize (Flannery 1967:445-449). The Zapotec Indians have inhabited this valley from as early as ca. 60 B. C., and have remained there to the present day (Jimenez 1970:12). Kent Flannery gives seven chronological periods: San Jose, 1200-900 B. C.; Guadalupe, 900-600 B. C.; Monte Alban I, 600-200 B. C.;

Monte Alban II, 200 B. C.-200 A. D.; Monte Alban III, 200-900 A. D.; Monte Alban IV, 900-1200 A. D.; Monte Alban V, 1200-1500 A. D. (1967: 447). The last five periods are termed Monte Alban because they were originally based on the findings of the excavations at Monte Alban. The urns included in this study are assignable to Monte Alban III and Monte Alban IV. Prior to this study it was assumed that a race of maize depicted on a Zapotec urn must have existed in the Valley of Oaxaca before the arrival of the Spanish. On the basis of this assumption, the chronological placement of the development of some races has been incorrectly assigned (Wellhausen 1952:14), because as early as the 1860's fake urns have been manufactured and sold as authentic Zapotec urns (Boos 1966b:15). It is proposed in this study that any urns with depictions of known modern races of maize can be considered fake, and further, that any urns with races that are not adaptable to the Oaxacan environment may be considered suspect or as having come from another region.

#### Methodology

In this study I have made identifications of the races of maize found on the urns in an effort to see what could be learned about the evolution of maize in Mexico. Since it is possible to date the urns reasonably closely, it is possible to date the races of maize as having been in existence at least as early as the manufacture of a particular urn on which a race appears. Logically, this seems quite sound, but the hypothesis is complicated by the problem of the fakes. In this paper fake refers to any piece that was not made before arrival of the Spanish in the New World. Many of these are so well executed that ex-

perts have difficulty in detecting them. Many have been made in and around Oaxaca by people who were quite familiar with authentic specimens and who used local clays and techniques. It is suspected that in some cases elements on forged urns have been molded from original pieces or even original molds. Molds have been found archaeologically. There are some on exhibit at the Museo Frissell de Arte Zapoteca in Mitla, Oaxaca. These factors exacerbate the problem of distinguishing authentic pieces from modern fakes. No technological method for the detection of modern forgeries has yet been used with any large degree of success. The application of thermaluminescence to ancient pottery is one such method that is currently being tested. This involves heating a thin cross-section of pottery or ground pottery to 400°C. The light output is measured and the glow curve of the ancient pottery is compared to the glow curve of a sample of modern pottery (Aitken 1968: 370). There are problems connected with thermaluminescence which have not yet been worked out well enough to allow for accurate dating of pottery, but it has been used with some Peruvian pottery. One of the problems is the effects of the soil and the amount of radiation the pottery will absorb from it. Different types of pottery that are the same age absorb different levels of radiation (Mazess and Zimmerman 1968:445-448). If these problems can be worked out, thermaluminescence may prove to be another important method in establishing the age of ceramic objects.

In dealing with the problem of fakes, I have had to rely on present knowledge from publications on the urns, the identifications of the races of maize, and an understanding one gains through close

study. Deities that are the subjects of the urns have certain attributes that are associated with each one, e.g., specific glyphs or masks with particular features. Such attributes are always expected to accompany representations of the deities; if there is a confusion of the element or an omission of a particular attribute, the authenticity of the specimen is questionable. These urns also show close conformity technically in the details of the figures represented and in the clay used in the manufacture of them which was centralized in specific localities in the Valley of Oaxaca. Any inconsistencies in the type of clay used in the construction of an urn also makes a specimen's validity doubtful.

The research for this thesis was done at the Museo Frissell de Arte Zapoteca, Mitla, Oaxaca; the Museo Nacional de Antropologia, Mexico, D. F.; the Museum of Natural History, Smithsonian Institution, Washington, D. C.; the Peabody Museum of Harvard University, Cambridge, Massachusetts; and the Botanical Museum at Harvard University. The work consisted of photographing the urns, including closeups of the maize, measuring the ear of maize, taking the diameter and length of the ear and the width and thickness of the kernels, and counting the number of kernel rows, taking notes on the museum catalogues, and studying the specimens firsthand. Of forty-one urns studied, ten are known to have been excavated and three have been designated false by museum authorities, leaving twenty-eight of uncertain origin. These are classified as "suspected fake" or "suspected authentic," as judged by the author. My judgments are based on the identifications of the races of maize, evaluations of the attributes, and the provenience given

in museum catalogues. By the very nature of the subject, the judgments are to a degree intuitive, and this should be carefully considered in weighing and testing the reasons given for placing an urn in one of these categories.

All the identifications of the races of maize made in this study were made by the author. After having made the identifications, I consulted Dr. Paul C. Mangelsdorf to verify them.

The format includes a discussion of the urns, followed by a description and discussion of each piece, with a photograph of each piece. This is followed by a discussion of my findings in relation to the evolution of maize in pre-Columbian Mexico and the significance thereof, in addition to a discussion of the possibilities afforded by continued research on this topic.

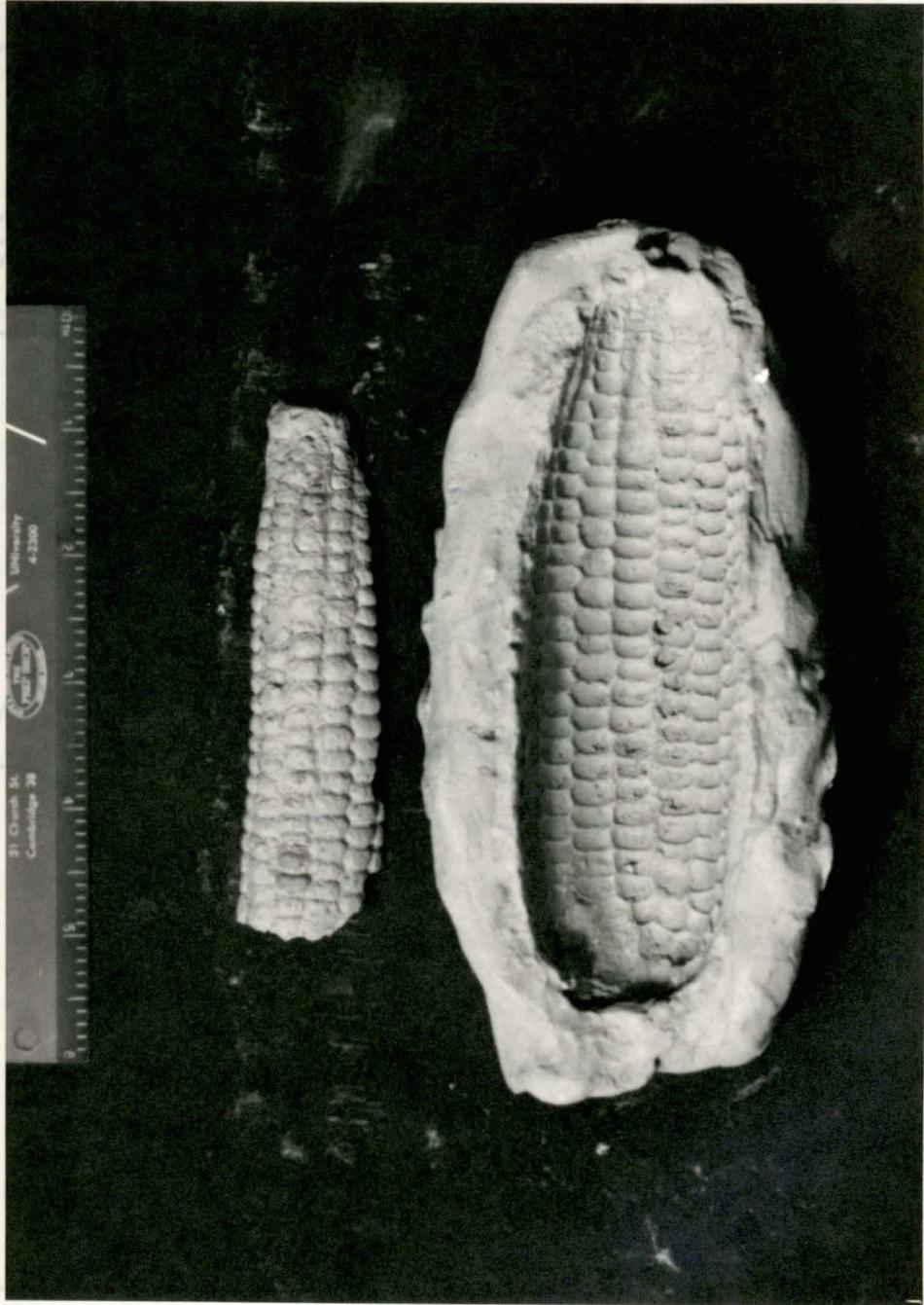
Plate 1. An example of the God of Glyph "L" in stone. It depicts stylized ears of maize in the headdress. This is a good example of the way kernels are frequently depicted in stylizations; the kernels are all uniformly square and all the rows are even. Museo Nacional de Antropologia, Mexico, D. F. (Henceforth, the abbreviation MNA will be used.)



Plate 2. Cocijo. MNA. Cat. no. 6-663. Height: 21 cm. Provenience: Zaachila. This is another example of stylized ears of maize in the headdress. There are only two rows of kernels on each ear. The flowing lines emanating from the top of the ear and flowing out to the sides of the ear represent stylized silks, the tassel of the maize plant which is the terminal male inflorescence. Of all the members of the grass family, this is a distinctive and highly specialized feature of the maize plant (Milne and Milne n.d.:313).



Plate 3. Impression and mold of ear of maize. On the right is a clay mold I made from an actual ear of maize; on the left is the impression of the ear made from the mold. These pieces were unfired, and the ear impression was slip cast rather than press molded causing the large amount of shrinkage seen in this photograph. I have made molds and fired them, then used them for making pressed impressions as the Zapotecs did and the shrinkage resulting from that method is considerably less, closely approximating that obtained by William O. Payne in his experiments using clays from the archaeological site Lambityeco in the Valley of Oaxaca. The linear shrinkage, plastic to dry, for the body that most of the objects found at the site were made of, was 5.0% (1970:8).



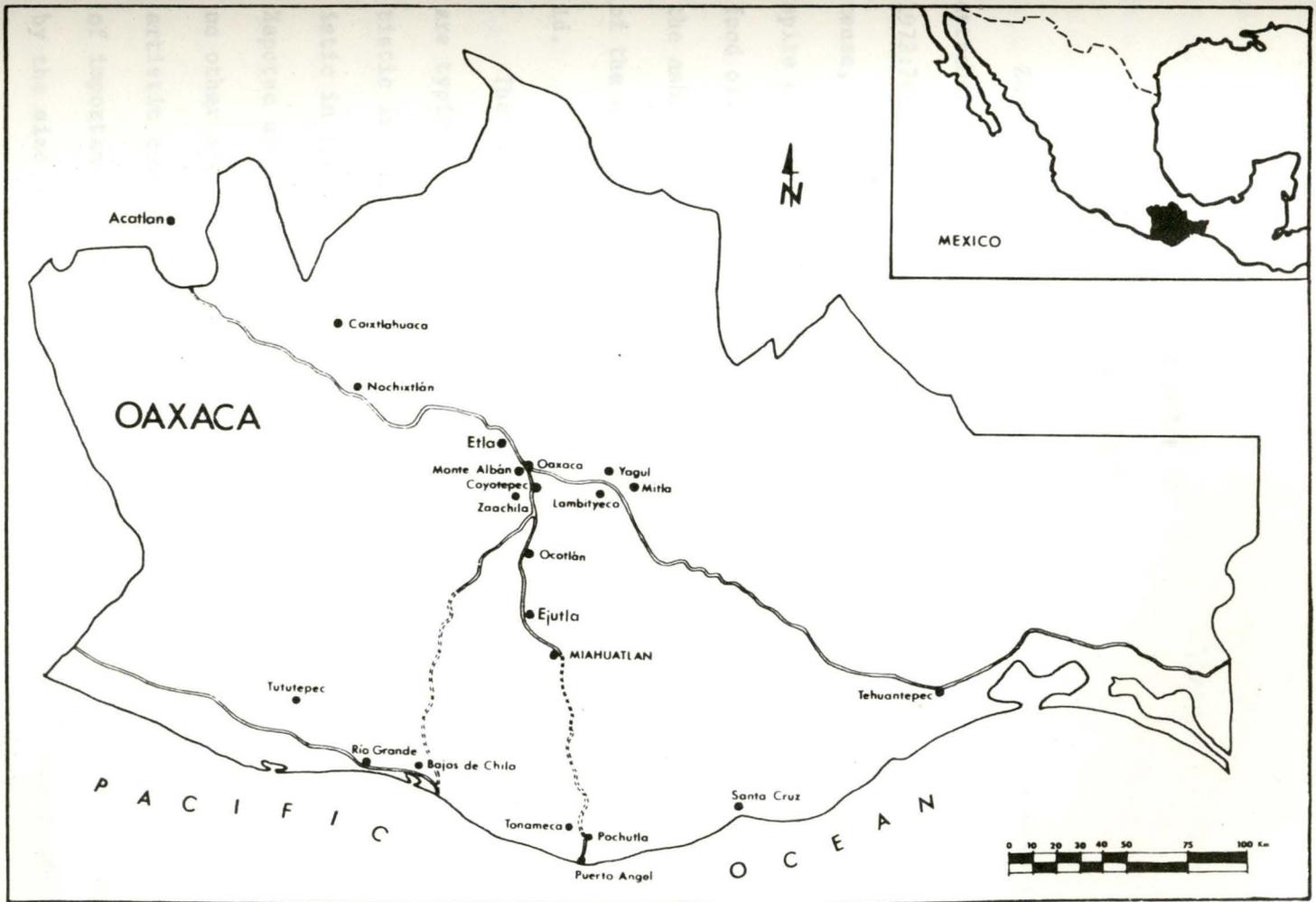


Figure 1. Map of the State of Oaxaca, Mexico.

## CHAPTER II

### THE URNS

Zapotec urns have been found in tombs, in niches outside tombs, attached to facades, over doorways, and in temple offerings (Lothrop 1972:76). They have not been found to contain food or liquid, incense, ashes or bones; they are found empty (Anton 1969:48). In spite of this knowledge, some authors suggest that the urns contained food offerings to the dead, were used as incense burners, or contained the ashes of the dead (Linne 1938:90; Mason 1929:177). On the basis of the evidence, however, these explanations must be considered invalid.

The urns have maintained their form for over a thousand years and are typical of Zapotec culture (Anton 1969:48). Although outside artistic influences can be noted, artistically these urns are characteristic in the sense that they "bear the unmistakable stamp of his (the Zapotec artist's) own peculiar psychology" (Joyce 1927:99). There is no other art form like these urns in Mesoamerica, and certain notable artistic conventions recur in the style. There is a relative degree of importance assigned to the different parts of the figure, evidenced by the size and attention to detail given to them. These are discussed here, beginning with the most important first and following in order of degree of importance. The headdress, technically termed the tocado, is the most important and outstanding feature of an urn. The elements of

the headdress have special significance for the deity, or nagual, the guardian spirit or alter ego of the deity that the urn may represent (Boos 1966a:17). The second most important aspect is the face, which often has a characteristic nasal or buccal mask. Third is the pectoral ornament, a necklace which often has a characteristic glyph medallion displayed on the figure's breast. Next to be considered is the figure's personal jewelry, which indicates status. Lastly, come the arms, hands, legs and feet. The limbs are often clumsily modeled. Frequently, large, mold-made hands are attached at odd angles. The feet are commonly out of proportion, roughly modeled, having two to four toes. The most common posture has the figure seated cross-legged with the hands, palms downward, on the knees.

The urns represent numerous deities associated with Zapotec life, with attributes that are symbolic of such aspects as the calendar, life and death, sustenance, and normal quotidian events (Boos 1966a:19). Alfonso Caso and Ignacio Bernal's remarkable volume Urnas de Oaxaca was the first scientific attempt to classify the urns. Approximately forty-four categories, with a total of one hundred thirty-eight subcategories, have been established. For the most part, I have followed the classification system developed by Caso and Bernal (1952).

Of all the urns in museums all over the world, urns representing Cocijo are most numerous (Caso and Bernal 1952:17). Cocijo, the God of Lightning and Rain, was the most important deity in the Zapotec pantheon. Since maize was the mainstay of pre-Columbian life (Coe 1969:46), and the development and survival of urban society depended on the successful production of maize, it is easy to see why the deity con-

trolling those elements upon which the success of maize and other crops depended was so important to the Zapotecs. Even so, Cocijo is not included in Caso and Bernal's "Maize Complex," and of the many Cocijo urns in the numerous collections all over the world, comparatively few have depictions of maize. But of the urns with depictions of maize included in this study, there are as many urns representing Cocijo as there are of the God of Glyph "L" who is considered the principal Maize God. The primary attribute associated with Cocijo is the mask with its respective elements: the bifurcated tongue extending from the open jaws (characteristic of the serpent); the nasal and buccal elements which are bands over the nose and cheeks giving the feline characteristics; "merlon-shaped eyebrows" said to represent the heavens, a high place, or infinity; and the squared, indented, lower eyelids representing clouds (Boos 1966a:27). The "C" glyph centrally located in the tocado also seems to be a characteristic attribute, although there are exceptions where it does not occur. Cocijo extends chronologically from Monte Alban I through Monte Alban V, and is the most pervasive category of all the urns (Boos 1966a:27).

The God of Glyph "L" was so named by archaeologists because of the elements above and below each eye, which are like the Zapotec Day-Sign which refers to movement or earthquakes. This Day-Sign was labeled glyph "L" (Caso 1928:39-40), and by extension Pitao Cozobi, which is the Zapotec name for this deity who became more popularly known in the literature as the God of Glyph "L", although no "L" glyph is represented with the figure and the deity is not associated with earthquakes. Characteristic attributes of the deity are the eye elements, referred

to as aspas, a nasal mask or nose knot, a buccal mask, lines curving around each cheek, and the "C" glyph forming the central element of the tocado. This deity came into existence in Monte Alban III-A, and thereafter became quite widespread (Boos 1966a:177-178).

The category of the God with the Ear of Maize in His Headdress is generally represented by a figure with a "C" glyph as the central medallion of the tocado which is superimposed with a stylized ear of maize. For the purpose of this study, this category has been extended, as proposed by Boos (1966a:348), to include figures which have as the central element of the tocado two hands holding a naturalistic ear of maize, and some which have naturalistic ears of maize standing vertically in the headdress. Since the remaining categories are represented by only one specimen, the characteristic attributes associated with that deity are discussed in the description of the specimen.

The following descriptions of the urns are divided into four main parts: authentic; considered authentic; suspected fake; and fake. Under each of these main groups, the division of categories is according to the deity portrayed on the urn or the provenience of the specimens. Provenience is important in determining whether or not a specimen is fake, because there are certain localities in the Valley of Oaxaca where actual factories for the production of forged urns have been established and operated at various times. These places have not been published. Knowledge of such locations and surreptitious activities is common among archaeological specialists but cannot be formally demonstrated, for reasons that should be obvious. My information re-

garding these comes from different authorities on Oaxacan archaeology with whom I discussed the problem in the course of my research. They shall remain unidentified.

### CHAPTER III

#### THE AUTHENTIC URNS

These urns are authentic because they were found by archaeologists in tombs. The urn in Plate 4 was discovered in Tomb 124 at Monte Alban. It represents the God of Glyph "L" and I have assigned it to Monte Alban III-B, but it may more correctly fit in Monte Alban IV. I placed it in III-B because the form of the "C" glyph which is the central medallion of the tocado was going into extinction during Monte Alban IV (Leigh 1970:263). However, John Paddock says that the row of four tassel elements bordering the loin cloth did not come into use until Monte Alban IV (personal communication). The tocado on this figure is quite elaborate, the central medallion being surmounted by elements representing feathers. This feather adornment in the headdress is referred to as a penache and here it is flanked on either side by an ear of maize displaying a staminate tip and stylized silks. The stylized silks have previously been discussed. The staminate tip is the male spike that was borne on the upper part of the ear of pre-Columbian races of maize and that still occurs in the races of Nal Tel and Chapalote in Mexico, Pollo of Columbia, and Confite of Peru (Mangelsdorf 1958:460). There is a wide band supporting the tocado which is an S-shaped element which may represent water (Leigh 1970:257) on each side of the "C" glyph. The treatment of the face includes all the characteristic elements of the God of Glyph "L" including the aspas which is

the bifurcated, curling tongue, and the buccal and nasal masks. The mouth is open with the teeth showing just as it is commonly depicted on the figurines from Oaxaca and which is also characteristic of the facial expression seen on many rural Zapotec speakers today (Brockington personal communication). This characteristic is common on most of the urns. This figure wears the characteristic pectoral ornament, and to the best of my knowledge, the glyph adorning the breast is one that has never been identified or explained, though it occurs frequently on the urns. The figure wears elaborate earspools and a bracelet on each wrist; it also wears a feather cape around the shoulders and a decorative loin cloth. It is in the usual posture seated cross-legged with the hands on the knees palms downward. This urn is illustrated in Caso and Bernal (1952:93, Fig. 153) pictured before reparations were made to the piece. In Plate 4 it appears in the restored state.

The photograph in Plate 5 shows a closeup of the ear of maize on the left in the headdress. The right ear was restored and does not represent a naturalistic ear of maize. The ear shown in Plate 5 is a section of a full ear, and this is the way these naturalistic representations are often depicted on the urns. When it occurs this way, the identification of the race is based on the size and shape of the kernels, the number of rows, and the diameter of the ear. The dimensions for this ear closely resemble those for Blando de Sonora, the prehistoric race from Canon del Muerto, Arizona (Anderson and Blanchard 1942:833-834). The average ear length of the specimens from Canon del Muerto is  $11.4 \pm 2.9$  cm; the average kernel width is  $8.2 \pm 1.0$  mm; and the average number of rows is  $12.3 \pm 1.8$ . These specimens

are dated ca. 500-700 A. D. (Anderson and Blanchard 1942:832). Blando de Sonora is a flour corn which was probably derived from the introgression of Chapalote and Reventador into Harinosa de Ocho (Wellhausen, et al. 1952:198). This race has not been previously reported from Oaxaca.

The God of Glyph "L" with all the characteristic attributes is shown in Plate 6. The "C" glyph appears as the central medallion of the tocado surmounted by a penache which is flanked on either side by an ear of maize with stylized silks and staminate tips. The headband supporting the tocado has an S-shaped element on either side of the central medallion. The face has a nasal and buccal mask, and the mouth is open with the teeth showing. It wears the pectoral ornament, elaborate earspools, a bracelet on each wrist, a feather cape around the shoulders, and a loin cloth. All the elements are like those of the urn in Plate 4, with the exception of the border elements on the loin cloth, and the race of maize appearing in the headdress. The border element on the loin cloth here is the inverted pyramid which represents the Sky God (Howard Leigh personal communication). The race of maize in the headdress has been identified as Nal Tel. This description applies equally to Plates 8 and 10. These figures show three of the five identical urns which were found in Tomb 40 at Monte Alban. These are illustrated by Caso and Bernal (1952:92, Figs. 152 and 153). In Plate 7 can be seen a closeup of the ear of maize on the left side of the figure, and in Plate 9 the ear on the right side. The ears of maize occurring in the headdresses of these urns are impressions which were

all taken from the same mold. The race has also been identified as Nal Tel.

Another specimen of the God of Glyph "L" was excavated at Monte Alban (Plate 11). The central medallion of the tocado is glyph "C" which is surmounted by a penache flanked on each side by an ear of maize with stylized silks and staminate tips. The nose has been damaged, but the usual buccal mask and elements associated with the deity occur. The figure wears the same pectoral ornament, a bracelet on each wrist, and the elaborate earspools also seen on the four previous urns. He is seated in the characteristic cross-legged position, and wears a feather cape and plain loin cloth. A closeup of the maize has not been included, so the dimensions are presented here. The length of the ear is 2.65 cm; diameter is 2.55 cm; width of kernel is 7.9 mm; and thickness is 4.6 mm. Again, this is an eight-rowed ear and has been identified as Nal Tel. This urn is also pictured in Caso and Bernal (1952: 94, Fig. 155).

The sixth specimen of known origin also represents the God of Glyph "L", and was found in the antechamber of Tomb 31 at Monte Alban (Plate 12). It was one of five identical urns, and an illustration of these in situ can be seen in Caso and Bernal (1952:93, Fig. 154). This piece has been repaired and ear of maize on the left is not authentic. The figure has the characteristic attributes that have previously been associated with the God of Glyph "L", this time with the tassel element bordering the loin cloth. This figure is unusual, however, because it is seated on a square pedestal which represents a type of throne, evidenced by the elaborate carving work that appears on the side panels in

back of the figure, and technically known as the dossel. There are two examples of figures with dossels that can be seen in Boos (1966a: 185 and 269, Figs. 164 and 247).

The final specimen of known origin is also the God of Glyph "L" which was excavated at Lambityeco, a Monte Alban IV archaeological site in the Valley of Oaxaca (Plate 14). The decline in ceramic technical quality that is diagnostic of Monte Alban IV is well illustrated by this specimen. There is a glyph central medallion in the tocado, but it cannot be identified as even a late form of the "C" glyph. The headdress is composed of three standing ears of maize, but they are not full ears as might be expected. It is easily seen that each ear came from the same mold, although the center ear is wider as a result of having been flattened out when it was applied to the urn. The diameter of the ears on each side is 2.65 cm, and the length of these ears is 3.65 cm. The kernel width is 7.2 mm, and the thickness is 3.6 mm. It has ten rows and can be identified as Nal Tel. I have declined to give the dimensions of the ear in the center because I believe these to be distorted in the ceramic application. The face of the figure has the nasal and buccal masks. The eyes, however, appear more characteristic of Cocijo than the God of Glyph "L." The pectoral ornament can be identified as the "E" glyph (Caso 1928:32, Fig. 8).

Plate 4. God of Glyph "L." MNA. Cat. no. 6-6223. Height: 34 cm.  
Width: 29 cm. Color: dark gray. Provenience: Tomb 124, Monte Al-  
ban. Period: Monte Alban III-B.



Plate 5. Closeup of maize. It depicts stylized silks and staminate tips on the God of Glyph "L." MNA. Cat. No. 6-6223. Length of ear: 3.4 cm. Diameter: 3.1 cm. Width of kernel: 7.5 mm. Thickness: 3.6 mm. 8 rows. 1.2X actual size. Race: Blando de Sonora. The zigzag pattern formed between alternating paired rows can be clearly detected in this photograph. Blando de Sonora is essentially the same as Wellhausen's Harinoso de Ocho.



Plate 6. God of Glyph "L." MNA. Cat. no. 6-2293. Height: 32 cm.  
Width: 30 cm. Color: Buff with a rough patina. Provenience: Tomb  
40, Monte Alban. Period: Monte Alban III-B.



Plate 7. Closeup of maize. It depicts stylized silks and a staminate tip. MNA. Cat. no. 6-2293. Length of ear: 2.9 cm. Diameter at base: 2.3 cm. Diameter at tip: 1.1 cm. Width of kernel: 4.75 mm. Thickness: 3.6 mm. 10 rows. 1.4X actual size. Race: Identified as Nal Tel.



Plate 8. God of Glyph "L." MNA. Cat. no. 6-2290. Height: 32 cm.  
Width: 30 cm. Color: Buff with rough patina. Provenience: Tomb  
40, Monte Alban. Period: Monte Alban III-B.



Plate 9. Closeup of maize. It depicts stylized silks and a staminate tip. MNA. Cat. no. 6-2290. Length of ear: 2.9 cm. Diameter at base: 2.3 cm. Diameter at tip: 1.1 cm. Width of kernel: 4.75 mm. Thickness: 3.6 mm. 10 rows. 1.5X actual size. Race: Nal Tel.



Plate 10. God of Glyph "L." MNA. Cat. no. 6-2289. Height: 32 cm.  
Width: 31 cm. Color: Buff with rough patina. Provenience: Tomb  
40, Monte Alban. Period: Monte Alban III-B.



Plate 11. God of Glyph "L." MNA. Cat. no. 6-6717. Height: 28.3 cm.  
Width: 22.2 cm. Color: Dark gray. Provenience: Patio 1 of Tomb  
138, Monte Alban. Period: Monte Alban III-B.



Plate 12. God of Glyph "L." MNA. Cat. no. 6-6754. Height: 30 cm.  
Width: 26.7 cm. Color: Gray with buff traces. Provenience: Ante-  
chamber of Tomb 31, Monte Alban. Period: Monte Alban III-B.



Plate 13. Closeup of maize. MNA. Cat. no. 6-6754. Length of ear: 3.3 cm. Diameter: 2.2 cm. Width of kernel: 6.5 mm. Thickness of kernel: 3.75 mm. 8 rows. 1.1X actual size. Race: Identified as Nal Tel. This impression shows a good example of the straight line formed between the paired row of kernels and the zigzag line formed between the rows of kernels that are not paired.



Plate 14. God of Glyph "L." Museo Frissell de Arte Zapoteca, Mitla,  
Oaxaca. Cat. no. 6883. Height: 18 cm. Width: 10.6 cm. Color:  
Gray, friable. Provenience: Lambityeco, Oaxaca. Period: Monte  
Alban IV.



#### CHAPTER IV

#### THE URNS CONSIDERED AUTHENTIC

At the time of this writing, the urns in the two categories "considered authentic" and "suspected fake" are so placed on the basis of the author's present knowledge and competence, primarily in stylistic interpretation. As more is learned about this subject, it is possible that these judgments may be proven incorrect. At present there is no botanical evidence for questioning the authenticity of the urns discussed in this chapter. Within each category, the urns are sub-grouped by deities.

The first group here is the God of Glyph "L." The provenience of the head of the God of Glyph "L" in Plate 15 is Zaachila, and ordinarily it would be considered false having this provenience. However, the attributes are all characteristic of the deity and the piece is well executed in what is considered true Zapotec style. The "C" glyph is the central medallion of the tocado and is surmounted by a penache flanked on either side by an ear of maize with stylized silks and staminate tip, all of which is surmounted by a headband with an S-element on each side of the central medallion. The face has the diagnostic nasal and buccal masks, aspas over the eyes, and the figure wears elaborate earspools like the ones appearing on the urns from Monte Alban.

The execution is typically Zapotec in style, and for these reasons the piece must be considered authentic. This urn is illustrated by Caso (1947:40, Fig. 17).

The God of Glyph "L" illustrated in Plate 17 is quite unlike the urns heretofore illustrated, and some of the characteristic attributes are missing. This urn is part of a collection made by Louis Ayme, an American civil engineer who directed the construction of the railroad through Oaxaca in the mid-1800's. The urns in this collection are considered authentic because they are supposed to have been discovered during the construction of the railroad. The provenience for this piece is Acatlan, Puebla, which is north of Oaxaca in the Mixteca. The "C" glyph is notably absent from this urn, but this is not unusual in Monte Alban IV when the "C" glyph was rapidly falling into disuse. The headdress is formed by six vertical ears of maize. However, they are not full ears, and the lack of dimensions precludes any identification of the race at this time. The nose is too badly damaged to tell whether the nasal mask was present, but the buccal mask is quite evident. It would seem that the aspas was omitted. The figure wears a pectoral ornament, large, plain, round earspools, a feather cape and loin cloth. It is seated cross-legged, and though the limbs are damaged, it can be seen that the hands were very large and out of proportion.

The last two urns of the God of Glyph "L" included in this category are practically identical, and the description here may be applied to both. The characteristic "C" glyph in the tocado on these urns appears in a slightly modified form. It is surmounted by a penache

flanked on either side by a single ear of maize which does not have the usual stylized silks and staminate tip. The headband has an S-element, but here it appears in exaggerated form. There are side panels flanking the headdress which also depict the S-element in a modified and greatly exaggerated form. I have never seen this on any other urn and it is an oddity that should be carefully noted. The face exhibits the nasal and buccal masks, but the aspas are missing. Also, the treatment of the ears is unusual, and unique to these two specimens, as far as I know. The figure wears the pectoral glyph, small, round earspools, a bracelet on each wrist, a feather cape, and a loin cloth bordered by inverted pyramids. I have included these urns in Monte Alban III-B, but it may be that they more appropriately belong to Monte Alban IV. They are definitely later in style than most of the urns seen for Monte Alban III-B. The combination of the attributes occurring here is appropriate to the God of Glyph "L;" however, the unusual treatment of some as noted may indicate that they would be more accurately considered "suspected fake." The maize has ten rows, is 2.6 cm and 2.75 cm, respectively, in diameter, kernel width is 7.5 mm, and thickness is 4.2 mm. The race can be identified as Nal Tel. One of these urns is pictured by Paddock (1970:215, Fig. 268), and Boos (1966a:Lam. LV).

The next sub-category belongs to the group of urns representing the God Cocijo. The majority of the Cocijos in this study have been included as "suspected fake" because they come from Zaachila. None of the ones presented here illustrate what might be called the classic Cocijo form. The first example of Cocijo in Plate 20 does not display the characteristic "C" glyph. In the tocado, there are two vertical

ears of maize with stylized silks and staminate tips. It appears that there were originally three such ears. The race looks like Nal Tel, but a positive identification is impossible because the dimensions are lacking. The figure displays the characteristic facial mask, wears a pectoral ornament, plain loin cloth, small, plain round earspools, and is seated cross-legged. It is illustrated by Boos (1966b:23, Fig. 46).

The urn in Plate 21 is not the usual cylindrical shape. It would be more appropriately termed an olla, a form which was produced in Monte Alban IV (ref. Caso and Bernal 1952:40-42, Figs. 46-50). The "C" glyph is of a later form, and the face does not have the characteristic bifurcated tongue. The face and headdress are a single molded piece which was attached to the urn. This technique was widely employed during Monte Alban IV. The vertical ears of maize on each side of the vessel appear to be attached upsidedown.

Plate 23 shows another urn from the Mixteca region, and it is chronologically very late, as evidenced by the poor ceramic quality. The "C" glyph forms the tocado. The face has the nasal and buccal masks, with the tongue extended, but not bifurcated. The placement of the maize on this urn is quite unusual with five ears hanging from the neck in necklace fashion. At first glance, they appear more like a cape. They are not full ears. The diameter is 2.0 cm, width of kernel, 5.5 mm, thickness, 3.6 mm, and it is an eight-rowed race identifiable as Nal Tel. This urn is illustrated by Caso and Bernal (1952:100, Fig. 106).

The urn in Plate 24 has been classified as Cocijo since it bears all the characteristic facial elements, but it might be more appropri-

ate to form a new category here called the "God Cocijo with the Deity with the Ear of Maize in His Headdress in His Headdress." In the headdress of this figure are displayed three small maize ears with stylized silks but not staminate tips. It is a most unusual specimen. There is a drawing of a very similar Cocijo urn presented by Caso and Bernal (1952:19, Fig. 5). The only difference is that the figure in the headdress of that urn is holding an ear of maize between his two hands and has a "C" glyph as the central medallion of his tocado. The urn in Plate 24 was photographed on display in the Department of Archaeology at MNA. I was unable to obtain any catalogue information or dimensions on it.

The urn in Plate 25 is a very elaborate piece that is representative of the Zapotec culture at Monte Alban at its peak. This is ceramic sculpture at its finest. This is the only figure here that falls in the category of the "God Displaying the Mask of the God Cocijo as the Medallion of the Headdress." One characteristic of this category is that all the figures are young, even adolescent sometimes, as the figure on this urn. The cult of this deity extended from Monte Alban II through Monte Alban IV, and became increasingly complex with elaborate ornamentation and symbolism. The headdress centered around the God Cocijo, here depicted with the characteristic facial mask and "C" glyph, and two hands hanging suspended in the lower part of the headdress on each side of the mask. A few of the figures have a second pair of hands in the tocado, as seen on this figure. The face of the personages on these urns is typically without any masks, as here portrayed. There is a trefoliate element and maize symbol, also charac-

teristic of the category, on each side of the Cocijo mask in the headdress (Boos 1966a:65). The naturalistic maize appears on this figure as hanging from the necklace as ornaments on each side of the pectoral glyph. This is unusual. I do not have any dimensions for this specimen, but the race looks like Nal Tel. This urn is illustrated by Caso and Bernal (1952:98-99, Fig. 163).

The last urn in this category, Plate 26, is the God with the Bow-Knot in His Headdress. This deity is a member of the "Maize Complex." The main characteristic of the category is the bow-knot as the central ornament of the headdress. It may appear unmasked or wearing a mask which is characteristic of Cocijo, as it is here, or wearing the mask of the God of Glyph "L" (Boos 1966a:404). This is the only example of an urn in this category displaying maize with an ear appearing on each side of the vessel. This urn is illustrated by Caso and Bernal (1952:107, Fig. 176).

The race of maize on the urn in Plates 26 and 27 has been identified as Chapalote. Chapalote is an ancient race of pod-pop corn which is found today only in a small section of the state of Sinaloa on the western coast of Mexico, but Wellhausen, et al. suggest that it must have been more widespread in Mexico and parts of the Southwest at one time. The ears are small, cigar-shaped, and have small, flinty seeds (1952:57).

Plate 15. Head of the God of Glyph "L." MNA. Cat. no. 6-338.  
Height: 30 cm. Width: 35 cm. Color: Buff. Provenience:  
Zaachila, Oaxaca. Period: Monte Alban IV.



Plate 16. Closeup of maize. It depicts stylized silks and a staminate tip. MNA. Cat. no. 6-338. Length of ear: 3.9 cm. Diameter: 2.5 cm. Width of kernel: 6.0 mm. Thickness: 4.0 mm. 12 rows. Race identified as: Nal Tel. 0.9X actual size.



Plate 17. God of Glyph "L." Louis Ayme Collection, Museum of Natural History, Smithsonian Institution, Washington, D. C. Cat. no. 115032. Provenience: Acatlan, Puebla. Period: Monte Alban IV.



Plate 18. God of Glyph "L." Frissell Collection, Museo Frissell de Arte Zapoteca, Mitla, Oaxaca. Cat. no. 8870. Height: 10.5 in. Width: 9.25 in. Color: Gray with buff patina and faint traces of red. Provenience: Unknown. Period: Monte Alban III-B.



Plate 19. God of Glyph "L." Frissell Collection, Museo Frissell de Arte Zapoteca, Mitla, Oaxaca. Cat. no. S-1796. Height: 10.5 in. Width: 9.25 in. Color: Gray with buff patina and faint traces of red. Provenience: Unknown. Period: Monte Alban.



Plate 20. Cocijo. Museum of Natural History, Smithsonian Institution, Washington, D. C. Cat. no. 214981. Color: Black with light brown traces. Provenience: Unknown. Period: Monte Alban IV.



Plate 21. Cocijo. MNA. Cat. no. 6-6708. Height: 13 cm. Width:  
11.3 cm. Color: Brown. Provenience: The Mixteca, Oaxaca.  
Period: Monte Alban IV.



Plate 22. Closeup of maize. MNA. Cat. no. 6-6708. Length of ear:  
7.6 cm. Diameter: 2.3 cm. Width of kernel: 5.0 mm. Thickness:  
3.0 mm. 10 rows. Race identified as: Nal Tel. 1.3X actual size.



Plate 23. Cocijo. MNA. Cat. no. 6-6758. Height: 15.5 cm. Width:  
11 cm. Color: Buff. Provenience: Nochlixtlan, Oaxaca. Period:  
Monte Alban IV.



Plate 24. Cocijo. MNA. Period: Monte Alban III-B.



Plate 25. God Displaying the Mask of the God Cocijo as the Medallion  
of the Headdress. Lola Olmeda de Olvera Collection, Mexico City.  
Formerly Sologuren Collection. Height: 52 cm. Period: Monte  
Alban III-B.



Plate 26. God with the Bow-Knot in His Headdress. MNA. Cat. no.  
6-6885. Height: 12 cm. Width: 11.5 cm. Color: Dark gray.  
Provenience: Etlá, Oaxaca. Period: Monte Alban IV.



Plate 27. Closeup of maize. MNA. Cat. no. 6-6885. Length of ear: 10.1 cm. Diameter: 2.9 cm. Width of kernel: 7.5 mm. Thickness: 4.65 mm. 12 rows. Race identified as: Chapalote. 1.1X actual size. This ear is a good example of the cigar-shape characteristic of the race Chapalote.



## CHAPTER V

### THE URNS SUSPECTED FAKE

The category of suspected fakes follows. I have placed all but one of the specimens with a provenience of Zaachila and Miahuatlan, as listed in the museum catalogues, under the category of suspected fake because it is said that factories for the manufacture of imitation urns have been located in these towns at various times. In addition, all of these bear questionable attributes. It must be emphasized, however, that authentic specimens may have come from these locations. Donald L. Brockington reports that "...numerous fine archaeological pieces (and many probable fakes) have been attributed to Miahuatlan..."(in press). It should also be remembered that the provenience listed in museum catalogues may not be the place where the specimen was actually found. By the time a specimen reaches a museum, it has frequently been the object of numerous transactions between various individuals, from the one who actually found the specimen, through the different middle men, till it is purchased by or donated to the museum. In this process the true provenience of a specimen is lost. The reason for this is that where there is one such item, there are usually more, and since these are in such demand by museums and private collectors, there is a large profit to be made by selling them. The large number of fakes produced is also testimony to the lucrative business of dealing with antiquities from the Valley of Oaxaca, as from

other parts of Mexico. In illustration of this are two items advertised in the Los Angeles Times on May 19, 1966. They include a "Zapotec corn god funerary urn" from Mexico for \$1,200.00, and a "Zapotec funerary urn with eagle headdress" from Mexico for \$3,500.00.

I have placed the urn in Plate 28 in this group because the convenience for it is Miahuatlan, a place where fakes are known to have been manufactured in large numbers. Most of the attributes, however, are in order, and this urn may well be an authentic specimen. The "C" glyph forms the central medallion of the tocado, is surmounted by a penache which is flanked on either side by an ear of maize that can be identified as Nal Tel. The treatment of the maize though is quite unusual, because there are stylized silks without staminate tips. Also, there is a semi-volute element curling outward at the base of the ear and at the tip (Plate 29). I have not seen maize depicted like this on any other specimen. It would be impossible to say that the piece is fake on the basis of this evidence alone because it could be merely a departure from convention by the individual artist. The headband on this piece has the symbol for undulating water, but in this case, it is not the characteristic S-shape element seen heretofore. Here the wave has two full loops. The face has the aspas and buccal mask, but the nasal mask is missing. The nose has been damaged and repaired, so the nasal mask may have been present originally. The figure wears the pectoral glyph, but it is not the usual form. Here the form more closely resembles that on two other suspected fakes from Zaachila (Plates 31 and 32). The deity is wearing ornate earspools, a bracelet on each wrist, a feather cape, and loin cloth bordered by the inverted pyramid

design. It is seated cross-legged, and the back depicts an elaborately carved dossel. The platform that should accompany the dossel is absent. However, the piece has reparations indicating at one time a great deal of damage, so it is possible that the platform has been destroyed. The absence of the platform is a notable deviation from the norm.

Plate 30 is the first in a series from Zaachila, another known location of a fake factory. The urn represents the God of Glyph "L" but it is most unusual. It has been assigned to Monte Alban II-III transition according to the museum catalogue. This would be centuries earlier than the known use of molds for urn manufacture. The face has the buccal mask, but lacks the nasal mask and the aspas, and the figure wears a feather cape. Overall, it is poorly executed and on this basis it would be assigned to Monte Alban IV, if it is not a fake. The maize on this piece is also unusual. A full ear flanks each side of the figure, seemingly with the butt-end emanating from the head-dress pointing downwards. The height of the ear is 4.3 cm; diameter, 1.85 cm; width of kernel, 5.0 mm; thickness, 4.0 mm. It is an eight-rowed ear and the isodiametric kernels are in single alternating rows. There is no modern race of maize like this, so the specimen must be modeled. The modeling is excellent, of a realistic quality that is very rare.

There is no question in my mind that the two urns in Plates 31 and 32 are fakes. There are a number of reasons for my judgment, in addition to the fact that their provenience is Zaachila. The description here applies to both specimens. The "C" glyph is the central

medallion of the tocado, and it is surmounted by a penache, but here the penache does not extend over the entire tocado as it is usually seen, and the plumes of the penache are narrow, vertical, straight lines, not nicely shaped as is the usual custom. The face has a very large nasal mask, and the buccal mask is present. The glyph on the pectoral ornament cannot be identified, and is unlike any depicted in the literature. The maize is totally out of character, a single ear appearing extended vertically on each side of the face, with a scalloped decoration surrounding the back of the maize and the figure's face, extending from the base of the penache to the shoulders. The execution of the entire piece is not typical of the Zapotec art style and is poorly done. The dimensions for the maize on the urn in Plate 31 are length of ear, 5.5 cm; diameter, 2.1 cm; width of kernel, 6.0 mm; thickness, 3.8 mm. It has ten rows, and can be identified as Nal Tel. The dimensions for the maize in Plate 32 are close to those in Plate 31, and are given in Figure 2. The ears were impressed from the same mold. The urn in Plate 31 is illustrated by Caso and Bernal (1952:94, Plate 156).

The urn in Plate 33 represents the God Cocijo, and is from Zaachila. Plates 34 and 35 are also Cocijos and seem identical to the one in Plate 33. It can be easily seen that the maize on each of these was cast from the same mold, so I have grouped these three urns together, though the last two are of unknown provenience. The description applies to all three specimens although the latter two have been damaged and parts are missing. The figure appears to have been the lid to a box, a brazier cover, because of the flat bottom and the lack of hands

and feet, which might have been depicted on the box. However, the cylinder appears in the back of the figure, and forms the body of the urn. It has a "C" glyph as the central medallion of the tocado surmounted by a penache and flanked on each side by an ear of maize with stylized silks and staminate tip. The water symbols occur on the headband and are composed of two full loops instead of the usual S-shape. The face has a large nasal mask and bifurcated tongue, with the squared eye elements. The figure wears a pectoral glyph, but the entire glyph is not visible because it is partially covered by the tongue. The figure wears very elaborate earspools which have been modeled by hand rather than molded, as is the usual treatment. The hands alone are depicted without the arms, and parts of a feather cape can be noted. These pieces are disproportionately wide, and would be even when used as a brazier cover. Urns which were used as brazier covers are unusual, but they do occur (Caso and Bernal 1952:44, Fig. 56). The maize on these pieces has been identified as Nal Tel and the dimensions are included in Figure 2.

The urn in Plate 36 is an olla shape rather than a cylinder. This shape was being produced during Monte Alban IV. The face and "C" glyph above it are one piece which came from a single mold. The single ears of maize which flank each side of the headdress appear to be inverted. The maize dimensions are length, 5.9 cm; diameter, 1.85 cm; kernel width, 5.75 mm; and thickness, 3.45 mm. It has eight rows. The dimensions are smaller than those of Nal Tel, but the ear looks like Nal Tel and the small size may be attributed to shrinkage in the clay dur-

ing firing because the clay is quite porous. This urn is illustrated by Boos (1966a:Lam. XII).

For a number of reasons, I feel strongly that the urn in Plate 37 is a fake. It has no distinguishing attributes of any established category. It is impossible to tell much about the headdress since most of it is missing. The face is unadorned and the treatment of the mouth with the tongue between the lips is uncharacteristic of any Zapotec figure I have seen. There appears to be a ruffled collar around the neck, and the loin cloth seems to be tied on with a cummerbund. I have never seen the design of the loin cloth on any piece, Zapotec or otherwise. In addition, although the hands are on the knees, the figure is not seated cross-legged, but it is in a crouching position which I have never seen in Zapotec ceramics. The placement of the maize on the sides of the vessel behind the figure is also unusual. The clay is also different from any of Zapotec craftsmanship. It has a cream colored patina which flakes off very easily and reveals a bright orange, highly polished surface beneath. The measurements of the maize best fit the race Nal Tel, but the shape is more like Chapalote; I cannot make a positive identification.

The portion of the urn seen in Plate 39 represents the Goddess "13 Serpent." The attribute that characterizes this goddess is the headdress of woven strands often adorned by ball-shaped ornaments which are probably supposed to represent bells (Boos 1966a:352). The tocado of this figure shows the woven strands surmounted by ears of maize. Portions of the ears remain, but not enough to give an identifiable race. As far as is known, this goddess was not associated with maize; this

fact makes the association here questionable. Also, the mouth agape is not characteristic of Zapotec ceramics.

The urn in Plates 40 and 41 are curious specimens for a number of reasons, but the most notable abnormality is the depiction of an ear of stylized maize between two hands in the center of the tocado flanked on either side by an ear of molded maize with stylized silks and staminate tip. The stylized ear in Plate 40 has no staminate tip or stylized silks, and the stylized ear in Plate 41 has stylized silks but no staminate tip. The incongruity is striking. The treatment of the hair on these urns in "Buster Brown" fashion is odd, not to mention the fact that the depiction of hair at all is odd. The treatment of the capes on both figures is also unusual. The face of the figure in Plate 41 is that of the Old Man God, heretofore never known to be associated with maize. This is also out of order with the God with the Ear of Maize in His Headdress, always portrayed by a very youthful figure. This urn is illustrated by Caso and Bernal (1952:141, Fig. 241). The race of maize of the four ears that were molded is unidentifiable.

The next four urns have also been considered in the category of the "God with the Ear of Maize in His Headdress," not because of the attributes, but because the name perfectly describes them. They do not really fit the category established by Caso and Bernal. The urn in Plate 42 has nine standing ears of maize composing the tocado surmounted by a penache. This urn is illustrated by Wellhausen, et al. (1952: 16, Fig. 2), and there the race is identified as Nal Tel. I have not seen this urn firsthand, and have no dimensions for it, so it is impossible for me to make an identification of the race. The most un-

usual thing about the piece is the decoration flanking the side composed of a pleated element with a ropelike-effect curling around with a tassel on the end of it. This and the nine standing ears of maize are all extraordinary in Zapotec ceramics, although the execution of the figure is quite true to Zapotec tradition and style.

Plate 43 is another urn in the olla form which may be said to be diagnostic of Monte Alban IV or even Mixtec influence. Five, flattened-out, standing ears of maize compose the headdress. The face is plain and the figure wears small, plain, round earspools. The hands are not depicted, although the feet are. On other ollas, the hands have been shown. The length of the ear is 7.3 cm, diameter is 1.4 cm, width of kernel is 5.0 mm, and thickness is 3.6 mm. It has eight rows, but I am unable to identify the race.

Plate 44 depicts another unusual vessel. It is quite small and is a modified olla form that is much like a bottle. The clay is hard, highly fired, and smoothly polished. It is unlike any other Zapotec ceramic vessel I have seen. There is a single ear of maize composing the headdress in turbanlike fashion. There is a curved line extending vertically through the middle of the ear. The face has a mask, but it is damaged and not clearly distinguishable. The figure wears plain round earspools and is standing and has hands and feet depicted. The maize is 2.3 cm in length, 3.9 cm in diameter, the kernel width is 6.0 mm, and thickness is 3.6 mm. It has twelve rows. I am unable to identify with certainty the race of maize because the ear was obviously flattened out and the dimensions may not be accurate. The race it seems to most closely resemble is Nal Tel.

The urn in Plate 45 is illustrated by Caso and Bernal (1952:94, Fig. 157), and is placed there under the category of the God of Glyph "L." There is an unusual glyph in the tocado and because of this, I decided the urn should not be considered in that category. This glyph more closely resembles the year glyph than the "C" glyph (Leigh 1966: 268, Figs. 100 and 101; Caso 1928:47, Fig. 22). Boos (1966b:345, Fig. 318) shows an urn with a similar element depicted in the tocado. Boos describes it as a mask of the Bat God surmounted by a trapezoid Mixtec Year-Sign. There are other unusual things about this piece. It appears to be standing, and is holding an object in each hand. Although Zapotec figures frequently appear holding something in the hands, I have never seen one holding the object in the ball of the palm, with the palms turned upwards as here. Another suspicious feature is the element flanking each side of the figure. Extending from the shoulders to the hands is a decorative panel with the same incised undulating line that is seen on the two examples of the God of Glyph "L" from Zaachila (Plates 31 and 32), which are most likely fakes. A closeup of the maize on this piece has been included, first, to show a good example of an ear that was obviously molded (note the clear zigzag line), but the race cannot be identified because of the erosion, and, second, because I suspect here the full half-round of the ear was not included.

The deity in Plate 47 is the Opossum God. This is a category for which few pieces have survived, and none of the descriptions of the Oaxacan deities given by Fathers Balsalobre and Cordova fit this deity. Characteristic elements of the category include the round, staring

eyes, the indented ridge of the creature's nose which forms a spiral extending up to the forehead, and the lips pulled back showing the teeth (Boos 1966a:237). All these elements are present on this figure. Boos also says that there is a characteristic ornament attached to the cheek or the ear, or worn independently, that is leaf-shaped, often showing the veins (ref. Boos 1966a:239, Fig. 217). Some archaeologists believe this represents amaranth. The Opossum God does have an association with maize, but the exact nature of it is not clear. There is only one other example of an urn in this category depicting maize. It is in the Museum fur Volkerkunde in Berlin, and is illustrated by Immina von Schuler-Schomig (1970:140, Fig. 211). The provenience listed for that piece is Ixtlahuaca, and its height is also 28.4 cm. That piece has been damaged, but it would appear to have originally been almost identical to the urn in Plate 47, with the exception of the "C" glyph which formed its tocado and the bow-knot which forms the tocado of this figure. It is also believed that many of these specimens in the collections of the Berlin museum are fakes. This urn is illustrated by Caso and Bernal (1952:272, Fig. 423) and by Wellhausen, et al. (1952:217, Plate B).

The last three urns in this category are circular vessels, encircled with ears of maize. The authenticity of these specimens is doubtful because this form of vessel is not known to have been used by the Zapotecs. Another possible explanation is that these extraordinary pieces may have originated from another region, such as Guatemala, and may have been brought to Oaxaca as trade items.

The first urn of the three presented here is also illustrated by Boos (1966b:347, Fig. 321), where it is classified as the Goddess "2 J." It is the only one of these unusual specimens to have a figure on it. The main attribute of the Goddess "2 J" is the "J" glyph depicted in the headdress. That section of the headdress on this figure is missing, and the identification of the deity has been made on the basis of the characteristic indigenous feminine dress, the huipil or undergarment, and the quichquemitl, the bordered outer garment. In Monte Alban III-B, this goddess was generally depicted standing with her arms crossed on her bosom or hanging by her sides (Boos 1966b:338). However, on this specimen, she is in an unusual kneeling position, but her arms are crossed on her bosom. The kneeling position is quite rare and I have seen only one reference to urns in this position (Rickards 1938:151). This urn is illustrated by Wellhausen, et al. (1952:15) where the race of maize is identified as dent corn. Wellhausen, et al. maintain that dent corn is proven to be a pre-Columbian race on the basis of this urn, but since the urn is very likely a fake, strong doubt is cast on the validity of such an assumption. Dent corn has not been found on any other ceramic specimen, nor has it been excavated in context with prehistoric artifacts. Until other evidence is found to support the hypothesis of Wellhausen, et al., dent corn should not be considered a prehistoric race.

Plate 49 is an urn encircled by twenty ears of maize. This urn is pictured by Wellhausen, et al. (1952:217, Fig. C). Not only is the vessel atypical, but the maize is not like any found in Mexico. The Mesoamerican race it most closely resembles is Maiz Blando de Sonora.

It looks very much like the prehistoric maize from Canon del Muerto, Arizona (Anderson and Blanchard 1942:833-34). It may be that this specimen is not a fake, but has been incorrectly identified as Zapotec and is originally from another region. Maiz Blando de Sonora may occur on an urn found in a tomb at Monte Alban (see Plate 5).

The last piece included here has four ears of maize with staminate tips, trefoliate elements, and stylized silks encircling the vessel. It can be seen that there were six ears originally on the vessel. Beneath the ears, the vessel is also encircled by some bullet-shaped ornaments that may be intended to represent bells. Lacking the measurements on the maize, no attempt has been made to identify the race. The trefoliate element superceding the staminate tip is highly irregular. It is normally associated with the stylizations of glyphs.

Plate 28. God of Glyph "L." MNA. Cat. no. 6-5421. Height:  
29.6 cm. Width: 16.8 cm. Color: Buff. Provenience: Miahuat-  
lan, Oaxaca. Period: Monte Alban III-B.



Plate 29. Closeup of maize. MNA. Cat. no. 6-5421. Length of ear:  
2.7 cm. Diameter: 2.6 cm. Width of kernel: 6.75 mm. Thickness:  
4.6 mm. 8 rows. Race identified as: Nal Tel. 1.9X actual size.



Plate 30. God of Glyph "L." MNA. Cat. no. 6-6757. Height: 9 cm.  
Width: 8.2 cm. Color: Gray with white traces. Provenience:  
Zaachila. Period: Monte Alban II-III Transition.



Plate 31. God of Glyph "L." MNA. Cat. no. 6-725. Height: 26.7 cm.  
Width: 19.4 cm. Color: Dark gray. Provenience: Zaachila. Period:  
Monte Alban IV.



Plate 32. God of Glyph "L." MNA. Cat. no. 6-328. Height: 24 cm.  
Width: 19.5 cm. Color: Dark gray. Provenience: Zaachila.



Plate 33. Cocijo. MNA. Cat. no. 6-6672. Height: 37.4 cm. Width:  
40.3 cm. Color: Gray. Provenience: Zaachila. Period: Monte Al-  
ban IV.



Plate 34. Cocijo. MNA. Cat. no. 6-6674. Height: 38.7 cm. Width:  
39.9 cm. Color: Gray. Provenience: Unknown. Period: Monte Alban  
IV.



Plate 35. Cocijo. MNA. Cat. no. 6-6697. Height: 40.4 cm. Width:  
40 cm. Color: Gray. Provenience: Unknown. Period: Monte Alban  
IV.



Plate 36. Cocijo. Museo Frissell de Arte Zapoteca, Mitla, Oaxaca.  
Cat. no. 4279. Height: 10.6 cm. Width: 8.5 cm. Color: Dark  
reddish brown. Provenience: Zaachila. Period: Monte Alban IV.



Plate 37. Urn. Museo Frissell de Arte Zapoteca, Mitla, Oaxaca. Cat. no. 8269. Height: 16.3 cm. Width: 12.5 cm. Color: Cream patina with highly polished orange surface beneath. Provenience: Unknown.



Plate 38. Closeup of maize. Museo Frissell de Arte Zapoteca. Cat. no. 8269. Length of ear: 10 cm. Diameter: 2.65 cm. Width of kernel: 6.0 mm. Thickness: 3.8 mm. 12 rows. Race identified as: Nal Tel. Actual size.



Plate 39. Goddess "13 Serpent." MNA. Cat. no. 6-6894. Height: 14.5 cm. Width: 14.8 cm. Color: Gray with red traces. Provenience: Zaachila. This urn has been damaged and as a result the full ears are not seen.



Plate 40. God with the Ear of Maize in His Headdress. MNA. Cat.  
no. 6-6881. Height: 34.1 cm. Width: 26.1 cm. Color: Light  
gray. Provenience: Unknown.



Plate 41. God with the Ear of Maize in His Headdress. MNA. Cat.  
no. 6-5999. Height: 34.5 cm. Width: 24.5 cm. Color: Light  
gray. Provenience: Unknown.



Plate 42. God with the Ear of Maize in His Headdress. MNA.



Plate 43. God with the Ear of Maize in His Headdress. Museo Frissell  
de Arte Zapoteca, Mitla, Oaxaca. Cat. no. 8011. Height: 6.75 cm.  
Width: 10.8 cm. Color: Dark gray with buff patina. Provenience:  
Unknown. Period: Monte Alban IV.



Plate 44. God with the Ear of Maize in His Headdress. Museo Frissell de Arte Zapoteca, Mitla, Oaxaca. Cat. no. 4889. Height: 13.5 cm. Width: 7.5 cm. Color: Highly polished dark brown with buff traces. Provenience: Ejutla, Oaxaca. Period: Monte Alban IV.



Plate 45. God with the Ear of Maize in His Headdress. MNA. Cat.  
no. 6-6755. Height: 34.4 cm. Width: 24.2 cm. Color: Buff.  
Provenience: Unknown. Period: Monte Alban IV. These are only  
sections of ears, not full ears.



Plate 46. Closeup of maize. MNA. Cat. no. 6-6755. Length of ear:  
5.3 cm. Diameter: 2.0 cm. Width of kernel: 9.5 cm. Thickness:  
4.1 mm. 6 rows. Race: Unidentifiable. Note the clear zigzag  
line. Actual size.



Plate 47. Opossum God. MNA. Cat. no. 6-965. Height: 28 cm.

Color: Gray with traces of red. Provenience: San Pedro Ixtlahuaca.

The race of maize looks like Nal Tel.



Plate 48. Goddess "2 J." Museum of Natural History, Smithsonian Institution, Washington, D. C. Cat. no. 115033. Height: 6-3/8 in. Diameter: 7-5/8 in. Color: Light gray with white traces. Provenience: Chicomezuchil.



Plate 49. Vessel Encircled with Ears of Maize. MNA. Cat. no.  
6-6012. Height: 15.8 cm. Diameter: 21.7 cm. Color: Light  
gray. Provenience: Unknown.

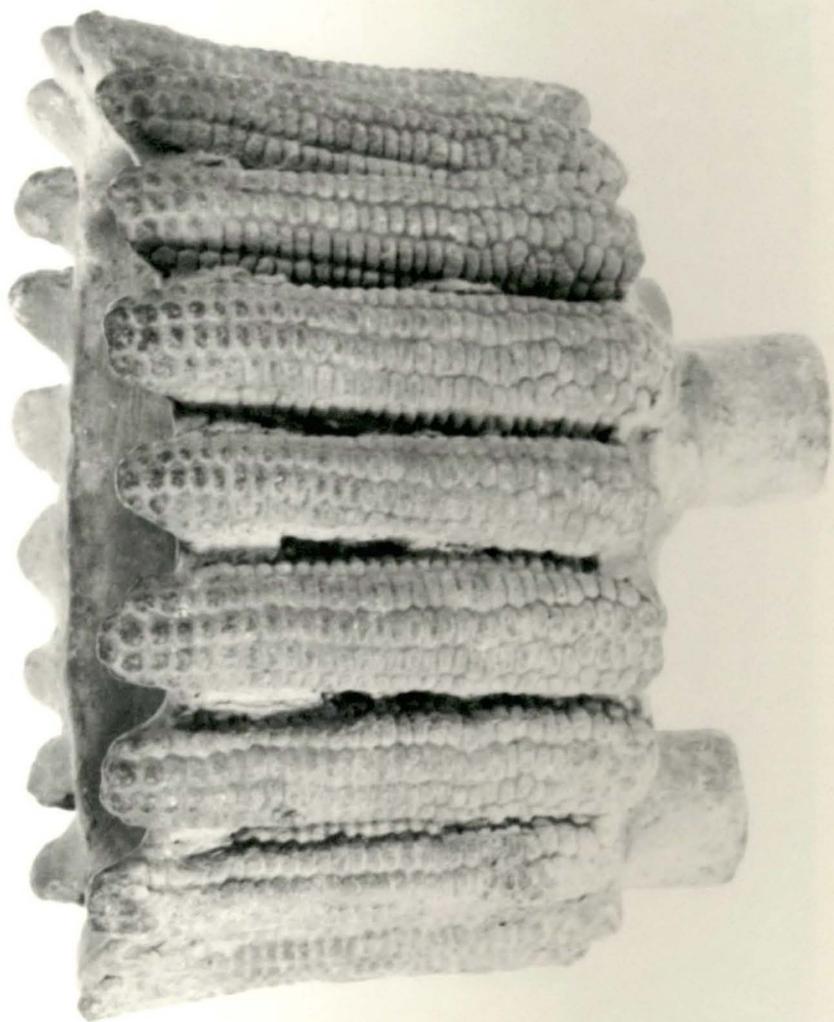


Plate 50. Closeup of maize. MNA. Cat. no. 6-6012. Length of ear:  
11.9 cm. Diameter: 2.8 cm. Width of kernel: 7.0 mm. Thickness:  
3.7 mm. 12 rows. Race identified as: Maiz Blando de Sonora.  
1.2X actual size.

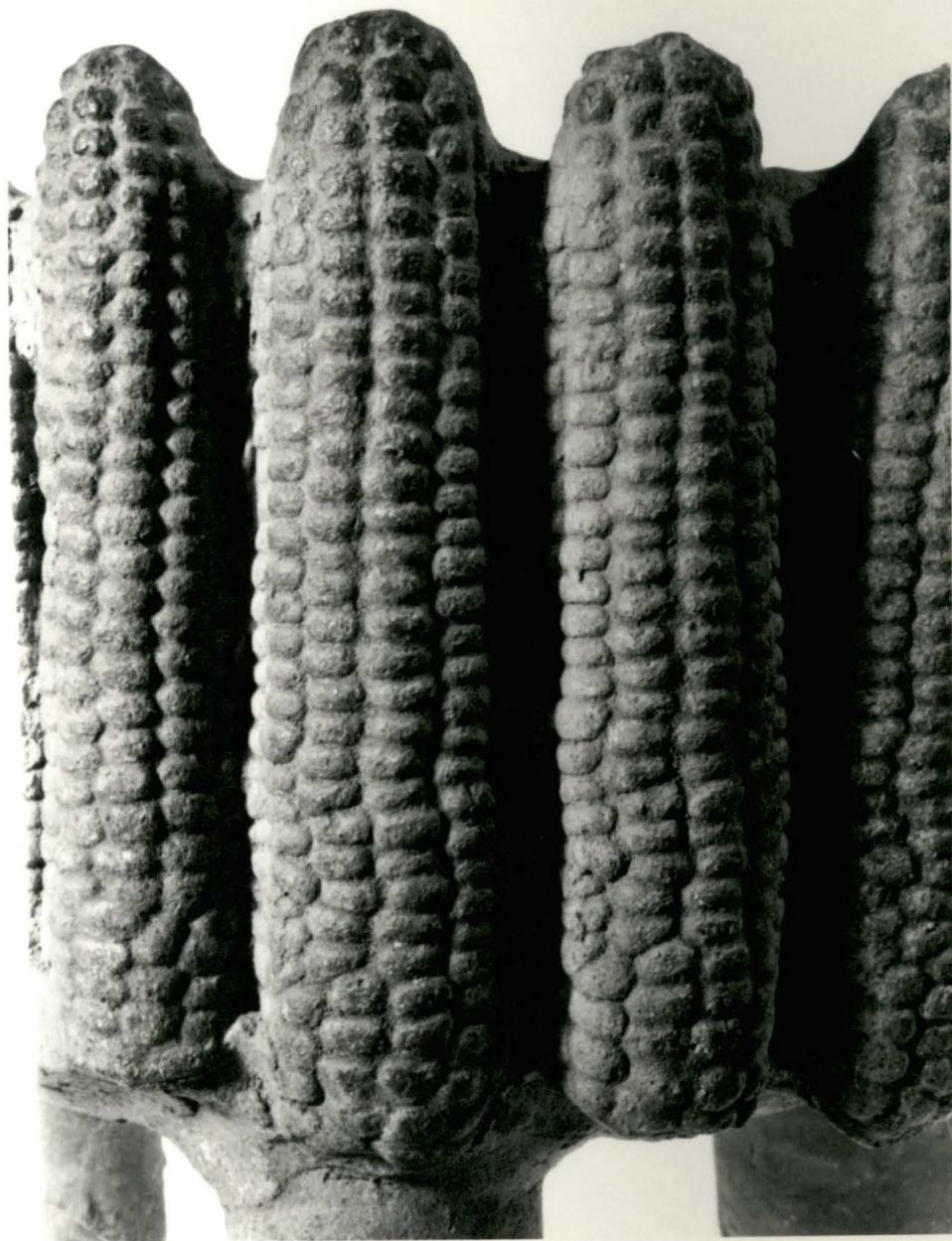


Plate 51. Vessel Encircled with Ears of Maize. Middle American Research Institute, Tulane University, New Orleans, Louisiana. Cat. no. 35-5976. Height: 15 cm. Diameter: 14 cm. Provenience: Monte Alban.



... .., but it is impossible to tell for cer-  
... .. certain numbers have special significance

CHAPTER VI  
THE FAKE URNS

In Plate 52 is depicted a figure not altogether unlike some of the ones seen that fit the category of the God of Glyph "L." This piece has been badly damaged, an obvious ruse of a faker. The treatment of the mouth gives this piece away as being fake. The face is not characteristic of any Zapotec ceramics. There are two nicely molded sections of ears in the headdress of the figure.

Plate 53 illustrates another fake that would also come under the category of the God of Glyph "L." The figure has a glyph, which is a poor attempt to imitate a Zapotec "C" glyph, as the central medallion of the tocado. The ear of maize on the side of the glyph is molded but it is inverted. This is a positively identified example of a fake with an upsidedown ear. It is probable that all the urns that have inverted ears are fakes, because it would seem illogical for a people who worshipped maize to depict an ear purposely inverted in the headdress. The figure is wearing a feather cape and extending from the shoulder is the decorative panel with the incised wavy line that appears on other suspected fakes.

Plate 54 shows the last fake in this group. This piece is poorly executed and the details are not clear. In all, there are seven ears of maize in the headdress, but it is impossible to tell for certain if they were molded. Certain numbers have special significance

in Mesoamerican numerology; seven does not (Brockington personal communication). The figure has an exaggeratedly long bifurcated tongue hanging from its chin and no other mask elements. In addition, the clay out of which this urn is made is yellow, and I have not seen any other urn constructed out of clay like this.

Plate 52. Fake. MNA. Height: 6-3/4 in. Width: 4-1/2 in.

Provenience: Monte Alban.



Plate 53. Fake. MNA. Height: 10 in. Width: 6-1/4 in. Color:  
Brown.



Plate 54. Fake. MNA. Cat. no. 6-366. Height: 23 cm. Width:  
14 cm. Color: Yellow.



## CHAPTER VII

### CONCLUSIONS

In this study of Zapotec funerary urns with depictions of maize, of twenty-five identifications of races, twenty-one are Nal Tel, one is Chapalote, two are Maiz Blando de Sonora, one is dent corn, and one is Conico (see Figure 2). Nal Tel, an ancient indigenous race, is a weak form of pod corn, believed to have originated from primitive pod corn (Wellhausen, et al. 1952:45). It has small ears, and matures after a couple of good rains, making it highly valuable in a dry area such as most parts of Yucatan and Oaxaca. Its importance in Yucatan is further evidenced by the wide number of varieties of Nal Tel found there (Wellhausen, et al. 1952:60). Due to the repeated occurrence of Nal Tel on the urns, there can be no question that the race had religious significance and was widely grown in the Valley of Oaxaca in the pre-Columbian period.

The fact that Nal Tel occurs on most of the urns, including the fakes, indicates that many of the fakers may have been using original molds or molds made from authentic specimens to make the impressions on the forged urns. This has not completely deflated the assumption that if a modern race of maize occurs on an urn, the urn should be considered fake. It rather shows that a number of aspects of an urn have to be considered in relation to each other before it can be determined whether an urn is fake or authentic.

This last point is clearly shown in the case of the urn encircled by ears of dent corn. Not knowing that there was any reason to suspect the authenticity of this specimen, Wellhausen, et al. reasoned that on the basis of the urn, dent corn must be a prehistoric race. However, the urn's authenticity is highly suspect and until other substantiating evidence is discovered, the assumption should be made that dent corn is not a prehistoric race.

The finding of the races Chapalote and Maiz Blando de Sonora on urns does not present any particular problems. They are unusual as evidenced by the infrequency of their occurrence in this study, but they are both known prehistoric races of maize and could have been present in Oaxaca in pre-Columbian times. Further investigation of urns could provide corroborative evidence for the presence or absence of these races in Oaxaca.

It has previously been proposed that at least two modern races of maize, Tuxpeno and Olotillo, have been identified on Zapotec urns, and this has led to the question of why these races were not found in MacNeish's exploration of the Tehuacan Valley if they were being grown in the neighboring Valley of Oaxaca at the same time (Mangelsdorf, MacNeish, and Galinat 1967:199). An answer to this puzzle could be that the urns on which the races were identified are modern fakes.

This study has included the Zapotec urns from only four museums, and it represents only a small portion of the work that could be done on this subject. There are many of these urns in museums in the United States, Canada, France, Germany, Great Britain, and Sweden, as well as in all the regional museums of Mexico. The study of maize in ancient

Oaxaca will not be complete until all these urns have been studied and catalogued. There are also examples of molded maize on ceramic vessels of other pre-Columbian Mesoamerican cultures. Plate 55 shows a large Aztec brazier with three ears of the race Conico on it. The measurements for the ears are 8.15 cm in length, 3.2 cm in diameter, 5.5 mm in kernel width, 4.0 mm in thickness; and it has sixteen rows. The specimens from the other cultures need to be studied to learn more about the distribution of races of maize in pre-Columbian times. In addition, there is a wealth of material from Peru with molded maize (Towle 1961:Plates VII-A, VII-B, VIII-A, XV-A). These urns are in museums in Peru, the United States and Europe. A thorough study of the Peruvian vessels compared with a complete study of the Mexican specimens promises to reveal new evidence to test present theories about the evolution and distribution of races of maize in the New World prior to the arrival of the Spanish.

This study has tested the usefulness of a multiple approach using archaeological materials, botanical evidence, and art history methods. A number of findings that are of considerable interest to archaeologists, botanists, and people who are interested in Zapotec urns as art objects have been made. The combination of disciplines from science and the humanities is unusual, but this study has shown how valuable this type of interdisciplinary approach can be.

Plate 55. Aztec brazier. MNA. Color: Gray with traces of red,  
blue and beige paint.



Race	Length/cm Diam/cm Row No.			Kernel Characters	
	Length/cm	Diam/cm	Row No.	Width/mm	Thickness/mm
Nal Tel	7.9	2.7	11.4	6.7	3.9
Specimen					
MNA 6-2293		2.3	10.0	4.75	3.6
MNA 6-2290		2.3	10.0	4.75	3.6
MNA 6-2289		2.2	10.0	4.5	3.6
MNA 6-6717		2.55	8.0	7.0	4.6
MNA 6-6754		2.2	8.0	6.5	3.75
Frissell 6883		2.65	10.0	7.2	3.6
MNA 6-338		2.5	12.0	6.0	4.0
Frissell 8870		2.6	10.0	7.5	4.2
Frissell S-1796		2.75	11.0	7.5	4.2
MNA 6-6708	7.6	2.3	10.0	5.0	3.0
MNA 6-6758		2.0	8.0	5.5	3.6
MNA 6-5421		2.6	8.0	6.75	4.6
MNA 6-725		2.1	10.0	5.5	3.8
MNA 6-328		2.3	10.0	6.0	3.9
MNA 6-6697		2.6	10.0	6.0	3.6
MNA 6-6672		2.5	10.0	6.0	4.0
MNA 6-6674		2.3	10.0	6.0	3.8
Frissell 4279	5.9	1.85	8.0	5.75	3.45
Frissell 4889		3.9	12.0	6.0	3.6
Frissell 8269	10.0	2.65	12.0	6.0	3.8
MNA 6-6012	11.9	2.8	12.0	7.0	3.7
Race					
Chapalote	11.0	2.9	12.3	6.7	4.1
Specimen					
MNA 6-6885	10.1	2.9	12.0	7.5	4.6
Race					
Blando de Sonora	11.4±2.9		12.3±1.8	8.2±1.0	
Specimen					
MNA 6-6223		3.1	8.0	7.5	3.6
MNA 6-6012	11.9	2.8	12.0	7.0	3.7
Race					
Conico	13.6	4.3	16.0	6.6	3.6
Specimen					
MNA	8.15	3.2	16.0	5.5	4.0

Figure 2. External Characters of the Ears

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