

CARVED MONUMENTS AND CALENDRIAL NAMES

The rulers of Río Viejo, Oaxaca

Javier Urcid^a and Arthur A. Joyce^b

^aDepartment of Anthropology, Brandeis University, Waltham, MA 02254-9110, USA

^bDepartment of Anthropology, University of Colorado at Boulder, Boulder, CO 80309, USA

Abstract

This paper describes 15 stone monuments documented until the 1995 field season at Río Viejo, the largest settlement in the alluvial plains of the Río Verde drainage in Coastal Oaxaca from 100 B.C. to A.D. 1100. The monuments, all seemingly dating to the Classic period (A.D. 600–900), include mainly carved stelae that most often depict elaborately dressed human figures accompanied by their calendrical names. The large size of these monuments and the political primacy of Río Viejo strongly suggest that the named individuals were local rulers. We posit that additional flattened sculptures and slabs riddled with small circular depressions were foci of sacred activities aimed at petitioning favors from supernatural forces. The analysis of the inscriptions is framed in terms of graphic similarities with highland scribal traditions in the central valleys of Oaxaca, the Mixteca Baja, and the Mexican Highlands.

A major focus of archaeological research in the Lower Río Verde over the past 15 years has aimed at examining sociopolitical developments in the pre-Hispanic urban center of Río Viejo (Grove 1988; Joyce 1991a, 1991b, 1993, 1999, 2000; Joyce and Winter 1989). Archaeological survey, excavation, and mapping at the site show that Río Viejo was first occupied during the Middle Formative period, ca. 700 to 400 B.C., reaching urban proportions by the Terminal Formative, between 100 B.C. and A.D. 250. From that time until its decline around A.D. 1100, Río Viejo was the primary center in the floodplain and most likely the capital of a state polity. At its height, during the Late Classic period (A.D. 500–800), Río Viejo extended over 250 hectares and included massive earthen platforms that supported structures with both public and domestic architecture.

During the course of archaeological investigations at the site, several stone monuments of various types have been recorded. A few, although uncarved, appear to have been modified monoliths whose function remains enigmatic; others are sculptures. A third type of recorded monuments consists of large carved slabs depicting human figures in elaborate dress, sometimes accompanied by glyphic notations. Three large granite outcrops in the eastern sector of the site provide a readily available source for the monuments, but additional surveys need to be conducted to locate quarries and document evidence concerning procurement and manufacture. Our purpose is to describe the stone monuments from the site and consider their significance and implications in terms of the political role of Río Viejo over its hinterland and neighboring coastal areas. A comparative discussion of the epigraphy in the carved stones with scribal traditions in the central and southwestern highlands of Mesoamerica will place the monuments in the broader context of interregional interactions.

PAST AND PRESENT DOCUMENTATION OF STONES

Río Viejo sits on the west side of the Río Verde, approximately 10 km north of the coastline (Figure 1). During Brockington's reconnaissance of the Oaxaca coast in the 1960s, his survey team reported a carved monument at the site. They described the stone's markings as the faint representation of a human figure with an elaborate headdress (Jorrín 1974:37).

As part of the Río Verde Archaeological Project in 1986, Winter (1987) documented five carved stones, two sculptures, and a peculiar two-chambered rectangular basin carved at the base of one of the rock outcrops on the southeastern edge of the site (Figure 2).¹ Between 1988 and 1994, while mapping and excavating at the site, Joyce located and recorded three additional monuments (Joyce and Winter 1989; Joyce and Workinger 1996).

A focus of the 1995 field season was the search for documented as well as undocumented monuments to record them by means of artificial light. This technique was deemed appropriate given the fact that the stones are granite, a material of metamorphic origin whose hardness permitted the ancient sculptors to execute only shallow reliefs with terse rather than sharp carved edges. Erosion

¹ The basin is a unique feature in the archaeological record of Oaxaca. Its overall dimensions are 3.22 × 1.4 × .7 m. The edges of the chambers are slightly sunken and molded, demarcating the basin conspicuously from the surrounding exposed rock. One of the chambers is larger and slightly deeper than the other, and a squared aperture in the bottom center of the wall that divides them connects both. Plugging this hole could have allowed the smaller chamber to function as a water reservoir that on certain occasions fed the larger chamber. The basin may not necessarily date to pre-Hispanic times, but if it does, it could have been part of a ritual water-management system. Winter (1987:2) refers to it as a bathing tub.

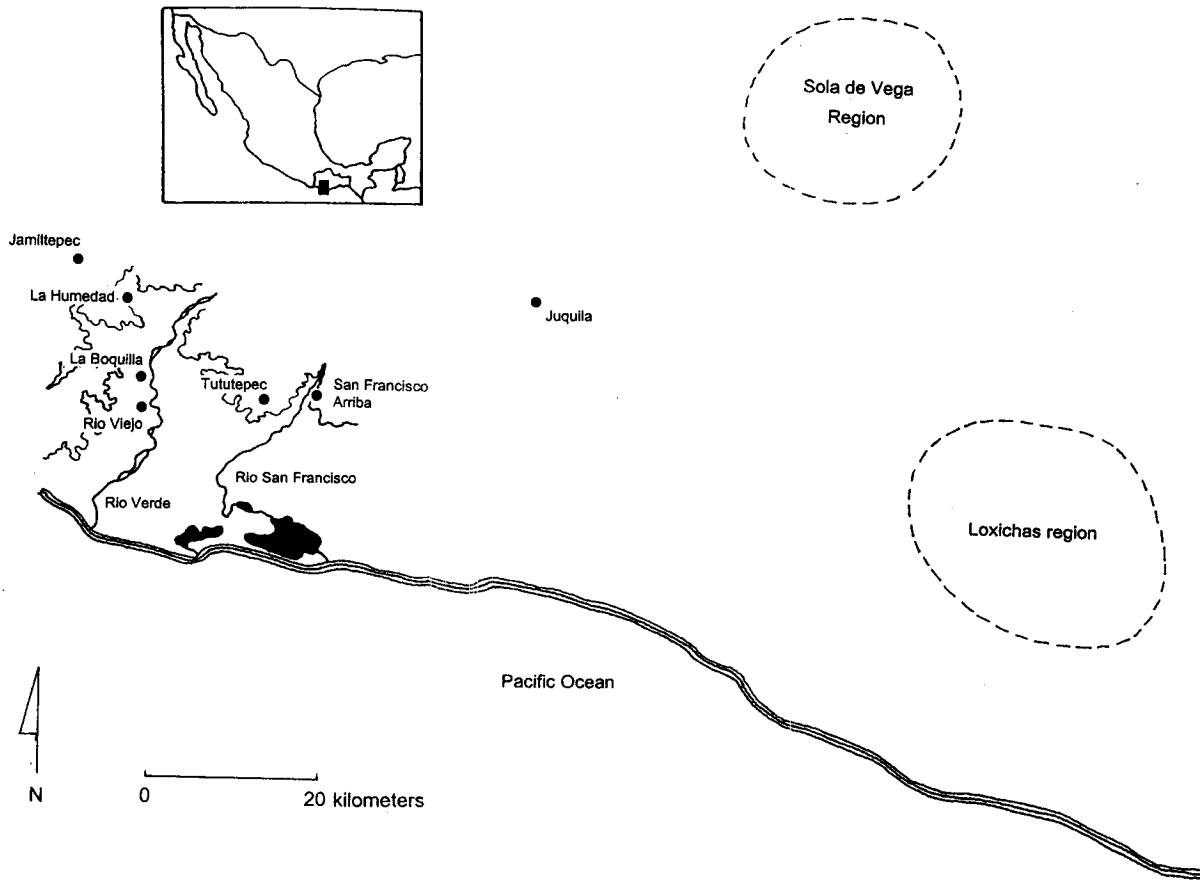


Figure 1. Map of Oaxaca, the coast, and sites mentioned in the text.

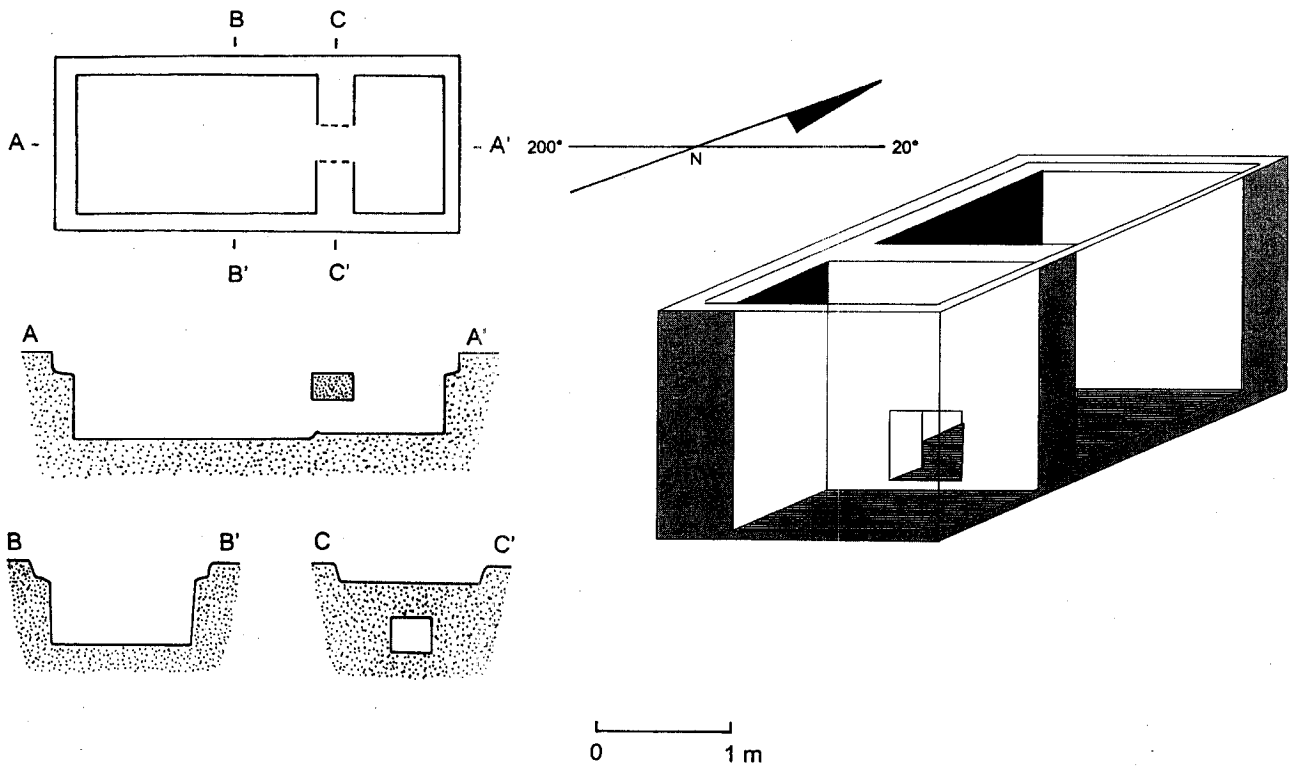


Figure 2. Two-chambered tub in the southeastern edge of Rio Viejo (plan and profiles after Winter 1987:3, Figure 1).

and the light color of the stone exacerbate the apparent indistinctness of the carvings to such an extent that only faint traces of carved lines are discernible during the day. Thus, it became necessary to document and study the monoliths at night, using the battery of an automobile and lamps with low-voltage bulbs. Evening field sketches eased chalk marking of the carved lines so that photographic documentation could also be accomplished with natural light. Final scale line drawings were generated from the photographs.

The search for previously recorded stones failed to locate two of them, but other surveys yielded three unrecorded carved monuments. We slightly lifted, or turned sideways, a few large monoliths that were lying on the surface throughout the site. These were found to be plain. As the result of our documentation program, we have a corpus from Río Viejo that includes 12 carved monuments, two monoliths with circular depressions, and two—possibly three—sculptures.

CARVED MONUMENTS

Six of the carved stones were found in the vicinity of Mound 9. The other seven monoliths appeared in or around Mound 1, which

is located over the central portion of the site (Figure 3). Mound 9, located toward the eastern sector of the site, consists of a monumental platform that included residences and public buildings from Terminal Formative through Late Classic times. Mound 1, a huge acropolis measuring 350 × 250 m along its base, supported two substructures (Buildings 1 and 2), each rising 15 m above the surrounding floodplain, as well as a public plaza and sunken patio. Mound 1 was the civic-ceremonial core of the city during the Terminal Formative and Late Classic periods, with a seeming period of abandonment during Early Classic times, when the site as a whole declined in size (Joyce 2001). By the Late Classic period, settlement had expanded along the river eventually to cover some 250 hectares. Río Viejo stood then as the primary center in a seven-tiered settlement hierarchy and undoubtedly functioned as the main center of political power in the region. During the Early Postclassic period (A.D. 800–1100), occupation at the site declined as the regional political hierarchy collapsed. Low-status families reoccupied the acropolis by the Early Postclassic period, as shown by the construction of modest residences over the remains of Late Classic public architecture (Joyce, Workinger, Kröfges, Oland, and King 2001).

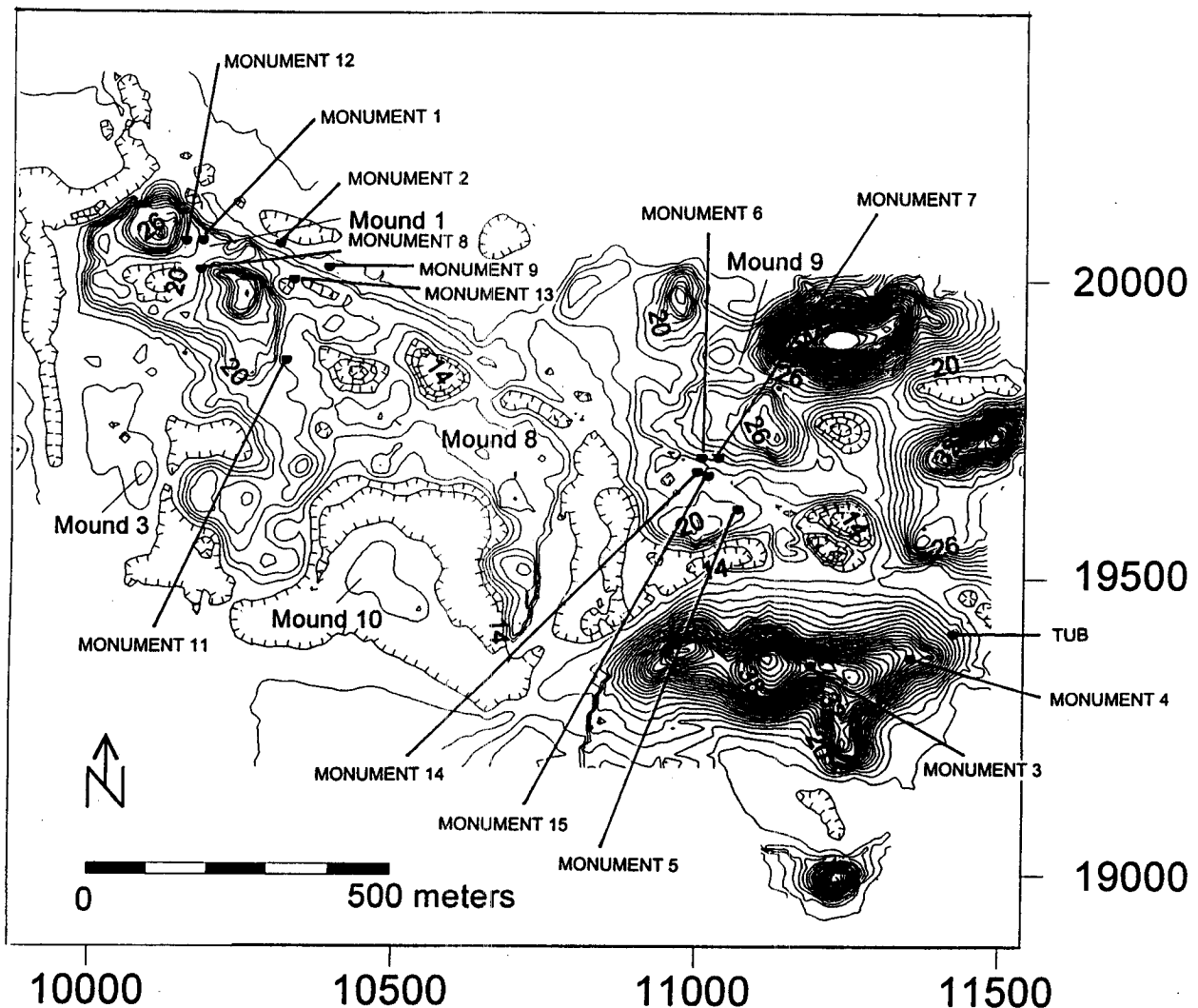


Figure 3. Plan of eastern end of Río Viejo showing distribution of mounds and monuments.

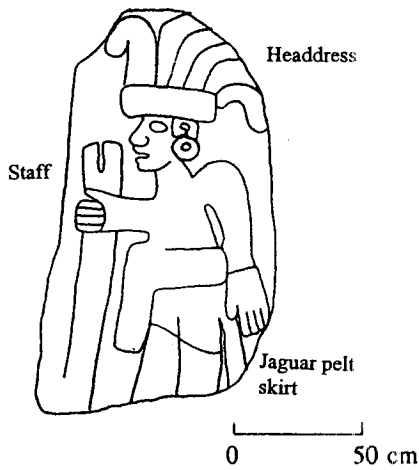


Figure 4. Río Viejo Monument 5.

Based on style and epigraphic conventions discernible in ten of the carved stones, the monuments from Río Viejo appear to date to the Classic period. The impossibility of detecting major stylistic differences between them does not warrant the assumption that

the spatial distribution of the monoliths necessarily reflects chronological differences between Early and Late Classic periods. Given the lack of contextual data, we are currently unable to substantiate or refine the chronological placement of the stones.

The carved monuments that were found in the periphery of Mound 9 include Stones 5, 6, 7, 14, 15, and 16. Monument 5 (Figure 4), which measures $1.70 \times .82 \times .17$ m, lacks a bottom portion. It is now eroded and was apparently reused to build a wall. The carving depicts a standing personage in profile. Its right hand holds a staff; the left arm hangs down naturally. Enough of the figure remains to determine that both legs were rendered. The garments seem to include a short skirt tied at the waist, with a broad cloth belt whose ends hang loose in front. The skirt looks undifferentiated but may have been made of a jaguar pelt because of what looks like a tail hanging from the back. The personage wears a broadband headdress with an array of feathers.

Monument 6 is the one originally seen by Brockington's survey team. It measures $3.38 \times 1.34 \times .30$ m. Despite its erosion, the carved surface depicts a standing personage in profile, showing both legs but only the right arm and hand. The figure wears a short skirt tied behind by a cloth band, an elaborate headdress in the shape of a bird's head, and sandals (Figure 5). Earplugs and a beaded necklace make up its personal ornaments. The hand holds a staff apparently adorned at the tip with a bead. Next to the figure's face is a non-calendrical sign or an elaborate speech

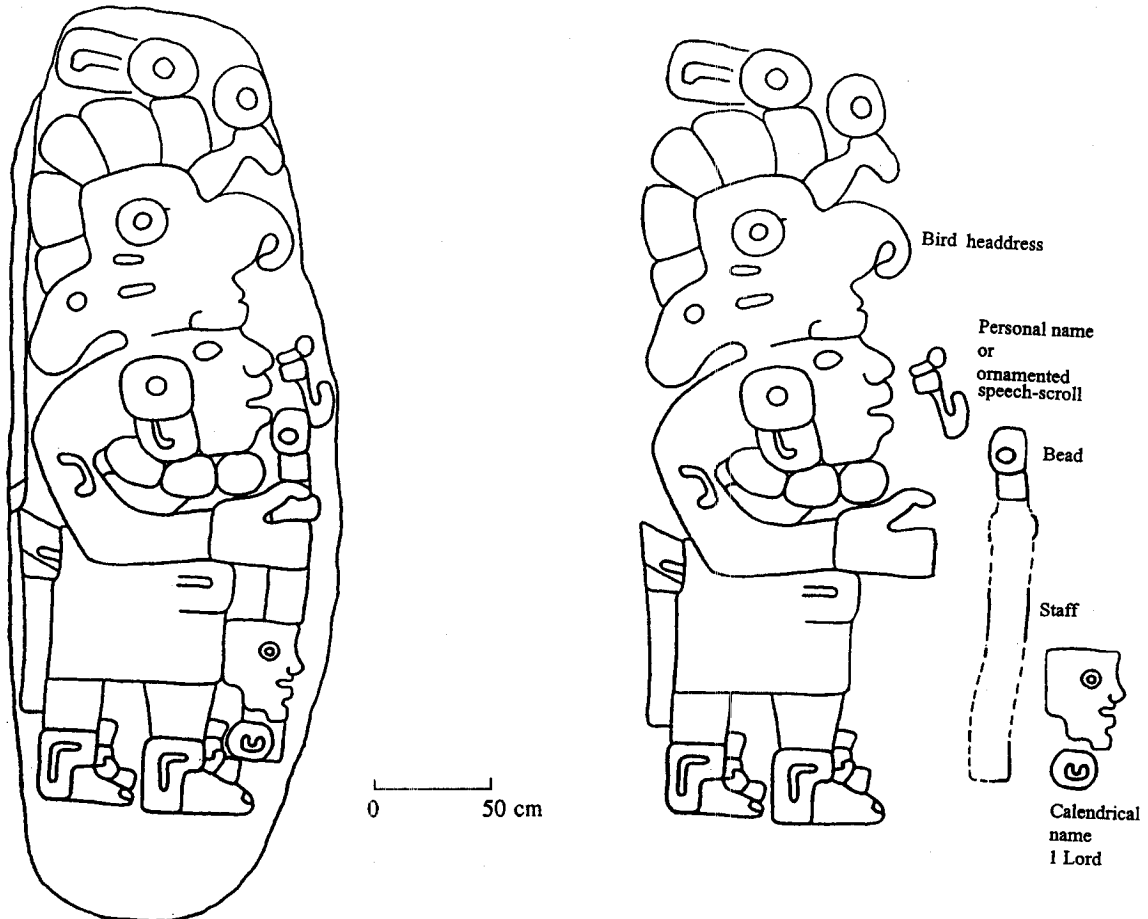


Figure 5. Río Viejo Monument 6.

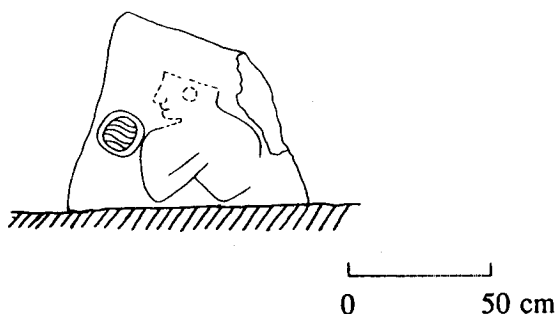


Figure 6. Río Viejo Monument 7.

scroll. The Glyph 1 X appears carved below the staff. This glyph, with a human head in profile accompanied below by a dot, means “1 Lord.” The evidence anchoring Glyph X to the twentieth position in the glyphic day-name list of the Zapotec, Nuiñe, and Xochicalco/Cacaxtla calendars has been discussed elsewhere (Urcid 2001:211–213).

Monument 7 was not found during the 1995 field season. When documented by Winter (1987:11–12), the stone formed part of the foundation to a wall. It appears to be a partially buried fragment whose exposed portion measured .80 × .70 × .38 m (Figure 6). The study of available photographs discloses faint traces of a human torso with crossed arms and possibly a glyph framed by a cartouche in front of the personage’s profiled head. The glyph seemingly consists of several undulating lines typical of the sign for water. There are, however, no traces of a coefficient.

Monument 14 was found partially buried with its carved surface sideways (Figure 7). The block measures 2 × .73 × .36 m. Its well-preserved carving shows a large sign within a cartouche and a coefficient below it. Three pairs of symmetrically opposed scrolls decorate the sides and top of the cartouche. The glyph inside it shows the butt of a dart; a bar and a dot below render the numeral 6. The anchorage of the “dart” sign to the thirteenth posi-

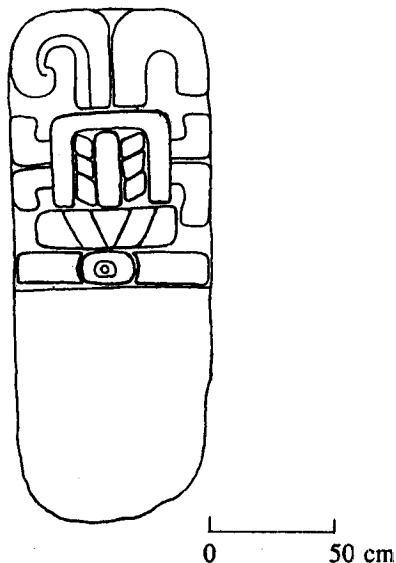


Figure 7. Río Viejo Monument 14.

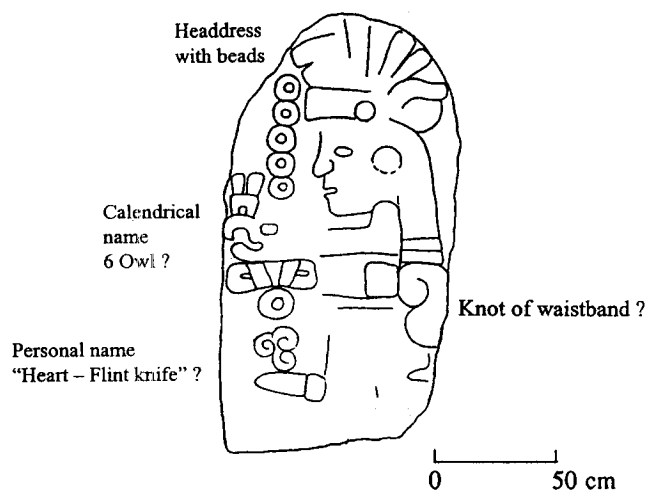


Figure 8. Río Viejo Monument 15.

tion in the glyphic 20 day-name list can be ascertained by a comparison with the year bearers at Xochicalco, where the glyph equivalent to the Nahuatl “Acatl” (Reed) is similarly rendered as the feathered end of a dart. This convention contrasts with the graphs (Glyphs D and Beta) used by Zapotec scribes in central highland Oaxaca to depict the thirteenth day *Quijlana*, a term that literally means “reed-flesh” (Urcid 2001:222–224).

Monument 15 lay flat next to Monument 14, with its carvings near the ground surface (Figure 8). The monolith measures 1.92 × .90 × .15 m. Advanced erosion makes the interpretation of the representation difficult, but it undoubtedly included a human figure wearing an elaborate headdress. The headdress consists of a headband with an array of feathers and a broad stripe hanging from behind. The scroll-like element below the stripe could be the back knot of a waistband. A string of beads also hang in front of the headdress. The posture of the personage cannot be determined, but if the figure had a standing posture, the stone probably would be missing its lower portion. In front of the personage is a short vertical sequence of glyphs that seemingly includes the profile rendering of a bird (specifically an owl), the numeral 6 (a bar and a dot), a trilobe sign, and probably a knife or the sign for blood.² The first sign in the text, Glyph F, corresponds to the thirrd position in the 20 day-name list of the Zapotec and Nuiñe calendars (Urcid 2001:170–174), and the third sign stands for “heart” in Zapotec and Teotihuacan writing (Figure 15a). Monument 16 is a small fragment that was found on the surface. Due to erosion, only a few faint carved lines were visible, and no configuration was recognizable.

The carved monuments found in and around the Late Classic acropolis on Mound 1 include Stones 1, 2, 8, 9, 11, and 12. Monument 12, found in situ, forms part of a wall at the base of Mound 1–Structure 1 that was built late in the construction sequence of the acropolis. The top of the monolith was visible and, although much eroded, seemed to be carved. When we exposed the lower

² The single-prong version of the blood glyph is usually rendered in vertical position, yet some horizontal examples occur at Monte Negro (Scott 1971:270. Plate 29). Examples of two- and three-prong versions of the blood glyph placed in horizontal position appear in Piedra Labrada (Guerrero) Stone 1 (cf. Urcid 1993:156, Figure 18, No. 1) and Río Viejo Monument 11 (see Figure 14).

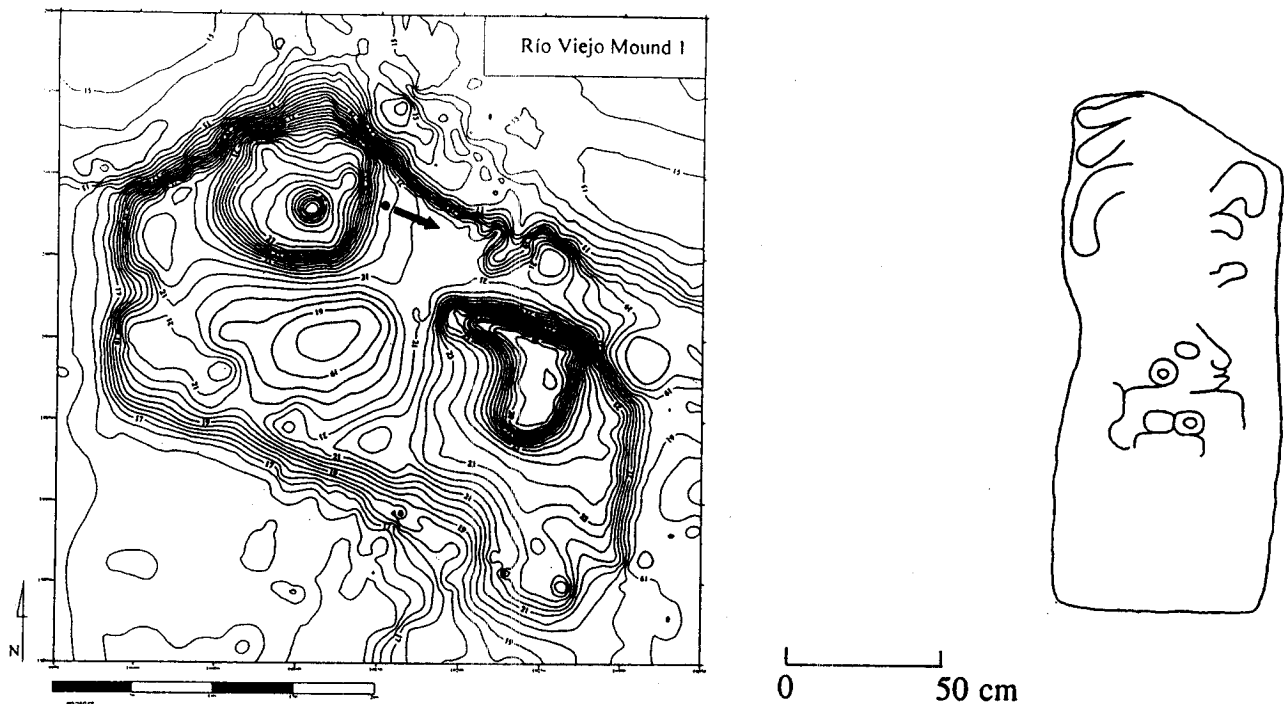


Figure 9. Río Viejo Monument 12 (arrow indicates facing direction of carved surface).

half of the stone to determine the size of the monolith ($1.95 \times .83 \times .20$ m), we confirmed the presence of a human figure in profile (Figure 9). The only discernible features include the face in profile, an ear spool, an array of feathers high above the face—which would imply an imposing headdress—and part of the upper torso with traces of a beaded necklace and/or a pectoral. Based on the size and location of the extant figure's head in the middle portion of the carved surface, the stone seems to be incomplete at the bottom. Thus, although in situ, it does not appear to be in a primary context. The placement of Monument 12 in the wall at the base of Structure 1 probably represents a reuse of the stone during the Early Postclassic period (Joyce et al. 2001).

Monument 1 lays slanted near the northern edge of the plaza of the acropolis. So far, this is the largest stela found at the site, measuring $4 \times 1.5 \times .33$ m. The fact that the carved surface faces Structure 1 breaks with a possible axial alignment in relation to the architectural surroundings and suggests that the monolith was originally placed somewhere else. The carving includes, near the top, the Glyph 2 Jaguar (Figure 10). The sign renders the frontal view of a feline's head placed within a cartouche marked by a single line. The two dots of the coefficient appear below. The Glyph Jaguar corresponds to the fourteenth position in the 20 day-name list of the Zapotec, Nūiñe, and later Mesoamerican calendars (Urcid 2001:156–157).

Monument 8 was found at the base of Structure 2, on the side that opens into the plaza of the acropolis. The monolith was seemingly reused to form a corner of a very late wall built over and along the middle portion of Structure 2. It lay almost completely fallen with its carved surface facing upward. The monument, measuring $2.02 \times 1.47 \times .25$ m, depicts a standing personage with head and legs in profile and the torso and crossed arms in frontal view (Figure 11). The figure wears sandals and a loincloth tied with a waistband whose knot is visible in the center of the torso.

The elaborate headdress on the figure includes the imagery of Glyph U, a sign that refers to a mythological bird in several Mesoamerican cultures (Taube 1987, 1988; Urcid et al. 1994). The profile head and paw of a jaguar protrude from behind the image of Glyph U. The personage seems to wear a jaguar buccal mask with prominent fangs. Its sumptuary ornaments include ear spools. In front of the personage is a vertical sequence of glyphs. Although the upper one might possibly be an elaborate speech scroll, a non-calendrical compound that forms part of a personal name, or a hand-scattering gesture, the lower sign renders pictographically an eye with scrolls above and below it, followed by two numeral bars. The glyph thus reads 10 L (10 "Eye"). The L sign corresponds to the sixteenth position in the glyphic day-name list of the Zapotec and Nūiñe calendars (Urcid 2001:184–185).

When documented by Winter (1987:4), Monument 2 lay somewhere along the north base of Mound 1 but could not be located during our search. The stone measures $4.25 \times .5 \times .2$ m and depicts a standing personage that may hold a staff (Figure 12). It seems to wear a buccal mask, a headdress, and sandals. A possible glyph may be carved below the feet.

During the 1988 field season, Joyce saw Monument 9 partially buried and slanted at a place along the northern edge of Mound 1 (Figure 13). At that time the stone was complete, measuring $2.5 \times .86 \times .5$ m. After 1989, during the construction of a nearby irrigation channel, the stone was broken into two fragments. Someone had dragged the lower piece several meters away from the upper fragment, obliterating its carving in the process. Originally, the monument depicted a personage, probably in the same posture as the figure on Monument 8, facing to its right with the arms crossed over the chest and wearing an elaborate headdress. At least one glyph appeared next to the personage's face, but its configuration is unrecognizable. This glyph, as in the case of Monument 8, may have signaled a personal name or a hand-scattering gesture.

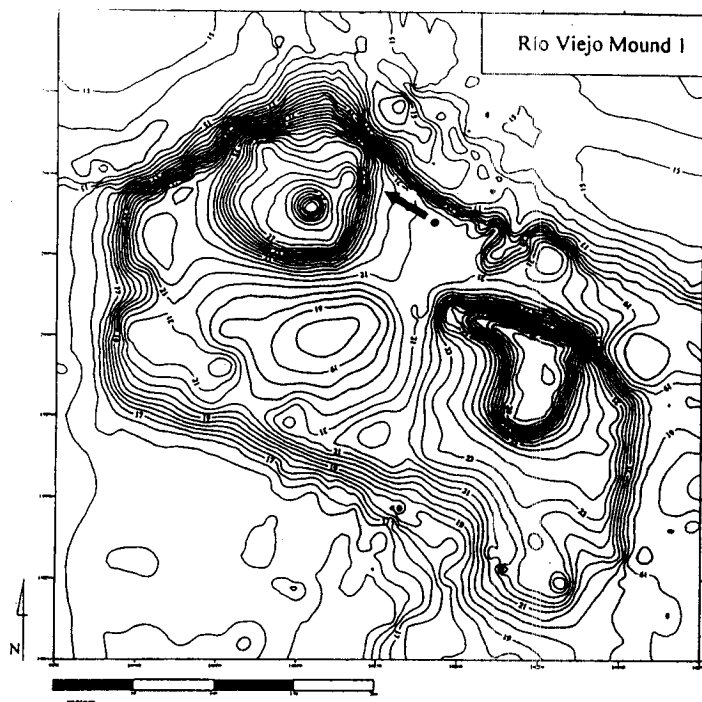
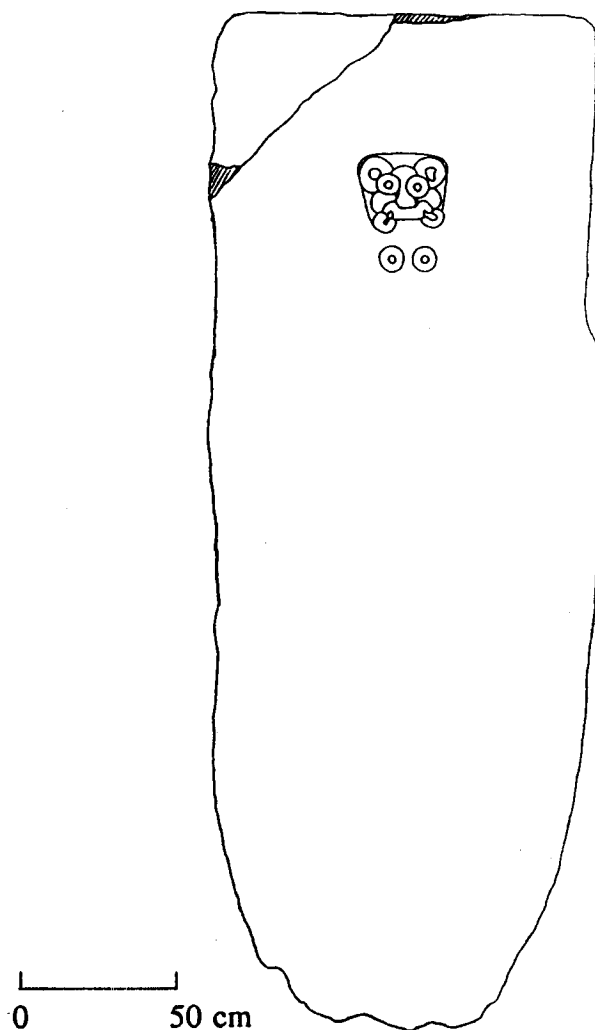


Figure 10. Río Viejo Monument 1 (arrow indicates facing direction of carved surface).



Monument 11 was found east of the acropolis with its carved side up, protected by a thin layer of soil and near a stone pavement of undetermined function. The stone is flaked at the edges and incomplete at the bottom. The available portion measures $1.73 \times .83 \times .12$ m. It depicts a personage in profile holding a staff topped by a zoomorphic image that includes an anterior extremity, a profile face, and a knotted headdress (Figure 14).³ The personage wears a composite pendant and an elaborate headdress with a jaguar's head protruding from the back. Over the headdress appears a full-bodied feline with the glyph for "blood" next to its snout (Figure 15b). This representation and the two plain dots between the personage's headdress and the feline render the Glyph 2 Jaguar. As mentioned before, the Jaguar sign corresponds to the fourteenth position in the 20 day-name list of several Mesoamerican calendars.

³ The zoomorphic image in the staff could be the representation of a "Fire-Serpent" (Xicani) if it faces toward the personage, or of a mythological bird (Glyph U) if it faces away from the personage. The second alternative accords better with directional conventions in the representation of images, associated paraphernalia, and glyphic texts in other Mesoamerican scribal traditions.

MONUMENTS WITH CIRCULAR DEPRESSIONS

Two other monoliths, Monuments 10 and 13, were found flat in the vicinity of Mound 1. Monument 10 was partially buried and seems smaller than Monument 13, which measures $2.36 \times 1.54 \times .25$ m. The exposed surfaces of both stones are covered with small and shallow circular depressions. The diameter of the depressions varies between 4 and 15 cm, and some of them connect to linear shallow grooves (Figure 16). Similar depressions occur also on the rock outcrops in the modern community of Río Viejo, on the eastern end of the ancient settlement.

Plain slabs and boulders carved with circular depressions are known to occur in several parts of Mesoamerica, some of them in contexts dating as early as the Formative period. At Chalcatzingo, for example, several boulders with depressions have been documented (Grove and Angulo 1987:Figures 11.3, 11.20, 11.22–23), and small cupules appear in the wash directly below Monument 1, suggesting a relationship with water ritual and symbolism (Karl Taube, personal communication, 2000). In her study of Mexica sacred geography and the cult to the deities of rain, mountains, and earth, Broda (1997:151) interprets circular depressions carved on rocks (*pozitas* or *pozitos*) in various locales within the basin of

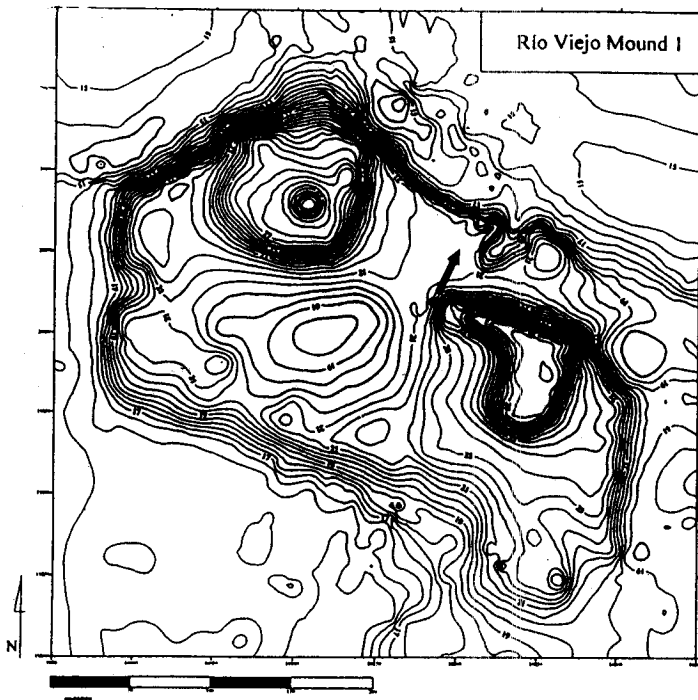
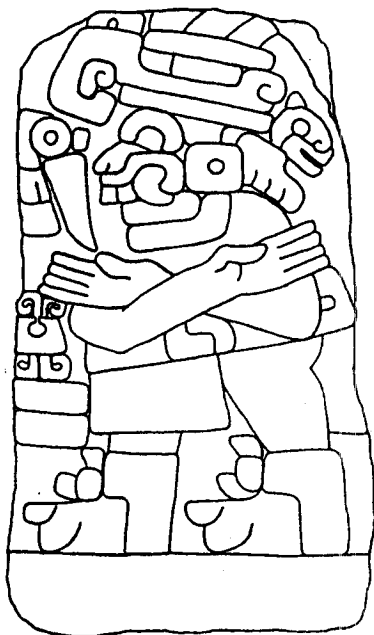
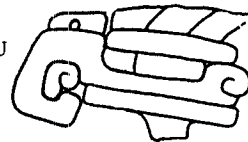


Figure 11. Rio Viejo Monument 8 (arrow indicates facing direction of carved surface).

0 50 cm



Headdress with image of glyph U



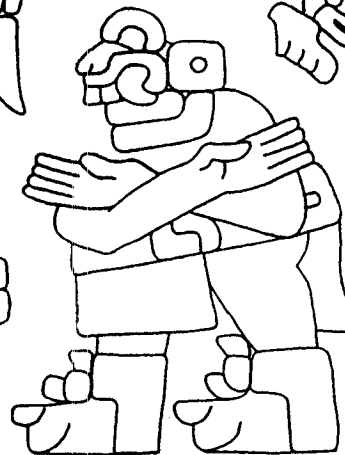
Personal name or ornamented speech-scroll



Jaguar head and paw



Calendrical name 10 Eye



Mexico as containers for water and blood from self-sacrifice used in propitiatory rituals, citing a vivid seventeenth-century description by Hernando Ruiz de Alarcón to that effect:

Another kind of idolatry, that of self-sacrifice, used to be practiced and in some parts is still seen. And it is the one they performed on the peaks of the hills and on high slopes. . . .

With this he [the penitent] would leave on his trip, carrying for his offering copal, which is the incense of this land, and some skeins of thick cotton thread poorly spun . . . called Poton [meaning] "loosely twisted" . . . And they used to accompany the offering with that which they call Quauhamatl, which is a kind of white paper like linen that is made in Tepoztlan from the soft bark of a tree. The offering used to be wrapped in this paper, and it served along with the cotton as something for the god or

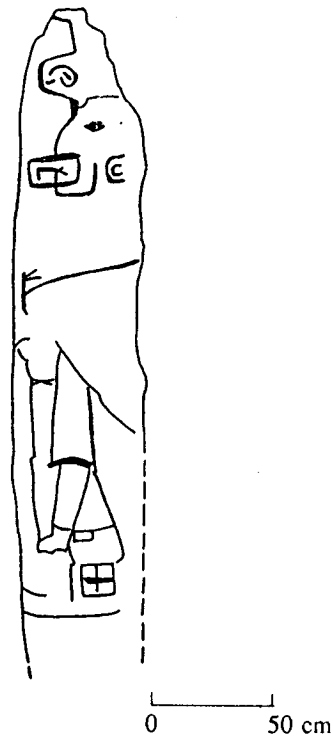
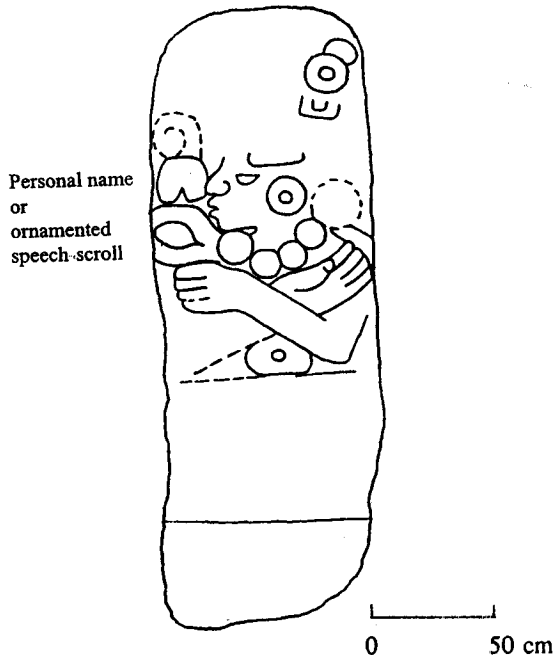


Figure 12. Río Viejo Monument 2 (after Winter 1987:6, Figure 3).

idol, to whom it was offered. . . . Upon arriving at the place of the idol or at the pile of rocks, he prostrated himself where he was to place the offering, and, after having placed it, he sacrificed himself by spilling his blood, for which purpose he carried a sharp needle made of a little sliver of cane, and with it he



Personal name or ornamented speech-scroll

Figure 13. Río Viejo Monument 9.

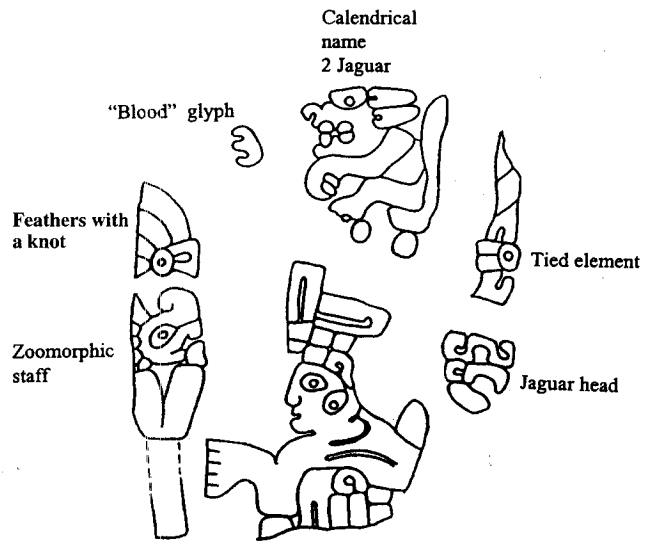
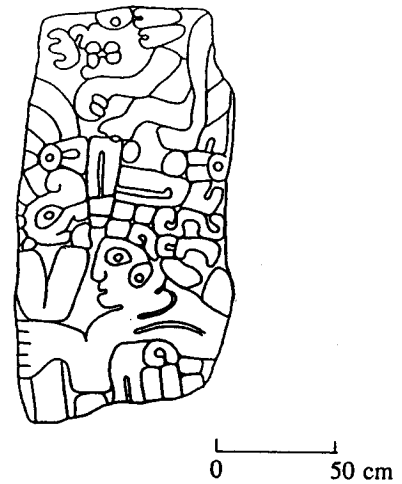
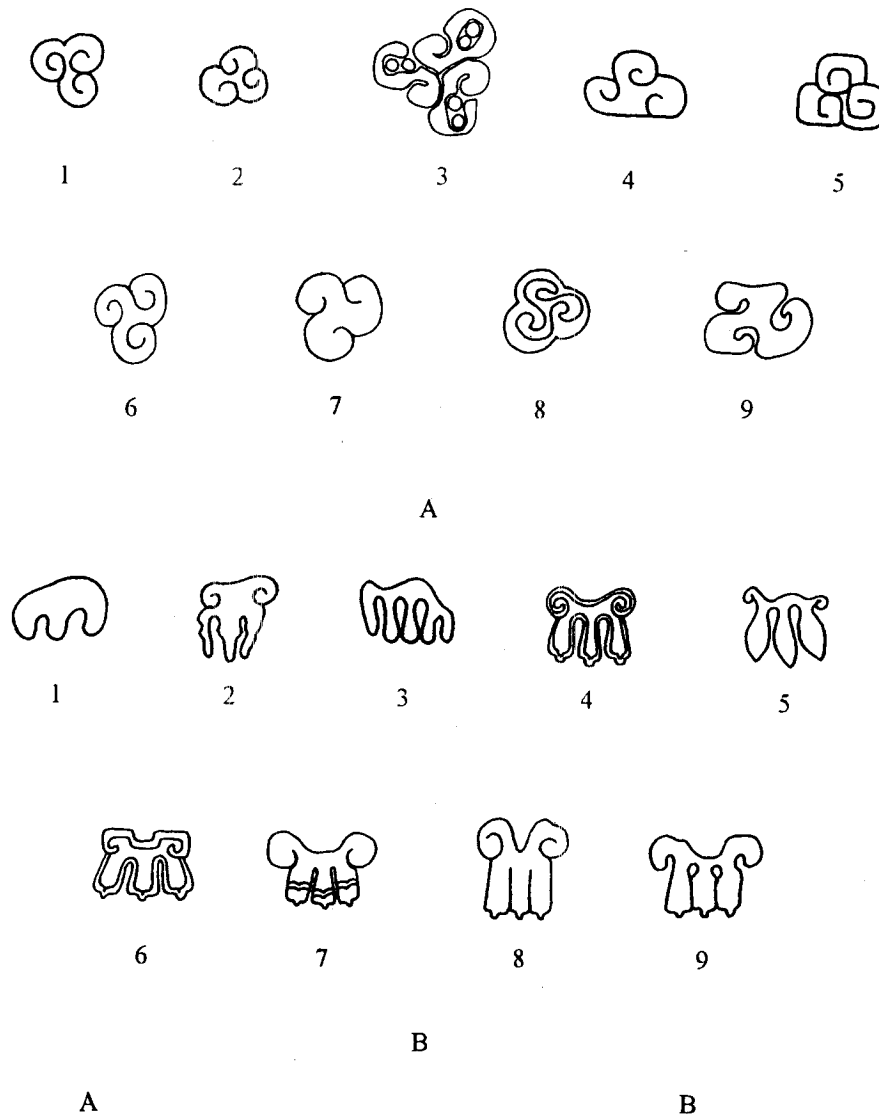


Figure 14. Río Viejo Monument 11.

pricked his ears in the parts where women put earrings until much blood was spilled. And he poured it into some little vessels that they made in the rocks like *salicellars* [Andrews and Hassig 1984 (1629):54–57; emphasis added].

Circular depressions on boulders have also been documented in coastal Jalisco, Nayarit (Mountjoy 1987, 1991) and as far north as Sinaloa (Ortíz de Zárate 1976). Mountjoy (1991:23, Figure 2b–d, 25) argues that the depressions in the stones from Tomatlan, Jalisco, could postdate the use of the monuments as stelae, interpreting the depressions as symbolic representations of the sun's eye and linking them as well with ritual petitions for rain (Mountjoy 1987:41–45). A difference between the modified stones from the central highlands or West Mexico and those from Río Viejo is that, in the former regions, the depressions in each monument are few, whereas in the monuments from Río Viejo they are quite prolific. In the case of carved boulders, those from West Mexico invariably appear accompanied by petroglyphs.

Regarding the technique of execution, the circular features in the monuments from the Western Pacific littoral resemble the



- | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ol style="list-style-type: none"> 1. Rio Viejo Monument 15 2. Nopala Monument 1 3. San Jose Mogote Monument 3 4. Monte Alban Monument J-7 5. Monte Alban, Monument SP-8b 6. Dainzu Monument 1 7. Dainzu Stone 83 8. Teotihuacan mural in Plaza de los Chalchihuites, La Ventilla 9. Teotihuacan ceramic jar in Museo de Teotihuacan (redrawn from Neys and von Winning 1946, fig. 1b) | <ol style="list-style-type: none"> 1. Rio Viejo Monument 11 2. Monte Alban Stone J-112 3. Teotihuacan mural in Plaza de los Chalchihuites, La Ventilla 4. Xochicalco Stone 8 5. Cacaxtla mural in Building A, south portico 6. Chilpancingo Monument 1 7. Teotenango Monument 3 8. Tula stone slab 9. Tula, fire-clay slab |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Figure 15. The "heart" (A) and "blood" glyphs (B) from Rio Viejo and their counterparts in other Mesoamerican scribal traditions.

"grounded pits" present in several of the "vandalized" Formative monuments from the Gulf Coast, such as Monuments 14 and 21 from San Lorenzo (cf. Coe and Diehl 1980:II:321, 332). In other words, the modifications were executed by abrasion rather than pecking.

SCULPTURES

Monument 4, previously documented by Winter (1987), stands today in the outer corridor of a modern house that was built on one of the granite hills at the eastern end of the site. The stone is

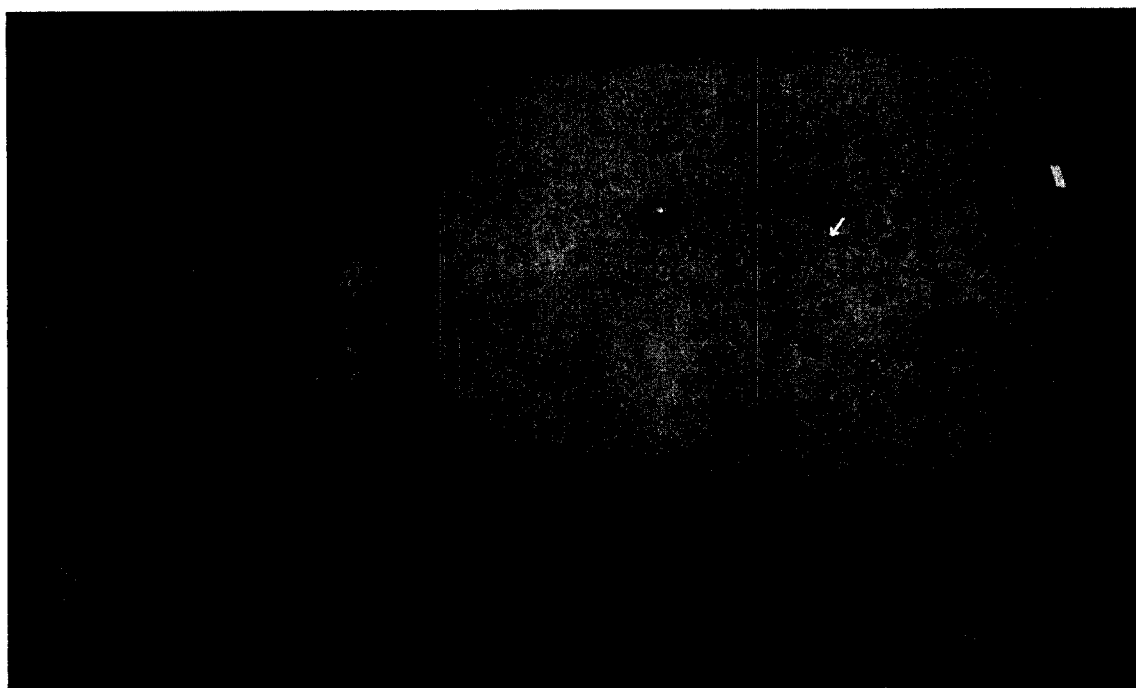


Figure 16. Río Viejo Monument 13 (grooves connecting some of the depressions are visible at the right).

embedded in the ground, but the exposed portion measures $1 \times .55 \times .25$ m. Although much eroded, the sculpture represents a human head and torso (Figure 17). Except for the silhouette of the ears, the facial features are completely obliterated, and no traces of headgear are evident. The arms seem to parallel the torso, while the chest area has a squared depression that, according to Winter (1987:7), may have been carved with a quadripartite motif. The back and lateral sides of the monument appear plain. It is impossible to determine whether the embedded portion was a tenon or rendered the lower extremities of a full-bodied figure. The owner of the house claims to have found the sculpture nearby.

While searching the vicinity, we located in that same hill the other sculpture that previously had been documented by Winter

(1987) as Monument 3. We saw the stone laying flat and resting on its posterior surface, but the owner of the estate later removed the sculpture and erected it in front of his house, close to Monument 4 (Figure 18). The monolith measures $2.1 \times .85 \times .45$ m. The sculpture represents a woman, an attribution based on the prominent breasts. Even though the nipples are not rendered, the representation seems to be of a topless figure, because no upper garment is indicated. The flattened facial features are slightly discernible, including the outline of the ears and of an open mouth. One can also see a band around the top of her head, with a long

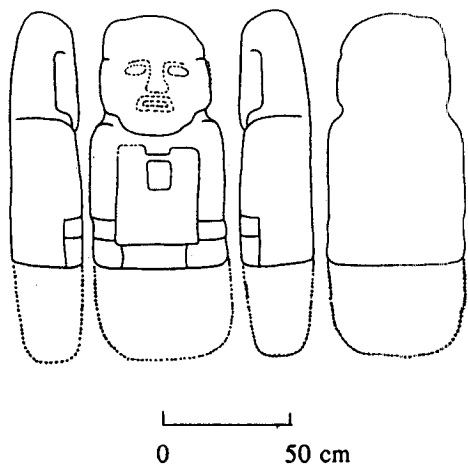


Figure 17. Río Viejo Monument 4.

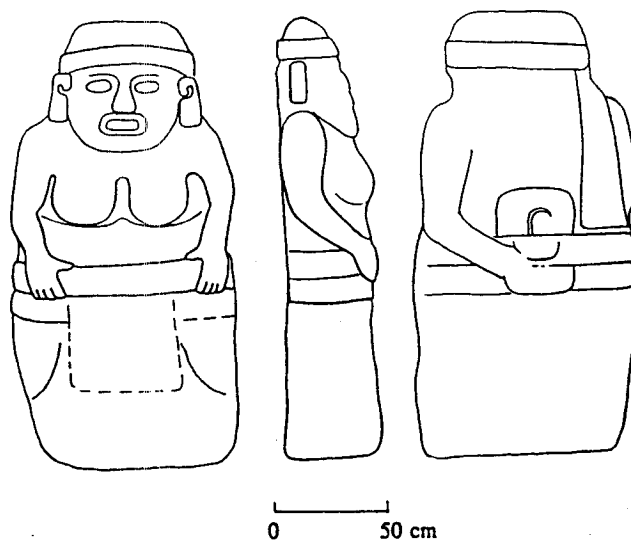


Figure 18. Río Viejo Monument 3.

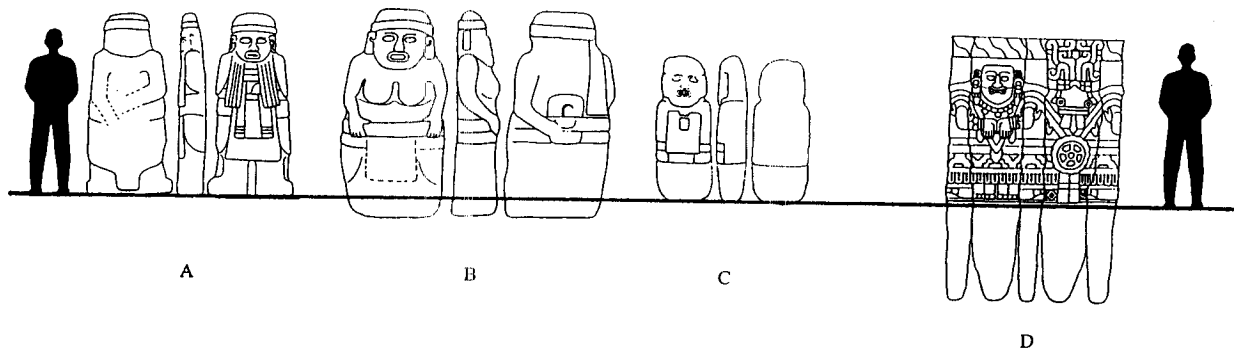


Figure 19. Monuments 3 and 4 from Río Viejo compared with the sculptures in Jamiltepec and Tututepec. (A) Jamiltepec Monument 1; (B) Río Viejo Monument 3; (C) Río Viejo Monument 4; (D) Tututepec Monument 6.

flap hanging down on the posterior right side. Two arms are indicated on the frontal side of the sculpture, first running parallel to the torso, then flexing slightly inward. The fingers are barely noticeable, but the hands appear as if holding the belt for a skirt and apron. Traces of a second left arm are evident on the back of the sculpture. This extremity appears bent as if reaching the knot on the skirt's belt. The localized erosion, however, prevents one from making sense of the hand details. The seemingly long skirt has triangular flaps lateral to the apron. Overall, the sculpture comes close to a realistic rendering of the way native women in this part of the Oaxaca coast dressed until quite recently—that is, bare chest and with a long skirt or *posahuanco*. The unusual depiction of three arms might be the result of a change in the final outcome of the sculpture; perhaps the statue's initial design involved having both arms behind the torso but the sculptor later abandoned the idea.

DISCUSSION

The size of Río Viejo, its impressive monumental architecture, and the presence of stone monuments attest to its importance as a political center in the alluvial plain of the lower Río Verde drainage. Throughout several field seasons of archaeological investigations, the site has yielded 16 monuments. These include monoliths with circular depressions, carved stelae, orthostats, and anthropomorphic sculptures. Although the function and significance of the monuments with abrasions (numbers 10 and 13) are puzzling, alternative explanations could account for the depressions and grooves. The features may have been a byproduct of worshipping practices associated with the stones. If so, the monoliths could originally have been intended as stelae, then used in horizontal position. Alternatively, if the monoliths had no sacred significance, the stones may have been placed flat for processing or manufacturing items that involved abrasion or grinding as reduction techniques. Taking into account the evidence of circular depressions on rocks and boulders from several parts of Mesoamerica and beyond, as well as the widespread practice in coastal Oaxaca of erecting plain stelae in public and monumental contexts (De Cicco y Brockington 1956; Jorrín 1974; Long 1974), we posit that the Río Viejo monuments with abraded depressions had a sacred character.⁴

The two sculptures found at Río Viejo bear some resemblance to another one standing today in the main plaza at the nearby town of Jamiltepec (Figures 1 and 19A). According to Teobert Maler, this sculpture laid abandoned at a locality nearby Tututepec when he photographed it in 1874 during a journey from Acapulco to Tehuantepec (in Parsons 1986:38, photograph 85).⁵ Although Peñafiel (1890:I:Plate 138, III:127) published the earliest known drawing of this sculpture, he took the information of its provenance from Martínez Gracida. The latter illustrates and describes the sculpture in an unpublished work compiled at the end of the nineteenth and the beginning of the twentieth centuries. According to this account, the sculpture came from “Los Herreros”, a place within the jurisdiction of Jamiltepec located southeast of a sector known as “La Boquilla del Río Verde [the mouthpiece of the Río Verde]” (Martínez Gracida 1910:II:Plate 10). The Oaxacan historian also states that few archaeological remains were present in the locale where the sculpture was found. Martínez Gracida places Los Herreros “one league inland and 42 m from the road that leads to the Pacific Ocean” (Martínez Gracida 1910:II:Plate 10). About 4 km northwest of Río Viejo one still finds a locality known as “La Boquilla.” The direction and distance between La Boquilla and Río Viejo closely approximate the data furnished by Martínez Gracida,⁶ suggesting, as had already been deduced by Winter (1987:2), that the statue in Jamiltepec originally came from Río Viejo. Such a conclusion also concurs with an extraordinary datum compiled by Gutierre Tibón in the 1950s. While trying to ascertain the provenience of the sculpture, Tibón talked to an old woman, who gave him a version that was astonishingly similar to the one recorded by Martínez Gracida, adding that near the sculpture “there was another statue, undoubtedly the *sister*, standing and fully covered with vegetation” (Tibón 1961:118–122; passage translated by the authors; emphasis added).⁷ We assume that the other sculpture in this account is actually Monument 3.

⁵ At that time, the sculpture lay on its left side.

⁶ A “league” equals about 2.6 miles (Taylor 1972:260)—that is, 4 km.

⁷ One can deduce from the narrative published by Tibón that the sculpture was found ca. 1810, transported to Jamiltepec around 1870 by the local authorities under the suggestion of Manuel Martínez Gracida, and photographed by Maler when it was already in the town but loose and sideways. De Cicco and Brockington photographed the monument in 1956, when the sculpture had been erected in the civic plaza of the town.

⁴ Among the approximately 70 plain stelae reported in coastal Oaxaca, one still standing at the site of Piedra Parada has a few abraded depressions, suggesting the possibility that slabs previously used in horizontal position were later erected as stelae (observation based on an unpublished photograph courtesy of Donald Brockington).

The sculpture in Jamiltepec measures $1.8 \times .74 \times .27 \text{ m}^8$ and depicts a fully dressed personage, including a band around the top of the head, an upper garment with triangular flaps on the shoulders, pleated flaps over the chest, and a composite apron over a skirt with lateral triangular flaps held in place by a broad waistband. The back surface of the sculpture is highly eroded, but one can see on that side the rendering of the arms. Although these appear flexed, details of the forearms and hands are obliterated. The feet spread in opposed profile views, and the figure rests on a squared pedestal. The facial features, including the ears, are discernible but appear flattened, as in Monuments 3 and 4 from Río Viejo. Aside from the similarity of the skirts in the statue at Jamiltepec and Río Viejo Monument 3, another resemblance concerns the posture of the arms on the back of the torsos. Although details are lacking, the presumed changes in the execution of the arms in Monument 3 makes it unlikely that the statues render bound prisoners with their hands tied behind their backs. Based on their relative size, overall composition, and the noted similarities, the three sculptures from Río Viejo could represent a familial group (male, female, offspring) or embody females.⁹

De Cicco and Brockington (1956:12), Tibón (1961:118), and Parsons (1986:38) have commented on the “olmecoid” look of the Jamiltepec sculpture, an observation that is not accompanied by a discussion of the criteria for such a stylistic assessment. None of the sculptures from Río Viejo seems to have traits indicative of a Formative-period dating, either in terms of physiognomic characteristics (almond-shaped eyes, down-turned mouth, cleft in the forehead) or in terms of manufacturing technique (the sculpture tends to be flattened rather than volumetric). Given certain similarities among the three sculptures, it is conceivable that they are approximately contemporaneous or that they represent an Early Postclassic sculptural tradition that may have continued well after the demise of Río Viejo. The statue of a female from Tututepec, which seemingly dates to the Late Postclassic period (Figure 19D), could be a later version of such sculptural tradition.¹⁰

What could have been the meaning of flattened sculptures, in contrast to two-dimensional renderings of individuals identified by their calendrical names? If the sculptures represent a family, perhaps they reflect a preoccupation with genealogies and the tracing of descent. Another possibility, not necessarily exclusive of the previous one, is that the sculptures embody supernatural

entities or deified ancestors who encompassed sacred notions about the earth, fertility, and sustenance. Writing in the sixteenth century in the central valleys of Oaxaca, Fray Juan de Córdova (1987 [1578]:140–141) learned that Cozaana, one of the Zapotec deities associated with the native calendar, was a supernatural invoked by hunters and fishermen. Fray Gonzalo de Balsalobre gathered the same information in the seventeenth century while conducting inquisitorial trials in Sola de Vega, the mountainous region neighboring the Río Verde drainage (Balsalobre 1892 [1656]; see also Berlin 1957). Analysis of Córdova’s sixteenth-century Spanish–Zapotec vocabulary shows that “Cozaana” is a polysemous word with meanings related to “mother,” “pregnant woman,” “puerperal,” “begetter of twins,” “generative power of the soul,” “founder of a lineage,” “lineage,” “generation order,” and “creator of animals,” among other concepts (Smith 1998). Early this century, ethnographic studies among the Zapotec Loxicha, who also inhabit the highland region neighboring the littoral, documented hierarchical pantheons of deities whose domains include the earth, the sea, lightning, wind, water, rain, maize, and other plants and animals (both terrestrial and marine). The Loxichas charted the relationships between these supernaturals in terms of native kinship categories (mother–father, husband–wife, parent–offspring, sister–brother). Thus, all had both female and male aspects. In many instances, however, the female aspect was considered more potent and powerful (Weitlaner and de Cicco 1960; Weitlaner 1964). Several people commented to Tibón (1961:119) that the statue in Jamiltepec represented the moon, a notion that, together with that of “mother earth,” “producer,” and “reproducer,” is today associated by the Chatinos with the Virgin of Juquila (Greenberg 1981:44) (Figure 1).

Monument 3 from Río Viejo also recalls a story, documented among the Mazatecos of northwestern Oaxaca, that is linked to the eighth month of their native calendar. The account states that:

[A]t this time there can be heard in the east every now and then, two or three times a day, a low far-away rumble like the rumble preceding an earthquake, and people say that where the sound comes from there sits an old woman upon the sea. She has big breasts and with them she feeds the cornfields, and it is when she is giving milk that the rumble is heard in the east and the leaves rustle. The old woman is called “Big Thunder” (*è'iu mahê*) [Weitlaner and Weitlaner 1946:195].

Given these sacred traditions, the sculptures from Río Viejo could have been the focus of propitiation rituals and ceremonies aimed at petitioning favors. In this regard, the documented significance of the female statue from Tututepec during the early nineteenth century becomes relevant. Martínez Gracida (1910:II:Plate 111) recounts that:

This statue was originally placed in the town’s temple, in front of the royal house, from where it was relocated and buried by the Indians in the courtyard of the church so that the Spaniards would not destroy it. In 1830, the local priest witnessed a ritual where the statue was buried and ordered its erection in the same spot. In 1874 it was embedded as a jamb to the doorway of the church’s cemetery¹¹ [Martínez Gracida 1910:II:Plate 111; translated by the authors].

⁸ The given height encompasses the exposed portion only. Martínez Gracida (1910:II:Plate 10) gives a total height of 2.35 m, and Parsons (1986:Number 85) a total height of 2.25 m. Such recorded heights indicate that the bottom 43 to 53 cm of the monument are now set into the ground.

⁹ Martínez Gracida (1910:Plate 110), Peñafiel (1890:III:127), and Tibón (1961:118) considered the statue as that of a man, and Porfirio Díaz stated that it represents “the cadaver of a mixtec king” (in Peñafiel 1890:III:127). The flat chests of Monument 4 and the statue at Jamiltepec do not necessarily support a male attribution because, biologically, there are flat-chested women. Also, there are representations that, based on the garments, can be interpreted as females even though they lack volumetric rendition of breasts (see Figure 19D).

¹⁰ Our temporal placement of the Tututepec sculpture is not necessarily at odds with Pohl’s (1999:184) comparison of the statue with atlantean figures from Tula (and Chichén Itza), because the convention of executing blocky carvings continued well into the Late Postclassic period in the central highlands. The relief of Mayahuel from Offering 5 at Mexico–Tenochtitlan’s Main Temple and the Billimeck Pulque Beaker (cf. Pasztory 1983:156, 244) are good examples. In addition, there is virtually no settlement at Tututepec dating to the Early Postclassic period (Joyce et al. 2001)

¹¹ As of 1998, the monolith stood free under a roof in an esplanade in front of the church. A museum to which it will eventually be moved was under construction at one side of the temple.

The iconography of the statue is equally revealing (Figure 19D). The female gender can be deduced from the garments, which include a triangular shawl (*huipil*) and a skirt decorated at the bottom with three bands. The upper band has step frets, followed by one with tassels, then another with variable designs. The border of the shawl has laurel-shaped motifs, perhaps renderings of flint knives or hearts.¹² The posterior side of the statue seems to have a mirror and an offering with smoke scrolls emanating from it. Such a constellation of traits suggests that the statue personified oracular powers, the propitiation of which required covenants with humans in the form of prayers and offerings.

Although the quarries from which the raw material for the manufacture of the Río Viejo monuments have not been detected, some of the few intact edges on the carved monoliths indicate that there was no preoccupation to dress their surfaces. This suggests that the quarrying might have involved a process of splitting large exposed boulders and selecting appropriate blocks. Because of its possible implications regarding carving procedures, the context of Monument 3 is worth commenting on. As mentioned earlier, the hill where it was found appears to have been one of the sources from which this and other monuments were procured. The presence of sherds and grinding stones in this hill suggests that Río Viejo extends in that direction so as to encompass it. But we do not know whether those items of domestic technology are traces of activities left by the inhabitants or by those specialists who engaged in the quarrying of stone. The first alternative would imply that the context of the sculpture was in a hill amid abodes of a residential sector, while the second would suggest that the sculpture was left standing in a workshop near a quarry. If so, the seeming lack of definition of several features in the sculpture would not be the result exclusively of erosion but due in part to its unfinished state. Perhaps only pre-forms were prepared at workshops in or near the quarries and, once transported to their final destination within the site, the sculptures were then completed.

The larger monuments weighed several tons, and when their size and distance from the presumed quarrying sources is compared, the scale of public works at Río Viejo during the construction and occupation of the Late Classic acropolis gains further substantiation (Figure 20). The context of most of the stones is unknown, but those that seem to have been found *in situ* do not appear to be in a primary setting and may have been moved and reused during the Early Postclassic political collapse at the site (Joyce et al. 2001). Some of them, such as Monument 1, were evidently meant to be stelae. Others could have been used as orthostats to form composite narratives decorating the facades of public buildings. For instance, the architectural context of Monument 12 is similar to that of a group of carved orthostats at the site of Río Grande, which were found in a primary context decorating the basal wall of a monumental platform (Brockington 1969:36–37; Jorrín 1974:40–43; Urcid 1993:151, Figure 12).

Four of the Río Viejo monuments depicting personages that wear an elaborate headdress and/or hold a staff are accompanied by a glyph that must represent their calendrical name (numbers 6, 8, 11, and 15). Although two stones include a single glyph only, we believe these signs refer also to names of mortals (numbers 1 and 14). Five other monuments depict individuals, but their incompleteness and eroded condition precludes us from assessing if

these were also identified by their calendrical name (numbers 2, 5, 7, 9, and 12). We can thus generate a list of six named individuals, five of which are different (Figure 21a). Monuments 1 and 11 include the Glyph 2 Jaguar, and although rendered in very different ways, both monoliths could identify the same historical figure.

With the newly available glyphs accompanied by coefficients and those that were already known (cf. Urcid 1993:145, Figure 4), we can update the glyphic list of the 20 day names used in the Oaxaca littoral. The glyphs for the third day (Owl) and the thirteenth day (Dart) can now be accounted for. The glyphs for day names 6 (Death), 7 (Deer), 11 (Monkey), 12 (Grass), 18 (Flint), and 19 (Rain) still remain to be attested in the archaeological record.

Monuments 6, 8, 9, and 15 also include non-calendrical signs that could represent the personal names of the depicted figures (Figure 21b). Yet three of these glyphs were placed next to the faces of the personages, leading to the alternative interpretation that these are ornamented speech scrolls. If so, the composition of the respective monuments would be that of personages uttering their own calendrical names. Alternatively, some of the non-calendrical compounds, such as those on Monuments 8 and 9, could be related to a hand-scattering gesture.

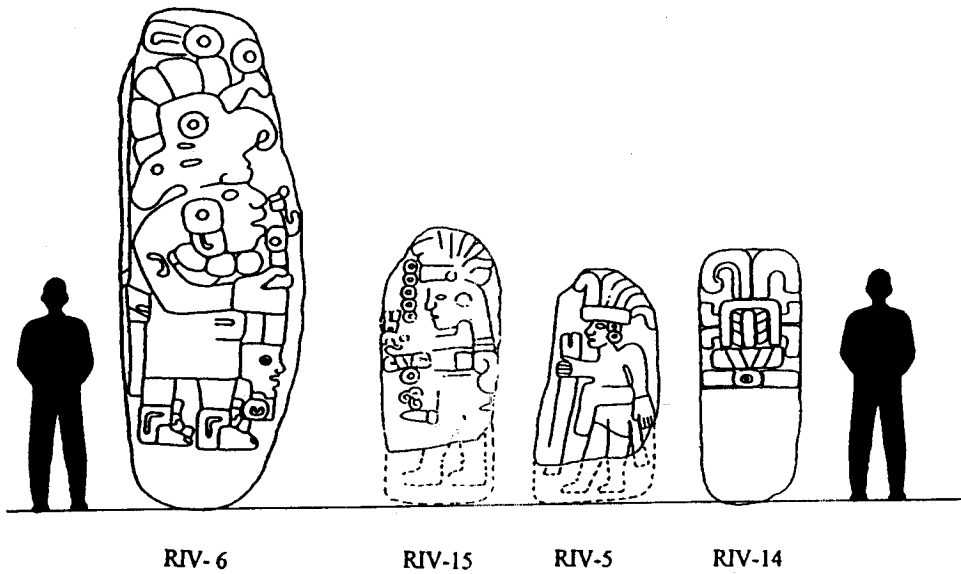
Most of the conventions in the monuments from Río Viejo show striking similarities to Zapotec epigraphy, supporting the idea that the coastal distribution of Chatino speakers (a branch of the Zapotecan language) was wider in antiquity than today (Urcid 1993:161; see also Barlow 1944). The use of certain signs, such as the “dart” and “blood” glyphs, suggests contacts with Teotihuacan and Xochicalco. The role that the Mixteca Baja may have played in the interactions between the central highlands and the Pacific littoral is evinced by the noted similarities to Nuiñe epigraphic conventions.

Based on the weight and size of the monuments, their architectural function as stelae or decorative orthostats, certain iconographic details (such as the deployment of jaguar symbolism in garments and accouterments), and their epigraphic content, we suggest that the named figures depicted on the stones were rulers of Río Viejo. The body posture of the personages carved on Monuments 8 and 9 is the typical form of ancestor representation in many parts of Mesoamerica (Urcid 1993:148, 155, Figure 17). Perhaps these stelae show rulers after their apotheosis and as deified ancestors. Considering that the span of the Classic period is approximately 550 years, and assuming an average of 25 years per human generation, there would have been at least 22 rulers during such a span. So far we know the identity of only five or six of them. But if the monuments were to date exclusively to the Late Classic period, their spatial distribution within Río Viejo would have implications regarding the site’s internal organization, local strife for royal succession, processes of monument reuse, and/or parties who could have commissioned monuments. Perhaps inscribed stones were used in mortuary contexts, as well, and not only rulers but also other members of the nobility were able to record their identity for posterity.

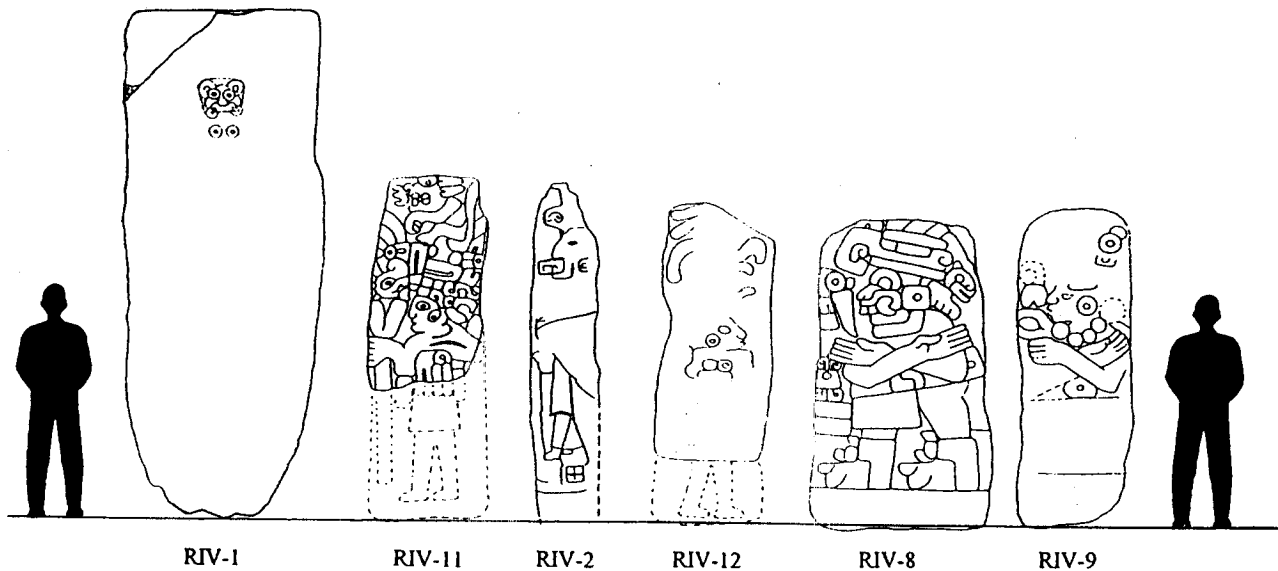
CONCLUSIONS

The monuments found at Río Viejo fall into three categories. The least understood category involves two monoliths that have one of their surfaces riddled with small and shallow circular depressions, some of which are connected by grooves. It seems likely that these features resulted from human modification, specifically as a by-product of ceremonies centered on stelae endowed with sacredness.

¹² Based on the interpretation of flint knives in the border of the *huipil*, Pohl (1999:184) interprets the sculpture in Tututepec as the representation of *Itzpapalotl* (Obsidian Butterfly). This female deity figures prominently in a creation story from the Central Highlands.



Monuments around Mound 9
(closer to granite source)



Monuments in or around Mound 1
(further away from granite source)

Figure 20. Carved monuments from Río Viejo by location and size.

The second category of monuments at Río Viejo consists of sculptures representing human figures. The temporal placement of these monuments may span the Early Classic to the Early Post-classic periods. Sacred beliefs documented among Zapotec, Chatino, and Mazatec peoples during the sixteenth, seventeenth, and early twentieth centuries provide a framework to interpret these images as embodiments of supernaturals or deified ancestors. For this reason, the sculptures probably functioned as loci of rituals related to the everyday well-being of the ancient inhabitants of

Río Viejo, including sustenance in agricultural and wild foods (both marine and terrestrial), as well as in human health and reproductive success.

Flat stelae and orthostats make up the third category of monuments at Río Viejo. These are carved with images of individuals who appear to be identified by their calendrical and personal names. We posit that these named individuals were rulers of Río Viejo. The resources and energy expended in the procurement, transportation, and carving of the monuments underscores the markedly

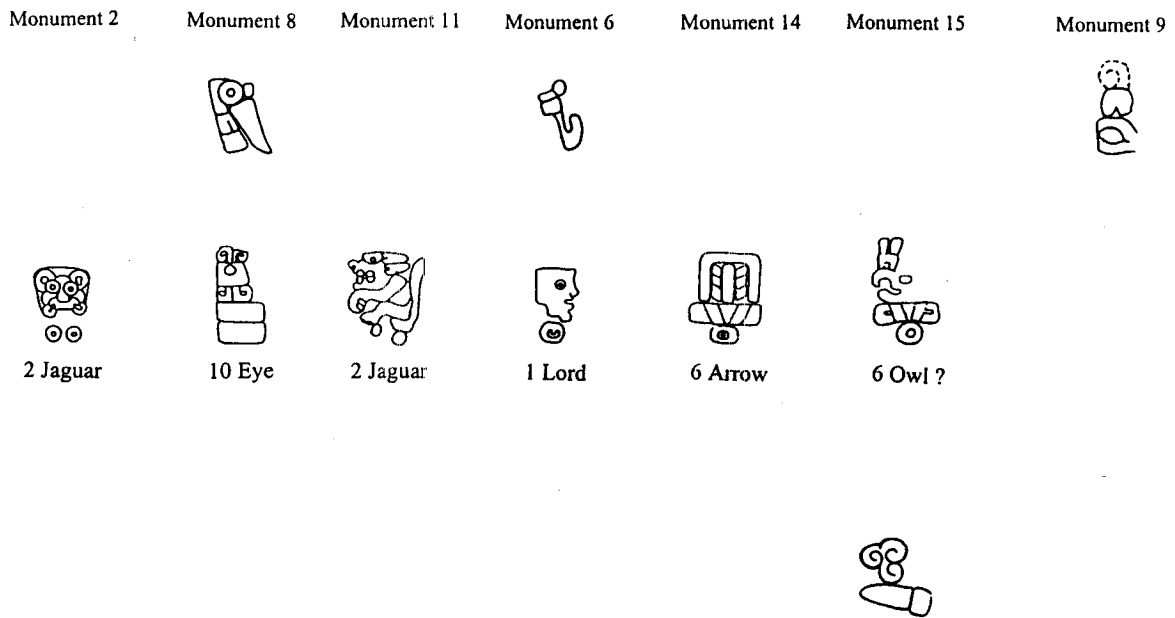


Figure 21. Calendrical and non-calendrical names in the monuments from Rio Viejo.

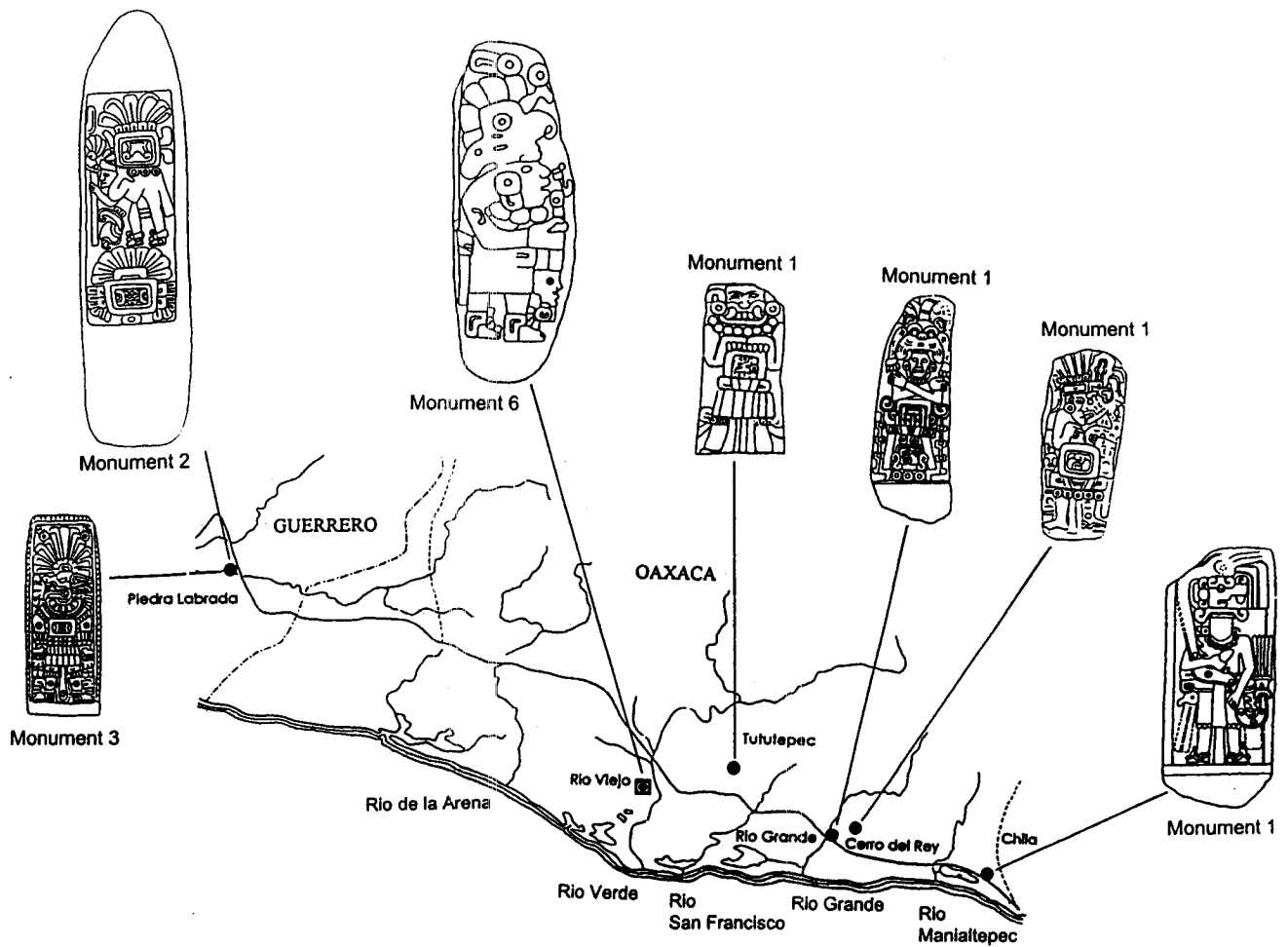


Figure 22. Map of the littoral of Guerrero/Oaxaca and some carved monoliths with named rulers [all stones are shown at the same scale].

hierarchical nature of the society during Classic times. The pre-occupation with self-representation by certain individuals reflects the need to legitimate social statuses and the imperative to leave a permanent historical record as a socially sanctioned strategy to maintain access to wealth and political power.

Within Río Viejo's hinterland, secondary sites such as La Humedad and San Francisco de Arriba, and perhaps minor Classic period sites such as Tututepec, are also known to have carved stones. Many of these depict personages and their calendrical names. Carved monuments of similar kind have also been reported from neighboring river drainages spanning from eastern coastal Guerrero to the central littoral of Oaxaca (Figure 22) (Jorrín 1974; Manzanilla 1993, 1995; Piña Chán 1960). These data suggest that during the Classic period, coastal Guerrero and Oaxaca might have been organized into several polities involved in trade and other interactions among themselves and with highland Mesoamerica. Representational themes along the littoral related to the ball-

game, as well as glyphs such as "heart" and "blood," indirectly suggest the practice of human sacrifice and, consequently, warfare. Yet we do not know the extent to which competition, rather than cooperation through alliances, played a role in maintaining autonomous polities or in generating larger political entities. More work is needed to determine the settlement patterns in these river drainages and understand the macro-regional dynamics along the coast and between the narrow coastal floodplains and the immediate highlands. Similarly, it is necessary to document carved monuments and their archaeological context to analyze their content, determine their temporal placement, and elucidate both the activities associated with them and their function. Combining archaeological and epigraphic approaches will yield new insights regarding the social dynamics that prevailed in the Pacific littoral of Oaxaca prior to the incorporation of several polities around A.D. 1000 into the powerful kingdom of Tututepec.

RESUMEN

Este trabajo describe 15 monumentos de piedra documentados hasta la temporada de 1995 en Río Viejo, el asentamiento más grande en la planicie aluvial del Río Verde en la costa de Oaxaca entre 100 a.C. y 1100 d.C. Los monumentos, todos aparentemente del periodo clásico (600-900 d.C.), incluyen principalmente estelas grabadas que generalmente representan figuras humanas elaboradamente vestidas y acompañadas de nombres calendáricos. El gran tamaño de estos monumentos y la primacía política de

Río Viejo sugieren que los individuos nombrados fueron gobernantes locales. También proponemos que las esculturas y las lapidas con depresiones circulares encontradas en el sitio fueron focos de actividad sacra, específicamente para hacer peticiones a fuerzas sobrenaturales. El análisis de las inscripciones establece las similitudes gráficas con tradiciones escriturales en los valles centrales de Oaxaca, la Mixteca Baja y el Altiplano Central.

ACKNOWLEDGMENTS

We thank the Instituto Nacional de Antropología e Historia (INAH), especially the director of the Centro INAH Oaxaca, Eduardo López Calzada. Grants from the H. John Heinz III Charitable Trust, Vanderbilt University Research Council, and Vanderbilt University Mellon Fund made possible the 1995 field season in the lower Río Verde Valley. The first draft of the paper was completed in 1998 while Urcid was an Ailsa Mellon Bruce fellow at the Center for the Advanced Study in the Visual Arts (CASVA),

Washington DC., and Joyce a Summer Fellow at Dumbarton Oaks, Washington DC. Urcid thanks the National Gallery of Art and Dr. Henry Millon, director of CASVA. Joyce thanks Dumbarton Oaks, especially Dr. Jeffrey Quilter, Director of Pre-Columbian Studies. Comments by Karl Taube, Joseph Mountjoy, and an anonymous reviewer were critical in improving the revised version of the manuscript.

REFERENCES

- Andrews, Richard J., and Ross Hassig (translators and editors)
1984 [1629] *Treatise on the Heathen Superstitions That Today Live Among the Indians Native to this New Spain*. by Hernando Ruiz de Alarcón. University of Oklahoma Press, Norman.
- Balsalobre, Gonzalo de
1892 [1656] Relación auténtica de las idolatrias, supersticiones, vanas observaciones de los Indios del Obispado de Oaxaca. *Anales del Museo Nacional*, Primera Parte, Vol. VI. Mexico.
- Barlow, Robert H.
1944 A Western extension of Zapotec. *Tlalocan* I(3):267-268.
- Berlin, Heinrich
1957 *Las antiguas creencias de San Miguel Sola, Oaxaca, México*. Museum für Völkerkunde und Vorgeschichte. Hamburg.
- Brockington, Donald L.
1969 Investigaciones arqueológicas en la Costa de Oaxaca. *Boletín del Instituto Nacional de Antropología e Historia* 38:33-39.
- Broda, Johanna
1997 Lenguaje visual del paisaje ritual de la Cuenca de México. In *Códices y Documentos sobre México. Segundo Simposio*, vol. II, edited by Salvador Rueda, Constanza Vega Sosa, and Rodrigo Martínez, pp. 129-161. Instituto Nacional de Antropología e Historia, Mexico.
- Coe, Michael D., and Richard Diehl
1980 *In the Land of the Olmec: The Archaeology of San Lorenzo Tenochtitlan*. 2 vols. University of Texas Press, Austin.
- Córdova, Fray Juan de
1987 [1578] *Vocabulario en Lengua Çapoteca; Edición Facsimilar*. Ediciones Toledo. Instituto Nacional de Antropología e Historia, Mexico.
- De Cicco, Gabriel, and Donald Brockington
1956 *Reconocimiento arqueológico en el suroeste de Oaxaca*. Dirección de Monumentos Pre-Hispánicos, Informes No. 6. Instituto Nacional de Antropología e Historia, Mexico.
- Greenberg, James B.
1981 *Santiago's Sword: Chatino Peasant Religion and Economics*. University of California Press, Berkeley.
- Grove, David, C.
1988 *Archaeological investigations on the Pacific Coast of Oaxaca, Mexico, 1986*. Unpublished report submitted to the National Geographic Society, Washington, DC.
- Grove, David, and Jorge Angulo
1987 A Catalog and Description of Chalcatzingo's Monuments. In *Ancient Chalcatzingo*, edited by David C. Grove, pp. 114-131. University of Texas Press, Austin.
- Jorrín, María
1974 *Stone Monuments. The Oaxaca Coast Project Reports, Part I*, pp. 23-81. Vanderbilt Publications in Anthropology No. 8. Nashville, TN.
- Joyce, Arthur
1991a *Formative Period Occupation in the Lower Rio Verde Valley, Oaxaca, Mexico: Interregional Interaction and Social Change*. Un-

- published Ph.D. dissertation, Department of Anthropology, Rutgers University, New Brunswick, NJ.
- 1991b Formative Period Social Change in the Lower Río Verde Valley, Oaxaca, Mexico. *Latin American Antiquity* 2:126–150.
- 1993 Interregional interaction and social development on the Oaxaca Coast. *Ancient Mesoamerica* 4:67–84.
- 2000 Río Viejo, Oaxaca, Mexico. In *The Archaeology of Ancient Mexico and Central America: An Encyclopedia*, edited by Susan T. Evans and David L. Webster, pp. 631–632. Garland Press, New York.
- 2001 Imperialism in Pre-Aztec Mesoamerica: Monte Albán, Teotihuacan, and the Lower Río Verde Valley. In *Warfare and Conflict in Ancient Mesoamerica*, edited by M. Kathryn Brown and Travis M. Stanton. Alta Mira, Walnut Creek, CA, in press.
- Joyce, Arthur A. (editor)
- 1999 *El Proyecto Patronos de Asentamiento del Río Verde*. Report submitted to the Consejo de Arqueología, Instituto Nacional de Antropología e Historia, Mexico.
- Joyce, Arthur, and Marcus Winter
- 1989 Investigaciones arqueológicas en la cuenca del Río Verde Inferior, 1988. *Notas Mesoamericanas* 11:249–262.
- Joyce, Arthur, and Andrew G. Workinger
- 1996 Río Viejo: A Prehispanic Urban Center of the Oaxaca Coast. Paper presented at the 61st Annual Meeting of the Society for American Archaeology, New Orleans.
- Joyce, Arthur A., Andrew G. Workinger, Peter Kröefges, Maxine Oland, and Stacie King
- 2001 Archaeological Survey of Tututepec: A Postclassic Imperial Center on the Oaxaca Coast. Paper presented at the 66th Annual Meeting of the Society for American Archaeology, New Orleans.
- Long, J. Robert
- 1974 The Late Classic and Early Postclassic Ceramics from the Eastern Portion of the Coast. In *The Oaxaca Coast Project Reports, Part II*, pp. 39–98. Vanderbilt University Publications in Anthropology No. 9. Nashville, TN.
- Manzanilla, López, Rubén
- 1993 Arqueología de la Costa Grande de Guerrero: viejas y nuevas aportaciones. In *Enfoques, Investigaciones y Obras*, pp. 207–224. Subdirección de Salvamento Arqueológico, México.
- 1995 Nuevas apreciaciones acerca del sitio Piedra Labrada, Municipio de Ometepec, en la Costa Chica de Guerrero. In *Presencias y Encuentros: Investigaciones Arqueológicas de Salvamento*, pp. 309–318. Subdirección de Salvamento Arqueológico, Mexico.
- Martínez Gracida, Manuel
- 1910 *Los Indios Oaxaqueños y sus Monumentos Arqueológicos. Civilización Mixteco-Zapoteca*. 5 vols. (unpublished). Biblioteca Pública Central del Estado de Oaxaca, Mexico.
- Mountjoy, Joseph B.
- 1987 *Proyecto Tomatlan de salvamento arqueológico: el arte rupestre*. Colección Científica, Serie Arqueología. Instituto Nacional de Antropología e Historia, Mexico.
- 1991 West Mexican Stelae from Jalisco and Nayarit. *Ancient Mesoamerica* 2:21–33.
- Neys, Horace, and Hasso von Winning
- 1946 The Treble Scroll Symbol in the Teotihuacan and Zapotec Cultures. In *Notes on Middle American Archaeology and Ethnology*, Vol. III, No. 74, pp. 82–89. Carnegie Institution, Division of Historical Research, Washington, DC.
- Ortiz de Zárate, Gonzalo
- 1976 *Petroglifos de Sinaloa*. Fomento Cultural Banamex A.C., Mexico.
- Parsons, Lee A.
- 1986 *The Origins of Maya Art: Monumental Stone Sculpture of Kaminaljuyu, Guatemala and the Southern Pacific Coast*. Studies in Pre-Columbian Archaeology No. 28. Dumbarton Oaks, Washington, DC.
- Peñafiel, Antonio
- 1890 *Monumentos del Arte Mexicano Antiguo: Ornamentación, Mitología, Tributos y Monumentos*. 3 vols. A. Asher and Company, Berlin.
- Piña Chán, Román
- 1960 Algunos sitios arqueológicos de Oaxaca y Guerrero. *Revista Mexicana de Estudios Antropológicos* 16:65–76. VII Mesa Redonda de la Sociedad Mexicana de Antropología, Mexico.
- Paszatory, Esther
- 1983 *Aztec Art*. Harry N. Abrams, New York.
- Pohl, John
- 1999 The Lintel Paintings of Mitla and the Function of the Mitla Palaces. In *Mesoamerican Architecture as a Cultural Symbol*, edited by Jeff K. Kowalski, pp. 176–197. Oxford University Press, New York.
- Scott, John Frederik
- 1971 *Post-Olmec Art in Preclassic Oaxaca, Mexico*. Unpublished Ph.D. dissertation, Columbia University. University Microfilms International, Ann Arbor.
- Smith, Thomas C.
- 1998 Dioses, Sacerdotes y Sacrificio: Una mirada a la religión Zapoteca a través del Vocabulario en Lengua Çapoteca (1578) de Juan de Córdova. Paper presented at the 3rd Biannual Meeting of Oaxacan Studies. Instituto Welte, Oaxaca, Mexico.
- Tibón, Gutierre
- 1961 *Pinotepa Nacional: Mixtecos, Negros y Triques*. Universidad Nacional Autónoma de México, Mexico.
- Taube, Karl
- 1987 *A Representation of the Principal Bird Deity in the Paris Codex*. Research Reports on Ancient Maya Writing No. 6. Center for Maya Research, Washington, DC.
- 1988 A Study of Classic Maya Scaffold Sacrifice. In *Maya Iconography*, edited by Elizabeth P. Benson and Gillett G. Griffin, pp. 331–351. Princeton University Press, Princeton, NJ.
- Taylor, William B.
- 1972 *Landlord and Peasant in Colonial Oaxaca*. Stanford University Press, Stanford, CA.
- Urcid, Javier
- 1993 The Pacific Coast of Oaxaca and Guerrero: Westernmost Extent of the Zapotec Script. *Ancient Mesoamerica* 4:141–165.
- 2001 *Zapotec Hieroglyphic Writing*. Studies in Pre-Columbian Art and Archaeology No. 34. Dumbarton Oaks, Washington, DC.
- Urcid, Javier, Marcus Winter, and Raúl Matadamas
- 1994 *Nuevos Monumentos Grabados en Monte Albán, Oaxaca*. Contribución No. 4 del Proyecto Especial Monte Albán 1992–94. Oaxaca, Mexico.
- Weitlaner, Roberto J.
- 1964 Supervivencias de la Religión y Magia Prehispánicas de Guerrero y Oaxaca. In *35th Congreso Internacional de Americanistas, Mexico 1962*, vol. 2, pp. 557–563. Universidad Nacional Autónoma de México, Mexico.
- Weitlaner, Roberto J., and Gabriel de Cicco
- 1960 La Jerarquía de los Dioses Zapotecos del Sur. In *Akten des 34 Internationalen Amerikanisten Kongresses, Vienna, 1960*, pp. 695–710. Verlag Ferdinand Berger, Horn-Wien.
- Weitlaner, Roberto J., and Irmgard Weitlaner
- 1946 The Mazatec Calendar. *American Antiquity* 11:194–197.
- Winter, Marcus C.
- 1987 *Algunos Monumentos Escultóricos del Río Verde Inferior: Informe preliminar, Temporada 1986*. Unpublished report in the archives of the Centro Regional Instituto Nacional de Antropología e Historia, Oaxaca, Mexico.