Mural Paintings of the Puuc Region in Yucatán

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The objective of this study is to examine pre-Columbian mural art found in the hilly region of southeastern Yucatán known as the Puuc. These paintings, outlined and colored on the interior surfaces of ancient buildings, generally include a variety of motifs. Such artwork reflects the ideology of human cultures, delineating aspects of civic, religious, and political values that are usually accepted by members of society. Based on this assumption, we intend to suggest generalizations concerning content, function, and the ideology captured in these images of native American society.

We have classified the mural paintings of this region according to location within structures as follows:

Wall paintings: These are found on the vertical stuccoed walls of buildings, generally in the interiors and doorways of chambers. The subjects of the paintings vary from military actions (Mulchic and Chacmultun) to civic and ceremonial activities (Chacbolay and Xkichmol).

Vault paintings: These are encountered on the plastered faces of the characteristic Maya arch. The painted areas are usually divided into various registers by horizontal bands. Some simple scenes of daily Maya life are preserved in this type of painting at Dzulá.

Paintings of vault capstones: These pictorial elements are found on the rectangular stones that span the center of the ceilings in vaulted buildings. The capstones are covered with stucco, over which the painting is applied. The representations, highly symbolic and esoteric, depict gods and personages of the hierarchy. Such drawings are commonly accompanied by hieroglyphic writings. These designs, consequently, were not for popular comprehension; rather, their interpretation and ideological function were under the control of the religious elite.

Vestiges have been found at Kewik, Kom, Xkichmol, Chacmultun, Santa Rosa Xtampak, Uxmal, Sacnicte, and even in locations outside the Puuc area, such as Xnucbec, Dzibilnocac, and Chichén Itzá.

All of the remains investigated consist of only one pictorial layer. (By contrast, Post Classic paintings encountered along the central coast of Quintana Roo commonly consist of several layers.) The scenes tend to be divided by horizontal bands in a manner similar to that of the Bonampak murals. Red was the preferred color in the vault capstone paintings.

Drawings on the vault and capstone seem more characteristic of the Late Classic Period in the northern Maya area, while wall painting appears to have continued into Post Classic times.

A descriptive catalog of mural art in the Puuc region is presented below. The studies are not detailed, particularly for those sites where exhaustive interpretations have already been published. Instead, the listing below constitutes a more general review.

Mulchic. At this site was found a wall painting in a chamber 8.4 meters long by 2.2 meters wide. The designs represent a battle between two groups, the taking of prisoners, a procession of priests and preparation for the sacrifice of the prisoners, and a scene showing their execution (Piña Chán 1964: 63) (see figs. 1–3). The battle is between Maya, which indicates the existence of hostility between communities within the region. The elation of the leader and his triumphant followers is symbolized.

Piña Chán points out stylistic similarities of the

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Fig. 1. Mulchic. Right section of the south wall.



Fig. 2. Mulchic. Left section of the south wall.

Mulchic paintings with those of Bonampak, as well as characteristics of the Puuc region and other Maya sites. The style dates from the period between A.D. 600–900 (Piña Chán 1964: 63, 77).

Chacmultun. Copies of the most important murals at Chacmultun were made by Edward H. Thompson, who completed his investigation in 1901 (1904: 10). However, some errors were detected, so new reproductions were made in 1977 by Martine Fettweis as part of the Uxmal project under the author's direction.

Originally all the walls were covered by paint-

ings. Now only a scene on the north wall of Building C, Chamber 10, remains. It is 4.6 meters long and divided in two scenes by three horizontal bands (fig. 4).

The lower scene, the most deteriorated, is 4.2 meters long and .84 meter wide. A red horizontal band 14 centimeters wide, composed of rectangular scrolls and stepped profiles and outlined by two thinner black bands, starts at the bottom of the scene and continues up the left side with other designs. At the upper part, the scene is bounded by a blue band 3 centimeters wide.



Fig. 3. Mulchic. North wall.

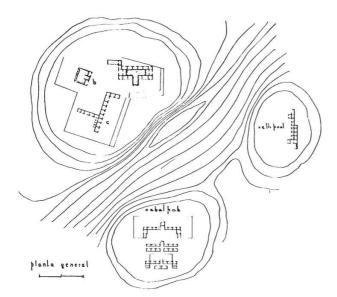


Fig. 4. Chacmultun. Plan (after Ignacio Marquina 1964).

A variety of skin tones, dark, rosy, natural, and tobacco-colored ochers, is evident among the figures. There are also carmine, orange red, blue, and green colors (Fettweis 1977).

The painting depicts warriors carrying decorated spears and standards and some men with trumpets, all of them inactive, except for one at the extreme left, who is throwing a spear. Almost everyone seems to be facing to this side (fig. 5; see color section).

At the right, one behind the other, are conical roofs fringed by green and yellow feathers, each with a horizontal band and columns. The roofs peak in disks of color, one red, the other blue.

The headdresses are generally of feathers, some very elaborate, particularly those on the left. The ear ornaments are simple disks, the necklaces of jade beads. Bracelets are simple and so are the loincloths.

Some of the subjects wear small beards, and at right center is an individual with a beaded jade band and pendants. In the same area, a little toward the upper left, is an irregular black design, which continues on the upper register.

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The upper scene is slightly smaller than the lower, 3.6 meters long by .5 meter wide, but it is in better condition and is very impressive because of its coloring, realism, and dexterity (fig. 6; see color section).

The painting is of a military skirmish in which warriors on the left seem to be escorting two individuals who carry staffs of authority. The troops in the forefront, however, appear to be on the defensive, fleeing from the attack. Their enemy on the right has taken prisoners, giving the impression that they had succeeded in attacking by surprise.

The clash occurs in the center, above which appear to be a wall and bench, a continuation of the black design found in the lower scene.

Traces remain of fifteen individuals clustered at the left. Their headdresses are mostly simple caps, sometimes trimmed with feathers, such as the one in the form of a half-moon on the figure near the center. This style resembles that of the warriors of Room 2 in the murals of Bonampak. The headdress of the center figure is distinctive, formed by a series of disks of two sizes, but the remaining elements are incomplete.

Many of the figures wear their hair to the waist, and all have simple disk ear ornaments, with the exception of a retreating warrior whose ear ornaments are in form of flowers. He also wears a breastplate composed of beads and shells. The others wear necklaces of jade beads with bands and pendants similar to those in the lower scene; some have nothing around their necks.

Most wear simple bar nosepieces, a component found in Maya sculptures, such as Stela 9 of Oxkintok, the drawings of Mulchic, Stela 15 of Uxmal, and the reliefs of Chichén Itzá (Lower Temple of the Tigers). This is also characteristic of the Totonaca culture (fig. 7).

Almost everyone has his mouth open, and some are wearing beards. The eighth figure wears a bracelet on his forearm, and the last two have simple cloaks. All are dressed in loincloths, and one has added a sash at the hips. They carry plain and decorated spears, banners, curved sticks, and shields.

Those on the right are mostly soldiers moving toward the enemy. They have prisoners, but only the vestiges of one remain. A person in the lead carries an unrecognizable offering. There is little to distinguish them from their enemy. They wear similar headdresses; some wear none at all. Some wear nose bars and the same style of necklace. A few wear more elaborate necklaces with several strings of beads. They wear bracelets on their up-



Fig. 7. Oxkintok. Stela 9.

per arms and forearms, sashes around their hips, loincloths, and shields and carry plain and decorated spears and standards. A number of round blue and red objects, such as the stones that were used as arms in Mulchic, lie on the ground.

There is a notable absence of priests in these murals. Military figures predominate. Some of the elements and the style are similar to the Bonampak paintings, while other aspects are of a regional character, though within the Classic tradition of Maya painting.

Chambers 1, 2, 3, and 8 of Building C originally contained paintings, but they have disappeared (Thompson 1904: 15, 16), along with a stone from a painted vault capstone (Fettweis 1977). In the center room number 8, called "Xeth Pool" (Structure 4), are signs of painting over the supports of the inner door that opened to a higher chamber. Designs on the right and left supports are composed of bands (fig. 8).

There is an incomplete drawing of 60 by 60 centimeters on the left, and on the right there is a drawing 90 centimeters high by 35 centimeters in width. The only remaining color is black, used to outline the vertical bands and the plant and snake designs.

Chacbolay. Poorly preserved remains of a mural

that once had a great deal of color can be detected in the interior of one of the rooms of the building that Teobert Maler called the Castle (1902: 198). Traces of drawings of three people remain. All that is recognizable to the right is the profile of a head with a beard and a wavy line that resembles a mustache. Behind this there is a vertical band 4 centimeters wide. The headdress is incomplete and consists of a type of hat with crown and brim.

The next person is a priest, who wears a very elaborate headdress with many feathers and an earring of hanging ribbons and tubular pieces. There are also signs of a necklace and a wrist bracelet. He wears a long, fringed cape and holds part of a staff of authority in his hand.

Only part of a feathered headdress, the loincloth, and one leg remain as evidence of a third individual. The combination suggests ceremonial vestments.

The capstone was painted, but only a few red marks survive (Fettweis 1977).

Dzulá. The paintings of this site were first reported by Stephens in 1841, who described them briefly (1938: 61, 62). Later Edward H. Thompson made copies and photographs, which were published in 1904 by the Peabody Museum, Harvard University. As in the case of Chacmultun, the reproductions are not very satisfactory. For this reason, an attempt was made to obtain other copies with better detail, even though the originals have deteriorated considerably since Thompson's time.

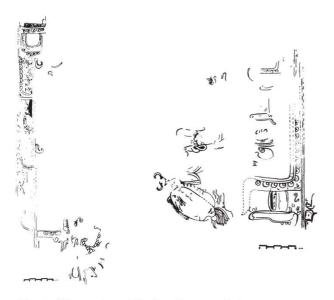


Fig. 8. Chacmultun. The bands around the entrance. Drawing by Martine Fettweis.

The most important remains of these paintings are found in one of the rooms of the main building, where half a vault stands. The scenes are divided by three horizontal bands from the bottom of the vault to the top. The images mostly represent daily life, such as village people carrying baskets, perhaps a market scene (Fettweis 1977). Their dress is simple. One person bears an authoritative appearance and a more elaborate dress, suggesting that he is a member of the ruling class. The contour lines are deft and beautiful, utilizing several colors, with ocher predominant for the bodies.

Three fragments of the lower scene, one each at either extreme of the east vault and one on the south wall, remain. Of the first two paintings, the one on the left shows a procession of several persons, five of whom are distinguishable. All of the body except the head can be seen on the first two images. The hands hold unrecognizable objects, probably baskets, similar to those in the upper scene on the same side of this vault.

Everyone is depicted in side view with bare feet shown in movement. These people are obviously of a lower class, since they wear only the "ex" (loincloth) and perhaps bracelets. Ocher was used to color the bodies and traces of blue can be seen on the loincloths. A 12-centimeter band of yellow with specks of green and outlined in black is the base upon which the scene is drawn.

The fragment on the right depicts a body in profile, larger than the others and with only the midsection and lower extremities remaining. To the left are a yellow roof and a blue column, all that remains of a house.

On the south wall of the vault is another scene showing two people, one wearing a simple loincloth and sash with a red fringe and a bracelet. Only a part of the body of the person on the right can be detected.

The middle scene consists of a fragment on the north wall of the vault. In the center of the painting is a tall person with his head in profile and his body facing the front. His feet are separated, as in a Classic stela. His headdress is a simple cap and his ear ornament a circle. He wore a necklace, but it has vanished. His arms are bent and placed at his hips. On either side of him sits a figure with an emaciated face and an attitude of subordination. The one on the right is better preserved. Both wear elaborate dress, including a cap with red circles.

In the upper scene is found a fragment that continues from the intersection of the vault's northern and eastern walls. Here are depicted three couples. The person on the left front holds a basket,

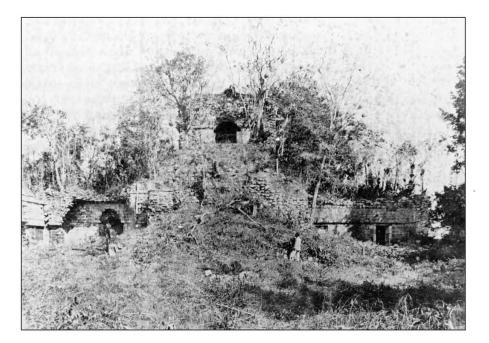


Fig. 9. Xkichmol. The palace temple (after Maler 1886–92).

and the man on his right is kneeling in profile. The next figures are in a similar position with the person in front resting on his heels. Only the lower portions of the bodies remain of the last two, and there is an obvious lack of proportion in the last figure. They are dressed simply. Those who are accepting baskets wear plain sashes in addition to their loincloths. A few have wrist and ankle bracelets.

Xkichmol. Xkichmol was first explored in 1886 by Edward H. Thompson. He excavated, made maps of the structures, and copied the paintings (1898: 209-229). Teobert Maler visited the site between 1886 and 1892. Photographs of the main buildings, with handwritten comments by Maler, are still intact in the Crescencio Carrillo and Ancona Library in Mérida. These buildings are on an elevation and form a plaza with construction on all sides but the south. To the north is a structure which Maler named the palace temple (fig. 9) and which was called Building 1 by Thompson (fig. 10). One can reach this by a ladder from the plaza. At both sides of this construction are leaning structures with the building on the east where two halls remain, one containing half a vault and the other with two rooms, where the murals are located.

Room 11 (fig. 10) is 4.2 by 2.3 meters, and the keystone painting is 22 by 32 centimeters on a single layer of stucco. The only color used was red to outline and fill in spaces. Red is the color of the rising sun, of blood, fire, and, therefore, of the day,

which is when one performs work (Barrera Vásquez 1977: 2). It is significant that the painting is located in an obscure place, suggesting nature's duality.

The painting, which includes a text with a north– south orientation, is framed at the top and bottom by a horizontal band. Under the lower band are hieroglyphics related to the drawing.

There is no doubt that the image shown represents a deity, since the elements are highly symbolic and religious. It is, furthermore, a male god, seated in Oriental style on an animal-skin cushion, with a very elaborate garment and a headdress that reflect his dignity (fig. 11). The headdress includes a fringe of feathers, flowers, and leaves, symbols of fertility, just as the spots of the jaguar are associated with night and darkness. In addition, the jaguar is another example of duality, since it reigns both in heaven and on earth (Thompson 1970: 354) (fig. 12).

The eye forms a spiral characteristic of Maya gods. Beginning at the right, the upper part is a thin curved line which corresponds to the eyebrow. This character bears a great resemblance to Thompson's Glyph 578 (1962: 204) (fig. 12).

The hieroglyphic spiral can be interpreted in several ways, as a sun element in the short count, as a shell (Thompson 1962: 201), a moon symbol as related to Glyph 20, as well as Schellhas' Deity "D" (Spinden 1975: 92), which has been identified as Itzamná, god of numerous heavenly attributes.

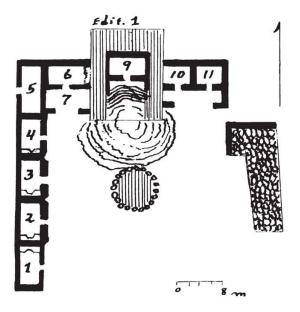


Fig. 10. Xkichmol. Building 1 (after Thompson 1898).

The god's earplug is intricate. His sinuous lips outline a toothless, semiopen mouth. Some elements of the nose, long and hooked at the bottom, are missing. The noses of Schellhas' God "B" and the God "K," associated with rain and torment (1904), had similar characteristics. The beaded necklace falls to the deity's shoulder and his breastplate is adorned with beads and feathers.

The figure wears a fringed cape and an ornament in the form of a centipede, a sign which is encountered in the codices next to the God "D," related to the moon or the night (fig. 12c), an insect that frequents dark places and has an affinity with death and destruction, like the owl (Tozzer and Allen 1910: 304). He also displays glyphs on his cape at the level of the lumbar region.

In addition, the moon is represented on the right (after Coe), and on the left is the sign of *ik*, the wind, air, and spirit (Barrera Vásquez 1976: 26). Other designs are evident but incomplete.



Fig. 11. Xkichmol. 1977. Drawing by Martine Fettweis.

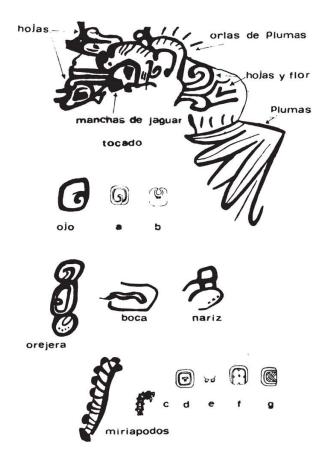


Fig. 12. Xkichmol. Glyphs.

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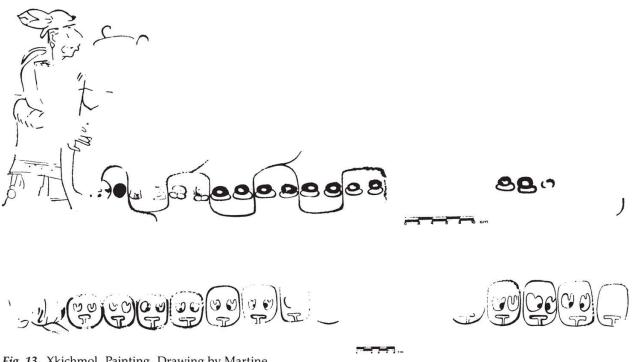


Fig. 13. Xkichmol. Painting. Drawing by Martine Fettweis.

Obviously, the Maya god embodied celestial qualities, particularly of the sun's phases, as the Maya conceived them. The color red expressed light and the sun rising in the east. During its course, it was accompanied by wind and the rain that gave life and fertility to the earth. The setting sun brought darkness and the moon and then renewed its course through the underworld to be reborn.

The hieroglyphic text, composed of three cartouches, confirms this. The left glyph is illegible, and the succeeding glyph is a combination of a principal sign and two affixes. The main sign and the superfix appear to intersect each other and bear a resemblance to Thompson's glyph 683 (moon) (fig. 12).

The left affix is similar to number 13 (fig. 12e). The main glyph of the next cartouche is glyph 619 (crossed side bands) and is frequently found in the celestial bands associated with the sky and the underworld (Thompson 1970: 240). There are four affixes. The lower and the upper left are similar to Thompson's Affix 13. The superfix is the sign of the sun, "Kin," which according to the Pío Pérez dictionary means sun, day, sacerdotal time, and clergy (1866–67: 176). The last affix on the right is illegible.

On the north wall of Room 10 in the same building are other designs representing a series of similar glyphs arranged in a continuous horizontal band. Of these images (fig. 13, below), thirteen incomplete figures remain and symbolize the hieroglyph of "Ahau," with the *ik* symbol in its mouth. The eyes form a U, a symbol associated with the moon, and the pupil is outlined. At the beginning of this band is a distinct but unrecognizable figure.

Ahau is the day of the sun god and also signifies ruler or great man, and *ik* is interpreted as breath of life (Thompson 1970: 89) and thus occupies the area of the mouth in the glyph.

There is another painting in this room of a person and a series of circular signs in a wavy horizontal band at the height of the figure's knees (fig. 13, above). Again red is used, and the subject is a young man wearing a simple cap with a feather on the side. The eye and ear ornaments are missing and the nose is incomplete. His lower lip hangs and he appears to be holding the bands at his knees. The band, which resembles a snake, has projections that suggest a serpentlike movement, and on the inside is a series of two circular signs. This person seems to be involved in some type of ceremonial activity.

Thompson (1898) reported other pictorial rem-



Fig. 14. Xkichmol. Figure painted on the ceiling of Room 11, Building 1 (after Thompson 1898).

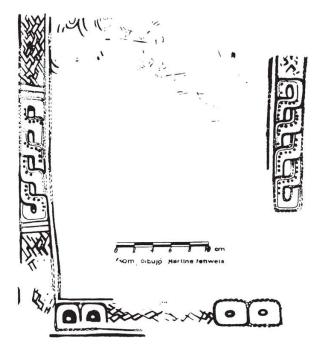


Fig. 15. Kom. Red-colored snake. Drawing by Martine Fettweis.

nants, including a blue handprint stamped on one of the walls of Room 9, Building 1, and a bird with a necklace of beads, plants, and glyphs (one of them the symbol of Kin) (fig. 14).

Kom. Faded remains of a painting appear on the vault capstone of the main building. Only part of a red mark is left (fig. 15). This measures 30 by 36 centimeters and is made up of ribbons 4 centimeters wide, in which interlaced and matted snakes alternate.

The lower band displays a mat pattern as the central element, and the astronomical symbols at the sides (Venus) relate to glyph 510 from Thompson's catalog (1962: 108). The highest mark and the central motif have disappeared. In spite of a paucity of information, we feel that the theme of the painting was not for the common person but only for the elite already initiated into the meaning of these symbols.

Other sites. Information exists of other paintings of this region, some of which have disappeared or have been damaged. Stephens found a vault capstone at Kewik with a drawing of a person and hieroglyphic texts in red. He removed the stone from its original site, intending to take it with him, but it was lost. He also mentioned a similar feature in Xtampak (Stephens 1938: 47, 48, 117). Thompson (1973: 59–64) described a similar painting at Uxmal and Sacnicte, and I found more at Kanaheleb.

General observations. The Puuc paintings exhibit features characteristic of the more widespread Classic Maya art tradition. Similarities of theme and style with the Bonampak murals, such as the division of scenes by horizontal borders, the headdresses, the cap, half-moon (Chacmultun), and the animals (Mulchic), are evident. The position of the first figure with feet separated and the procession of individuals in profile (Dzulá) are also of Classic style. Military action, the taking of captives, and weapons are equally common. Such elements are to be found elsewhere in the Maya lowlands, represented in stelae, sculptures, and reliefs, as well as murals.

The nose ornament in the form of a bar is a late motif found on the Oxkintok stela and Seibal stela 10 and other sites. This element was extensively used in the Maya-Toltec art of Chichén Itzá during the Post Classic Period.

The pictorial tradition of the Puuc appears to have developed principally during the Late Classic, sharing cultural elements with both the central lowlands and places outside the Maya area. The contexts reflect dominant religious, military, and, occasionally, secular values and interests. The first are found, as we have pointed out, on the capstones, although they are not restricted to this type of surface. Their social symbolism was subject to the ideological control of priests.

The military scenes depict more mundane historical events of direct social relevance. They were used to justify, glorify, and commemorate military triumphs of the dominant group. The frequency of such motifs suggests the existence of warlike societies that generated regional antagonisms and constantly upset the tranquility of Yucatán during the Late Classic Period. Acknowledgments. I wish to express my gratitude to the archaeologist Martine Fettweis of the University of Louvain, Belgium, who copied and reproduced the paintings that accompany this study, as well as to Norberto González Crespo, archaeologist and director of the Southeast Regional Center of the National Institution of Anthropology and History, for the facilities he offered which helped make this investigation possible.



Barrera Rubio essay, fig. 6. Chacmultun. Upper register. Drawing by Martine Fettweis, photography by Lee Hocher.



Barrera Rubio essay, fig. 5. Chacmultun. Lower register. Drawing by Martine Fettweis, photography by Lee Hocher.

Bibliography

ABASCAL, RAFAEL, PATRICIO DÁVILA, PETER J. SCHMIDT, and diana de dávila

- 1976 La Arqueología del sur-oeste de Tlaxcala, primera parte. *Comunicaciones* 2, supp. Puebla.
- ALVA IXTLILXOCHITL, F. DE
- 1891 *Obras históricas.* Vol. 1: *Relaciones.* Mexico City. ANDERS, FERDINAND
- 1963 Das Pantheon der Maya. Graz, Austria: Akademische Druck und Verlagsanstalt.
- ARMILLAS, P.
- 1946 Los Olmeca-Xicalanca y los sitios arqueológicos del sur-oeste de Tlaxcala. *Revista Mexicana de Estudios Antropológicos* 8: 137–145. Mexico City.
- ASCHMANN, HERMAN P.
- 1962 Castellano-totonaca, totonaco-castellano: Dialecto de la sierra norte de Puebla. Serie de Vocabularios Indígenas Mariano Silva y Aceves 7. Mexico City: Instituto Lingüístico de Verano.
- AULIE, H.W., and E. AULIE
- 1978 *Diccionario ch'ol-español, español-ch'ol.* Serie de Vocabularios y Diccionarios Indígenas Mariano Silva y Aceves 21. Mexico City: Instituto Lingüístico de Verano.
- BADNER, MINO
- 1972 A Possible Focus of Andean Artistic Influence in Mesoamerica. Dumbarton Oaks Studies in Pre-Columbian Art and Archaeology 9.
- BAER, PHILIP, and MARY E. BAER
- 1969 The Discovery of Bonampak: The Lacandon View. *Tlalocan* 6, no. 1. La Casa de Tlaloc, Mexico: Summer Institute of Linguistics.
- BALL, JOSEPH W.
- 1977 The Archaeological Ceramics of Becán, Campeche, Mexico. Middle American Research Institute Publication 43. New Orleans: Tulane University.
- BARRERA VÁSQUEZ, ALFREDO
- 1976 *Horóscopos mayas: Area maya*. Facsimile edition by José Díaz Bolio. Merida.
- 1977 Poema en cinco puntos cardinales. *El Buho* 4. Merida.

BERENDT, C. H.

- 1870 Apuntes sobre la lengua chaneabal, con un vocabulario. Reproduction in the Peabody Museum, Harvard University.
- BERLIN, HEINRICH
- 1944 A Tentative Identification of the Head-Variant for Eleven. Carnegie Institution of Washington Notes on Middle American Archaeology and Ethnology 33.
- 1953 Archaeological Reconnaissance in Tabasco. Carnegie Institution of Washington Current Reports 7.
- 1958 El Glifo "Emblema" en las inscripciones mayas. Journal de la Société des Américanistes 47: 111–119. Paris.
- 1959 Glifos nominales in el sarcófago de Palenque. *Hu-manidades* 2, no. 10: 1–8. Guatemala City.
- 1963 The Palenque Triad. *Journal de la Société des Américanistes* 52: 91–99. Paris.
- 1965 The Inscription of the Temple of the Cross at Palengue. *American Antiquity* 30: 330–342.
- BIEDERMANN, HANS
- 1973 Handlexikon der magischen Künste. Graz, Austria.
- BLOM, FRANS
- 1937 Masterpieces of Maya Art: The Tomb at Comalcalco in the State of Tabasco, Mexico. *Art and Archaeology* 24: 223–227.
- BLOM, FRANS, and GERTRUDE DUBY
- 1957 La Selva lacondona, segunda parte. Mexico City: Editorial CVLTRA, T.G., S.A.
- BLOM, FRANS, and OLIVER LA FARGE
- 1926- Tribes and Temples. Middle American Research In-
- 27 stitute Publication 1. 2 vols. New Orleans: Tulane University.
- BORHEGYI, STEPHAN F.
- 1965 Archaeological Synthesis of the Guatemalan Highlands. In *Handbook of Middle American Indians*, vol. 2: *Archaeology of Southern Mesoamerica*, ed. Gordon R. Willey, pp. 3–58. Austin: University of Texas Press.
- BROWN, CECIL H., and STANLEY R. WITKOWSKI
- 1977 Aspects of the Phonological History of Mayan-

Zoquean. Unpublished MS, Department of Anthropology, Northern Illinois University.

BRÜGGEMANN, JURGEN

1977 Algunos puntos de vista sobre la formación del estado en Mesoamérica. Report given at the 15th Mesa Redonda de la Sociedad Mexicana de Antropología. Guanajuato.

BRUNHOUSE, ROBERT L.

1976 *Frans Blom, Maya Explorer*. Albuquerque: University of New Mexico Press.

BUTLER, MARY

1935 A Study of Maya Mouldmade Figurines. *American Anthropologist*, n.s. 37: 636–672.

CAMPBELL, LYLE R.

1977 *Quichean Linguistic Prehistory*. University of California Publications in Linguistics 81. Berkeley and Los Angeles: University of California Press.

CAMPBELL, R. JOE

1976 Underlying /η^w/ in Hueyapan Nahuatl. International Journal of American Linguistics 42: 46–50.

CARLSON, RUTH, and FRANCIS EACHUS

1977 The Kekchi Spirit World. In Cognitive Studies of Southern Mesoamerica, ed. Helen L. Neuenswander and Dean E. Arnold, pp. 38–65. SIL Museum of Anthropology Publication 3.

CASO, ALFONSO

- 1928 *Las Estelas zapotecas*. Monografía del Museo Nacional de Arqueología, Historia, e Etnografía. Mexico City.
- 1947 Calendario y escritura de las antiguas culturas de Monte Albán. In *Obras completas de M. O. de Mendizábal,* vol. 1. Mexico City.
- 1967 *Los Calendarios prehispánicos*. Instituto de Investigaciones Históricas, Serie de Cultura Náhuatl, Monografías 6. Mexico City.
- CHADWICK, ROBERT E. L.
- 1966 The "Olmeca-Xicallanca" of Teotihuacán: A Preliminary Study. *Mesoamerican Notes* 7–8. Mexico City.
- CHARNAY, DÉSIRÉ
- 1885 Les Anciennes villes du Nouveau Monde: Voyages d'explorations au Mexique et dans l'Amérique Centrale. Paris.

CHIMALPAHIN QUAUHTLEHUANITZIN, D. F.

1958 Das Memorial Breve acerca de la fundación de la ciudad de Culhuacan. Aztec text, with German translation by W. Lehmann and G. Kutscher. *Quellenwerke zur alten Geschichte Amerikas* 7. Stuttgart.

CHUECA GOITIA, FERNANDO

1971 Invariantes castizos de la arquitectura española. Guadalajara, Spain: Seminarios y Ediciones S.A.

CLARK, LORENZO, and NANCY D. DE CLARK

1960 *Vocabulario Popoluca de Sayula*. Serie de Vocabularios Indígenas Mariano Silva y Aceves 4. Mexico City: Instituto Lingüístico de Verano.

CODICES

1830 Laud. In Antiquities of Mexico, by Lord Kingsborough, vol. 2. London.

- 1830 Selden I. In *Antiquities of Mexico*, by Lord Kingsborough, vol. 1. London.
- 1901 Féjérváry-Mayer. Paris.
- 1960 Bodley Codex, 2858. Facsimile edition. Mexico City: Sociedad Mexicana de Antropología.
- 1964 Selden II (3135). Facsimile edition in color. Mexico City: Sociedad Mexicana de Antropología.
- COE, MICHAEL D.
- 1973 *The Maya Scribe and His World*. New York: Grolier Club.
- 1978 Lords of the Underworld. Princeton: Princeton University Press.
- COE, MICHAEL D., and ELIZABETH BENSON
- 1966 Three Maya Relief Panels at Dumbarton Oaks. Dumbarton Oaks Studies in Pre-Columbian Art and Archaeology 2.

COOK DE LEONARD, CARMEN

1959 Archäologisch-geographische Probleme der Insel Jaina, Campeche, Mexiko. In Amerikanistische Miszellen: Festband Franz Termer, Mitteilungen aus dem Museum für Völkerkunde im Hamburg 25.

CORSON, CHRISTOPHER R.

- 1976 Maya Anthropomorphic Figurines from Jaina Island, Campeche. Ramona, Calif.: Ballena Press.
- COVARRUBIAS, MIGUEL
- 1957 Indian Art of Mexico and Central America. New York: Knopf.
- CRISPOLTI, E.
- 1961 Eclecticism. In Encyclopedia of World Art, vol. 4, cols. 538–550. New York.

CROTHERS, JOHN

- 1975 Nasal Consonant Systems. In Nasálfest: Papers from a Symposium on Nasals and Nasalization, ed. Charles A. Ferguson, Larry M. Hyman, and John J. Ohala. Stanford.
- DAHLGREN DE JORDÁN, B.
- 1954 La Mixteca: Su cultura e historia prehispánica. *Colección Cultura Mex.* 11. Mexico City.
- DELGADO, AGUSTÍN
- 1965 Jaina Terracottas. In El Arte de Jaina, Artes de México 60: 27–30.
- DIBBLE, CHARLES
- 1951 Códice Xólotl. Universidad Nacional Autónoma de México, Instituto de Historia, 1st ser., no. 2.
- DRUCKER, P., R.F. HEIZER, and R. J. SQUIER
- 1959 Excavations at La Venta, Tabasco, 1955. Bureau of American Ethnology Bulletin 170.
- DURÁN, FRAY DIEGO
- 1963 Atlas de la historia de las Indias de Nueva España e historia de la tierra firme. Mexico City: Librería Anticuaria.
- 1967 Historia de las Indias de Nueva España e islas de la tierra firme. Ed. Angel M. Garibay. 2 vols. Mexico City: Editorial Porrúa.

DÜTTING, DIETER

- 1974 Sorcery in Maya Hieroglyphic Writing. Zeitschrift für Ethnologie 99: 2–62. Brunswick.
- 1978 "Bats" in the Usumacinta Valley: Remarks on Inscriptions of Bonampak and Neighboring Sites

in Chiapas, Mexico. Zeitschrift für Ethnologie, forthcoming.

EATON, JACK

1974 Chicanná: An Elite Center in the Río Bec Region: Preliminary Reports on Archaeological Investigations in the Río Bec Area, Campeche, Mexico. Middle American Research Institute Publication 31. New Orleans: Tulane University.

EBERHARD, WOLFRAM

1957 The Political Function of Astronomy and Astronomers in Han China. In *Chinese Thought and Institutions*, ed. John K. Fairbank, pp. 33–70, 345–352. Chicago: University of Chicago Press.

ECO, HUMBERTO

1978 Tratado de semiótica general. Mexico City: Editorial Nueva Imagen.

EDMONSON, MUNRO S.

- 1971 The Book of Counsel: The Popol Vuh of the Quiche Maya of Guatemala. Middle American Research Institute Publication 35. New Orleans: Tulane University.
- FERGUSON, CHARLES A., LARRY M. HYMAN, and JOHN J. OHALA, EDS.
- 1975 Nasálfest: Papers from a Symposium on Nasals and Nasalization. Stanford.

FERNÁNDEZ, MIGUEL A.

- 1946 Los Adoratorios de la isla de Jaina. *Revista Mexicana de Estudios Antropológicos* 8: 243–260. Mexico City.
- FETTWEIS, MARTINE
- 1977 Pintura mural de Puuc. Merida.
- FONCERRADA DE MOLINA, MARTA
- 1960 Origen del arte maya y desarrollo del mascarón como forma integrada a la arquitectura. *Revistas Artes de México* 167: 5–24. Mexico City.
- 1976 La Pintura mural de Cacaxtla: Planteamiento metodológico para su estudio. Paper presented at the 13th International Congress of Americanists, Paris.
- 1977a Cacaxtla and its Glyphic Signs. Paper presented at the Symposium on Middle American Ethnohistory, American Archaeological Society, New Orleans.
- 1977b Consideraciones sobre algunos de los signos glíficos en la pintura mural de Cacaxtla. Report given at the 15th Mesa Redonda de la Sociedad Mexicana de Antropología. Guanajuato.
- 1977c Prehispanic Mural Painting, Cacaxtla, Teotihuacán and Bonampak. Lecture given at Tulane University.
- 1978a The Cacaxtla Murals: An Example of Cultural Contact? *Iberoamerikanischen Archiv*. Berlin.
- 1978b La Pintura mural de Cacaxtla. Anales del Instituto de Investigaciones Estéticas 46. Mexico City.
- 1978c Reflexiones en torno a la pintura mural de Cacaxtla. *Comunicaciones* 15. Puebla.
- FOSTER, MARY L., and GEORGE M. FOSTER
- 1948 Sierra Popoluca Speech. Institute of Social Anthropology Publication 8. Washington, D.C.: Smithsonian Institution.

FOX, JAMES A.

- n.d. The Etymology of Quichean Kumatz 'Snake.' Unpublished MS.
- 1978a Proto-Mayan Accent, Morpheme Structure Conditions, and Velar Innovations. Ph.D. dissertation, University of Chicago.
- 1978b Proto-Mayan Accent. Paper presented at the 1978 meeting of the American Anthropological Association, Los Angeles.
- FOX, JAMES A., and JOHN S. JUSTESON
- n.d. Hieroglyphic Evidence for the Languages of the Classic Maya. Unpublished MS.
- 1977 Classic Mayan Dynastic Relations. Paper presented at the 1977 meeting of the Society for American Archaeology.
- FURST, JILL LESLIE
- 1977 The Tree Birth Tradition in the Mixteca, Mexico. Journal of Latin American Lore 3, no. 2: 183–226.
- 1978 Codex Vindobonensis Mexicanus I: A Commentary. Institute for Mesoamerican Studies Publication 2.
- GANN, THOMAS W. F.
- 1900 Mounds in Northern Honduras. Bureau of American Ethnology Annual Report 19: 655–692.
- 1925 Mystery Cities: Exploration and Adventure in Lubaantun. London: Camelot Press.
- 1926 Ancient Cities and Modern Tribes: Exploration and Adventure in Maya Lands. London: Camelot Press.
- GARCÍA COOK, ANGEL
- 1974 Una Secuencia cultural para Tlaxcala. *Comunicaciones* 10. Puebla.
- GARCÍA PAYÓN, JOSÉ
- 1946 Los Monumentos arqueológicos de Malinalco. *Revista Mexicana de Estudios Históricos* 8. Mexico City.

GENDROP, PAUL

- 1977 *Quince ciudades mayas*. Colección de Arte 31. Mexico City.
- GENDROP, PAUL, and DORIS GENDROP
- 1975 Arquitectura mesoamericana. Madrid: Editorial Aguilar.
- GIBSON, C.
- 1950 The Identity of Diego Muñoz Camargo. *Hispanic American Historical Review* 30: 199–200.
- GIRARD, RAFAEL
- 1977 Origen y desarrollo de las civilizaciones antiguas de América. Mexico City: Editores Mexicanos Unidos.
- GOLDSTEIN, MARILYN
- 1979 Jaina-Style Figurines from Campeche, Mexico: Classification on the Basis of Clay Chemistry, Style and Iconography. Ph.D. thesis, Department of Art History, Columbia University.
- GOODMAN, J. T.
- The Archaic Maya Inscriptions. Appendix to Archaeology, by A. P. Maudslay, vol. 6, pp. 1–141. London. Facsimile reprint, Charlotte, N.C., 1974.
 GREENBERG, JOSEPH H.
- 1969 Some Methods of Dynamic Comparison in Linguistics. In Substance and Structure of Language, ed. Jaan Puhvel. Berkeley and Los Angeles: University of California Press.

- GREENE, MERLE, ROBERT L. RANDS, and JOHN A. GRAHAM
- 1972 Maya Sculpture from the Southern Lowlands, the Highlands, and Pacific Piedmont. Berkeley: Lederer, Street & Zeus.
- GREENE, MERLE, and J. E. S. THOMPSON
- 1967 Ancient Maya Relief Sculpture. New York: Museum of Primitive Art.
- GREENE ROBERTSON, MERLE
- 1974a [ed.] *First Palenque Round Table, 1973: Part 1.* Palenque Round Table Series I. Pebble Beach, Calif.: Robert Louis Stevenson School.
- 1974b [ed.] *First Palenque Round Table, 1973: Part 2.* Palenque Round Table Series II. Pebble Beach, Calif.: Robert Louis Stevenson School.
- 1976 [ed.] *Second Palenque Round Table, 1974.* Palenque Round Table Series III. Pebble Beach, Calif.: Robert Louis Stevenson School.
- in The Iconographic Content of Color in the Late Classic.

press Los Angeles: UCLA Latin American Center.

GREENE ROBERTSON, MERLE, MARJORIE S. ROSENBLUM

SCANDIZZO, and JOHN R. SCANDIZZO

1976 Physical Deformities in the Ruling Lineage of Palenque and the Dynastic Implications. In Second Palenque Round Table, 1974, ed. Merle Greene Robertson, pp. 59–86. Palenque Round Table Series III. Pebble Beach, Calif.: Robert Louis Stevenson School.

GRIEDER, TERENCE

- 1964 Representation of Space and Form in Maya Painting of Pottery. American Antiquity 29, no. 4: 442– 448.
- 1970 Ecology before Columbus. *Americas* 22, no. 5: 21–28.
- GROTH-KIMBALL, IRMGARD
- 1961 Maya Terrakotten. Tübingen: Verlag Ernst Wasmuth.
- GROVE, DAVID C.
- 1973 Olmec Altars and Olmec Myths. *Archaeology* 26, no. 2: 128–135.
- HALPERN, ABRAHAM M.
- 1942 A Theory of Maya tš-sounds. Carnegie Institution of Washington Notes on Middle American Archaeology and Ethnology 13.
- HARBOTTLE, GARMAN
- 1976 Activation Analysis in Archaeology. Chemical Society Specialist Periodical Report 3, no. 19.

HARTNER, WILLY

- 1960 The Mercury Horoscope of Marcantonio Michiel of Venice: A Study in the History of Renaissance Astrology and Astronomy. In *Vistas in Astronomy*, ed. A. Beer, vol. 1, pp. 84–138. Oxford: Pergamon Press.
- HARTUNG, HORST
- 1971 Die Zeremonialzentren der Maya. In *Beitrag zur Untersuchung der Planungsprinzipien*. Graz, Austria: Akademische Druck und Verlagsanstalt.
- 1972 Consideraciones sobre los trazos de centros ceremoniales mayas (Influencia de los conocimientos

astronómicos en la acomodo de las construcciones). Verhandlungen des XXXVIII Intern. Amerikanistenkongresses 4 (1968): 17–26. Munich.

- 1976 El Espacio exterior en el centro ceremonial de Palenque. In Second Palenque Round Table, 1974, ed. Merle Greene Robertson, pp. 123–135. Palenque Round Table Series III. Pebble Beach, Calif.: Robert Louis Stevenson School.
- HARTUNG, HORST, and ANTHONY AVENI
- 1979 Visual Relations in the Architecture of the Palace at Palenque. In *Third Palenque Round Table*, 1978: *Part* 1, ed. Merle Greene Robertson and Donnan Call Jeffers, pp. 173–178. Palenque Round Table Series IV. Palenque/Monterey: Pre-Columbian Art Research Center/Herald Printers.

HEALEY, GILES GREVILLE

1950 Only Liars and Damn Fools Say They Like the Jungle. In *Morleyana*. Santa Fe: School of American Research and the Museum of New Mexico.

HEYDEN, DORIS

- 1973 ¿Un Chicomoztoc en Teotihuacán? La Cueva bajo de la Pirámide del Sol. *Instituto Nacional de Antropología e Historia Boletín* 2, no. 6: 3–18. Mexico City.
- 1976 Los Ritos de paso en las cuevas. Instituto Nacional de Antropología e Historia Boletín 2, no. 9: 17–26. Mexico City.

HISTORIA TOLTECA-CHICHIMECA: ANALES DE QUAUH-TINCHAN

- 1947 Ed. Heinrich Berlin with Silvia Rendón. Prologue by Paul Kirchhoff. Mexico City: Antigua Librería Rebredo.
- HYMAN, LARRY M.
- 1975 Nasal States and Nasal Processes. In Nasálfest: Papers from a Symposium on Nasals and Nasalization, ed. Charles A. Ferguson, Larry M. Hyman, and John J. Ohala. Stanford.
- JIMÉNEZ MORENO, WIGBERTO
- 1942 El Enigma de los olmecas. *Cuadernos Americanos* 5, no. 5: 113–145.
- 1959 Síntesis de la historia pretolteca de Mesoamérica. In *El Esplendor del México antiguo*, ed. Carmen Cook de Leonard, vol. 2, pp. 1019–1108. Mexico City.
- 1966 Mesoamerica before the Toltecs. In *Ancient Oaxaca*, ed. John Paddock. Stanford: Stanford University Press.
- JORALEMON, P. DAVID
- 1971 A Study of Olmec Iconography. Dumbarton Oaks Studies in Pre-Columbian Art and Archaeology 7.
- JUSTESON, JOHN S.
- 1975 The Identification of the Emblem Glyph of Yaxha, El Petén. *Contributions of the University of California Archaeological Research Facility* 27: 123–129.
- 1977 Universals of Language and Universals of Writing. In *Linguistic Studies Offered to Joseph Greenberg*, ed. Alphonse Juilland, Andrew M. Devine, and Laurence D. Stephens, vol. 1. Saratoga, Calif.

KAMPEN, MICHAEL EDWIN

- 1972 The Sculptures of El Tajín, Veracruz, Mexico. Gainesville: University Presses of Florida.
- KAUFMAN, TERRENCE S.
- 1962 Mayan and Mixe-Zoque. The University of Chicago Microfilm Collection of Manuscripts on Cultural Anthropology 55.
- 1964 Materiales lingüísticos para el estudio de las relaciones internas y externas de la familia de idiomas mayanos. In *Desarrollo cultural de los mayas: Seminario de cultura maya*, ed. Evon Z. Vogt and Alberto Ruz Lhuillier. Mexico City: Universidad Nacional Autónoma de México.
- 1970 Pre-Columbian Borrowings in and out of Huastec. Paper given at the sixth annual meeting of the Chicago Linguistics Society.
- 1978 The Current State of Mayan Historical Linguistics. Paper given at the Taller Maya III, Cobán, Guatemala.

KELLEY, DAVID H.

- 1962 Fonetismo en la escritura maya. *Estudios de Cultura Maya* 2: 277–317. Mexico City.
- 1976 Deciphering the Maya Script. Austin: University of Texas Press.
- KIDDER, ALFRED V.
- 1946 Division of Historical Research. Carnegie Institution of Washington Yearbook 46.
- KIRCHHOFF, PAUL
- 1940 Los Pueblos de la historia Tolteca-Chichimeca: Sus migraciones y parentesco. *Revista Mexicana de Estudios Antropológicos* 4: 77–104. Mexico City.

KNOROZOV, YURI V.

1967 Selected Chapters from the Writing of the Maya Indians. Russian Translation Series of the Peabody Museum of American Archaeology and Ethnology, vol. 4. Cambridge, Mass.: Harvard University.

KUBLER, GEORGE

- 1967 The Iconography of the Art of Teotihuacán. Dumbarton Oaks Studies in Pre-Columbian Art and Archaeology 4.
- 1969 *Studies in Classic Maya Iconography.* Memoirs of the Connecticut Academy of Arts and Sciences 18.
- 1972 The Double-Portrait Lintels of Tikal. In Actas del XXIII Congreso Internacional de Historia del Arte, vol. 1, pp. 165–173. Granada.
- 1974 Mythological Ancestries in Classic Maya Inscriptions. In *First Palenque Round Table*, 1973: *Part 2*, ed. Merle Greene Robertson, pp. 23–43. Palenque Round Table Series II. Pebble Beach, Calif.: Robert Louis Stevenson School.

KURYŁOWICZ, JERZY

- 1927 » indo-européen et *h* hittite. Symbolae Grammticae in honorem Ioannis Rozwadowski, vol. 1.
- 1975 The Art and Architecture of Ancient America: The Mexican Maya and Andean Peoples. 2d ed. Pelican History of Art. London: Penguin Books.

LA FARGE, OLIVER

- 1926 Comparative Word Lists. Appendix 3 to *Tribes and Temples*, by Frans Blom and Oliver La Farge. Middle American Research Institute Publication 1. 2 vols. New Orleans: Tulane University.
- LA FARGE, OLIVER, and DOUGLAS BYERS
- 1931 *The Year Bearer's People.* Middle American Research Institute Publication 3. New Orleans: Tulane University.
- LA GRASSERIE, RAOUL DE, ED.
- 1898 Langue zoque et langue mixe. Bibliothèque Linguistique Américaine, vol. 22. Paris.
- LANDA A., MARÍA ELENA
- 1962 Contribución al estudio de la formación cultural del valle Poblano-Tlaxcalteca. *Instituto Poblano de Antropología e Historia*. Mexico City.

LANGDON, MARGARET

- 1976 Metathesis in Yuman Languages. Languages 52: 866–883.
- LIFE MAGAZINE
- 1949 Maya Murals. November 21.
- LITVAK KING, JAIME
- 1970 Xochicalco en la caída del clásico, una hipótesis. Anales de Antropología 7: 131–144. Mexico City.
- 1972 Las Relaciones externas de Xochicalco: Una Evaluación de su posible significado. *Anales de Antropología* 9: 49–77. Mexico City.
- LIZARDI RAMOS, CÉSAR
- 1961 Las Estelas 4 y 5 de Balancán, Morales, Tabasco. Estudios de Cultura Maya 1. Mexico City.
- lópez de molina, diana
- 1976 Cacaxtla: Los Murales y la investigación arqueológica. Paper presented at the 42d International Congress of Americanists, Paris.
- 1977 Los Murales prehispánicos de Cacaxtla. *Instituto Nacional de Antropología e Historia Boletín* 3, no. 20. Mexico City.
- LÓPEZ DE MOLINA, DIANA, and DANIEL MOLINA

LOUNSBURY, FLOYD G.

78

- 1973 On the Derivation and Reading of the "Ben-Ich" Affix. In *Mesoamerican Writing Systems*, ed. Elizabeth P. Benson. Washington, D.C.: Dumbarton Oaks.
- 1974 The Inscription of the Sarcophagus Lid at Palenque. In *First Palenque Round Table, 1973: Part 2,* ed. Merle Greene Robertson, pp. 5–20. Palenque Round Table Series II. Pebble Beach, Calif.: Robert Louis Stevenson School.
- 1976 A Rationale for the Initial Date of the Temple of the Cross at Palenque. In *Second Palenque Round Table*, 1974, ed. Merle Greene Robertson, pp. 211–224. Palenque Round Table Series III. Pebble Beach, Calif.: Robert Louis Stevenson School.
- 1978 Maya Numeration, Computation and Calendrical Astronomy. In *Dictionary of Scientific Biography*, ed. Charles Coulston Gillispie, vol. 15, supp. 1, pp. 759–818. New York: Charles Scribner's Sons.

¹⁹⁷⁷⁻ Informes inéditos en el archivo técnico del INAH.

- 1976 An American Company: The Tragedy of American Fruit. New York: Crown Publishers.
- MCQUOWN, NORMAN A.
- 1942 Una Posible síntesis lingüística Macro-Mayance. In Mayas y Olmecas, Sociedad Mexicana de Antropología, vol. 2, pp. 37–38. Mexico City.
- MAKEMSON, MAUD WORCESTER
- 1951 The Book of the Jaguar Priest: A Translation of the Book of Chilam Balam of Tizimín. New York: Henry Schumann.

MALER, TEOBERT

- 1886- Albumes fotográficos. Vols. 1-3. Merida: Biblioteca
- 92 Crescencio Carrillo y Ancona.
- 1902 Yukatekische forschungen. *Globus* 82: 197–230. Brunswick.
- MARCUS, JOYCE
- 1973 Territorial Organization of the Lowland Classic Maya. *Science* 180, no. 4089: 911–916.
- 1976 Emblem and State in the Classic Maya Lowlands: An Epigraphic Approach to Territorial Organization. Washington, D.C.: Dumbarton Oaks.
- MARQUINA, IGNACIO
- 1960 *El Templo mayor de México*. Mexico City: Instituto Nacional de Antropología e Historia.
- 1964 *Arquitectura prehispánica*. Mexico City: Instituto Nacional de Antropología e Historia.
- MATHEWS, PETER
- 1975 Early Lintels of Yaxchilan. Unpublished MS.
- 1977 Emblem Glyphs in Classic Maya Sculpture. Proceedings of the International Symposium on Maya Art, Architecture, Archaeology and Hieroglyphic Writing, ed. Nicholas Hellmuth, forthcoming.
- 1978 The Dynastic Sequence of Bonampak, Chiapas, Mexico. Unpublished MS.
- MATHEWS, PETER, and LINDA SCHELE
- 1974 Lords of Palenque—The Glyphic Evidence. In *First Palenque Round Table, 1973: Part 1,* ed. Merle Greene Robertson, pp. 63–75. Palenque Round Table Series I. Pebble Beach, Calif.: Robert Louis Stevenson School.

MEANS, PHILLIP A.

1917 History of the Spanish Conquest of Yucatán and of the Itzas. Papers of the Peabody Museum of American Archaeology and Ethnology 7. Cambridge, Mass.: Harvard University.

MENDOZA, RUBÉN G.

1977 World View and the Monolithic Temples of Malinalco, Mexico: Iconography and Analogy in Pre-Columbian Architecture. *Journal de la Société des Américanistes* 64: 63–78. Paris.

MERWIN, RAYMOND E.

1913 The Ruins of the Southern Part of the Peninsula of Yucatán; with Special Reference to Their Place in the Maya Area. Ph.D. thesis, Harvard University.

MILLER, ARTHUR C.

1973 *The Mural Painting of Teotihuacán, Mexico.* Washington, D.C.: Dumbarton Oaks.

- 1974 The Iconography of the Painting in the Temple of the Diving God, Tulum, Quintana Roo: The Twisted Cords. In *Mesoamerican Archaeology: New Approaches*, ed. Norman Hammond, pp. 167–186. Austin: University of Texas Press.
- 1974 West and East in Maya Thought: Death and Rebirth at Palenque and Tulum. In *First Palenque Round Table, 1973: Part 2, ed. Merle Greene Robertson, pp. 45–50. Palenque Round Table Series II. Pebble Beach, Calif.: Robert Louis Stevenson School.*
- 1978 A Brief Outline of the Artistic Evidence for Classic Period Cultural Contact between Maya Lowlands and Central Mexican Highlands. In *Middle Classic Mesoamerica: A.D. 400–700, ed. Esther Pasz-*tory. New York: Columbia University Press.

MILLER, JEFFREY H.

1974 Notes on a Stelae Pair Probably from Calakmul, Campeche, Mexico. In *First Palenque Round Table*, 1973: Part 1, ed. Merle Greene Robertson, pp. 149–161. Palenque Round Table Series I. Pebble Beach, Calif.: Robert Louis Stevenson School.

MILLON, CLARA HALL

- 1962 A Chronological Study of the Mural Art of Teotihuacán. Ph.D. dissertation, University of California at Berkeley.
- 1973 Painting, Writing and Polity in Teotihuacán, Mexico. *American Antiquity* 38: 294–314.

MILLON, RENÉ

- 1967a Cronología y periodificación: Datos estratigráficos sobre períodos cerámicos y sus relaciones con la pintura mural. *Mesa Redonda 11th de la Sociedad Mexicana de Antropología* 1. Mexico City.
- 1967b Urna de Monte Albán III A encontrada en Teotihuacán. *Instituto Nacional de Antropología e Historia Boletín* 29. Mexico City.
- 1973 [ed.] Urbanization at Teotihuacán. Vol. 1, pts. 1 and
 2: The Teotihuacán Map, by René Millon, R. Bruce Drewitt, and George L. Cowgill. Austin: University of Texas Press.
- 1976 Social Relations in Ancient Teotihuacán: Part 3. In The Valley of Mexico: Studies in Pre-Hispanic Ecology and Society, ed. Eric R. Wolf. A School of American Research Book. Albuquerque: University of New Mexico Press.

MOEDANO, KOER HUGO

- 1946 Jaina, un cementerio maya. *Revista Mexicana de Estudios Antropológicos* 8: 219–242. Mexico City.
- MOLINA, DANIEL
- 1976 Consideraciones sobre la cronología de Cacaxtla. Paper presented at the 42d International Congress of Americanists, Paris.

MONROY, AGUSTÍN ESTRADA

1973 *Popol Vuh.* Facsimile edition. Trans. R. P. Fray Francisco Ximénez. Guatemala City.

MORLEY, SYLVANUS G.

1937– *The Inscriptions of Petén.* 5 vols. Carnegie Institution of Washington Publication 437. Washington,
D.C.: Carnegie Institution.

MCCANN, THOMAS P.

MORLEY, SYLVANUS G., and GEORGE BRAINERD

- 1956 *The Ancient Maya*. 3d ed. Stanford: Stanford University Press.
- MULLER, FLORENCIA
- 1960 Atlas arqueológico de la República Mexicana. Mexico City: Instituto Nacional de Antropología e Historia.
- MUÑOZ CAMARGO, DIEGO
- 1892 *Historia de Tlaxcala*. Annotated by A. Chavero. Mexico City.
- NELSON, FRED W., JR.
- 1973 Archaeological Foundation. No. 33. Provo: Brigham Young University.
- NICHOLSON, H. B.
- 1967 "Royal Headband" of the Tlaxcalteca. *Revista Mexicana de Estudios Antropológicos* 21. Mexico City.
- NORMAN, BENJAMIN M.
- 1843 Rambles in Yucatán. New York.
- OAKES, MAUD
- 1951 The Two Crosses of Todos Santos: Survivals of Mayan Religious Ritual. Princeton: Princeton University Press.
- OHALA, JOHN J.
- 1975 Phonetic Explanations for Nasal Sound Patterns. In *Nasálfest: Papers from a Symposium on Nasals and Nasalization*, ed. Charles A. Ferguson, Larry M. Hyman, and John J. Ohala. Stanford.
- PADDOCK, JOHN
- 1966 Oaxaca in Ancient Mesoamerica. In Ancient Oaxaca, ed. John Paddock. Stanford: Stanford University Press.
- 1974 Mixtec-Puebla Culture in the Valley of Oaxaca. Paper presented at the 41st International Congress of Americanists, Mexico City.
- 1978 The Middle Classic Period in Oaxaca. In *Middle Classic Mesoamerica: A.D.* 400–700, ed. Esther Pasztory. New York: Columbia University Press.
- PANOFSKY, E.
- 1960 Renaissance and Renascences. Stockholm.
- PASZTORY, ESTHER
- 1972 The Murals of Tepantitla, Teotihuacán. Ph.D. dissertation, Columbia University.
- 1973 The Xochicalco Stelae and a Middle Classic Deity Triad in Mesoamerica. *Actas del Congreso Internacional de Historia del Arte* 1. Granada.
- 1974 The Iconography of the Teotihuacán Tlaloc. Dumbarton Oaks Studies in Pre-Columbian Art and Archaeology 15.
- 1978 [ed.] *Middle Classic Mesoamerica:* A.D. 400–700. New York: Columbia University Press.
- PÉRIGNY, MAURICE DE
- 1908 Yucatán inconnu. Journal de la Société des Américanistes 5: 67–84. Paris.
- 1909 Ruines de Río Beque. *Nature* 33, no. 1: 300-301. Paris.
- PETTAZZONI, R.
- 1933 Sincretismo e conversione nella storia delle religioni. Bulletin de Comité International des Sciences Historiques 5: 24–31. Paris.

PICKANDS, MARTIN

- 1978 The Mythological Origins of the Maya Cross. Master's thesis, University of Connecticut.
- PIÑA CHÁN, ROMÁN
- 1948 Breve estudio sobre la funeraria de Jaina, Campeche. *Cuadernos del Museo de Campeche* 7.
- 1964 Algunas consideraciones sobre las pinturas de Mulchic, Yucatán. Estudios de Cultura Maya 4: 63–78. Mexico City.
- 1968 Jaina: La Casa en el agua. Mexico City.
- PIÑA CHÁN, ROMÁN, and CARLOS NAVARRETE
- 1967 Archaeological Research in the Lower Grijalva River Region, Tabasco and Chiapas. *Papers of the New World Archaeological Foundation* 22.

PÍO PÉREZ, JUAN

- 1866 Diccionario de la lengua Maya. Merida: Imprenta
 67 Literaria de Juan F. Molina Solís.
- POLLOCK, HARRY, ED.
- 1970 Architectural Notes on Some Chenes Ruins. Peabody Museum Monographs and Papers in Maya Archaeology, pp. 1–87.
- POTTER, DAVID F.
- 1977 Maya Architecture of the Central Yucatán Peninsula, Mexico. Middle American Research Institute Publication 44. New Orleans: Tulane University.
- PREM, HANNS J.
- 1971 Calendrics and Writing in Mesoamerica. In Observations on the Emergence of Civilization in Mesoamerica, ed. Robert F. Heizer and John A. Graham. University of California Archaeological Research Facility Contributions 2. Berkeley.

PROSKOURIAKOFF, TATIANA

- 1946 An Album of Maya Architecture. Washington, D.C.: Carnegie Institution.
- 1950 A Study of Classic Maya Sculpture. Carnegie Institution of Washington Publication 593. Washington, D.C.: Carnegie Institution.
- 1960 Historical Implications of a Pattern of Dates at Piedras Negras, Guatemala. American Antiquity 25, no. 4: 454-475.
- 1961 The Lords of the Maya Realm. *Expedition* 4, no. 1: 14–21.
- 1963 Historical Data in the Inscriptions of Yaxchilan, Part I: The Reign of Shield Jaguar. Estudios de Cultura Maya 3: 149–167. Mexico City.
- 1964 Historical Data in the Inscriptions of Yaxchilan, Part II: The Reigns of Bird-Jaguar and His Successors. *Estudios de Cultura Maya* 4: 177–201. Mexico City.
- 1968 The Jog and the Jaguar Signs in Maya Writing. American Antiquity 33: 246-251.
- PROSKOURIAKOFF, TATIANA, and J. E. S. THOMPSON
- 1947 Maya Calendar Round Dates Such as 9 Ahau 17 Mol. Carnegie Institution of Washington Notes on Middle American Archaeology and Ethnology 79.
- QUIRARTE, JACINTO
- 1973 El Estilo artístico de Izapa. Mexico City: Universidad Nacional Autónoma de México.

- RANDS, ROBERT L.
- 1973 The Classic Maya Collapse: Usumacinta Zone and the Northwestern Periphery. In *The Classic Maya Collapse*, ed. T. P. Culvert. Albuquerque: University of New Mexico Press.

RANDS, ROBERT L., and BARBARA C. RANDS

1965 Pottery Figurines of the Maya Lowlands. In Handbook of Middle American Indians, vol. 2: Archaeology of Southern Mesoamerica, ed. Gordon R. Willey, pp. 535–560. Austin: University of Texas Press.

RATTRAY, EVELYN C.

- 1977 A Central Mexican Perspective on Teotihuacán-Maya Contacts. Paper presented at the International Symposium on Maya Art, Architecture, Archaeology and Hieroglyphic Writing. Guatemala City.
- RATTRAY, EVELYN C., GARMAN HARBOTTLE, and EDWARD V. SAYRE
- 1977 Los Contactos entre Teotihuacán y Veracruz. Mexico City: Universidad Nacional Autónoma de México.
- REDFIELD, ROBERT
- 1955 The Little Community: Viewpoints for the Study of a Human Whole. Chicago: University of Chicago Press.

REDFIELD, ROBERT, and ALFONSO VILLA-ROJAS

- 1934 *Chan Kom, a Maya Village*. Carnegie Institution of Washington Publication 448. Washington, D.C.: Carnegie Institution.
- RIESE, BERTHOLD
- 1971 Grundlagen zur Entzifferung der Mayahieroglyphen: Dargestellt an den Inschriften von Copán. Beiträge zur mittelamerikanischen Völkerkunde 11. Hamburg.

ROBINA, RICARDO DE

- 1956 Estudio preliminar de las ruinas de Hochob, municipio de Hobelchén, Campeche. Mexico City: Editorial Atenea.
- ROJAS, G. DE
- 1927 Relación de Cholula. *Revista Mexicana de Estudios Históricos* 1. Mexico City.
- ROMNEY, A. K. and R. ROMNEY
- 1966 *The Mixtecans of Juxtlahuaca, Mexico.* Six Cultures Series 4. New York: John Wiley & Sons.
- ROYS, RALPH L.
- 1965 *Ritual of the Bacabs.* Norman: University of Oklahoma Press.
- 1967 The Book of Chilam Balam of Chumayel. Norman: University of Oklahoma Press.
- RUPPERT, KARL, and JOHN H. DENISON, JR.
- 1943 Archaeological Reconnaissance in Campeche, Quintana Roo and Petén. Carnegie Institution of Washington Publication 543. Washington, D.C.: Carnegie Institution.

RUPPERT, KARL, J. E. S. THOMPSON, and TATIANA PROS-KOURIAKOFF

1955 *Bonampak, Chiapas, Mexico*. Carnegie Institution of Washington Publication 602. Washington, D.C.: Carnegie Institution. RUZ LHUILLIER, ALBERTO

- 1945 Campeche en la arqueología maya. *Acta Antropología* 1, nos. 2–3: 9–127. Mexico City.
- 1952 Estudio de la cripta del Templo de las Inscripciones en Palenque. *Tlatoani* 1, no. 5.
- 1953 Investigaciones arqueológicas en la zona Maya. Memoria del Congreso Científico Mexicano 12: 327– 329. Mexico City.
- 1956 *Uxmal: Official Guide*. Mexico City: Instituto Nacional de Antropología e Historia.
- 1958 Exploraciones arqueológicas en Palenque: 1953, 1954. Anales del Instituto Nacional de Antropología e Historia 10: 69–116, 117–184. Mexico City.
- 1969 La Costa de Campeche. Mexico City.
- 1973 El Templo de las Inscripciones, Palenque. *Colección Científica* 7. Mexico City.
- 1976 Nueva interpretación de la inscripción jeroglífica en el sarcófago del Templo de las Inscripciones. In *Second Palenque Round Table, 1974,* ed. Merle Greene Robertson, pp. 87–93. Palenque Round Table Series III. Pebble Beach, Calif.: Robert Louis Stevenson School.
- 1977 Gerontocracy at Palenque? In Social Process in Maya Prehistory, ed. Norman Hammond, pp. 287–295. New York: Academic Press.

SÁENZ, CÉSAR A.

- 1961 Tres estelas en Xochicalco. *Revista Mexicana de Estudios Antropológicos* 17. Mexico City.
- 1966 Exploraciones en la Pirámide de la Cruz Foliada y en los Templos XVIII y XXI. *Instituto Nacional de Antropología e Historia Boletín* 24. Mexico City.

SAHAGÚN, BERNARDINO DE

- 1956 Historia general de las cosas de la Nueva España. Mexico City: Editorial Porrúa.
- SANDERS, WILLIAM T.
- 1978 Ethnographic Analogy and the Teotihuacán Horizon Style. In *Middle Classic Mesoamerica: A.D.* 400–700, ed. Esther Pasztory. New York: Columbia University Press.
- SANDERS, WILLIAM T. and A. MARINO
- 1973 Prehistoria del Nuevo Mundo. Nueva Colección Labor. Spain: Editorial Labor.
- SAUSSURE, FERDINAND DE
- 1879 Mémoire sur le système primitif des voyelles dans les langues indo-européennes. Leipzig.
- SCHÁVELZON, DANIEL
- 1977 Arquitectura prehispánica y asentamientos en la costa del Ecuador. Guayaquil: Museo del Banco Central de Guayaquil.

SCHELE, LINDA

- 1974 The Attribution of Monumental Architecture to Specific Rulers at Palenque. Paper presented at the 41st International Congress of Americanists, Mexico City.
- 1974 Observations on the Cross Motif at Palenque. In *First Palenque Round Table, 1973: Part 1,* ed. Merle Greene Robertson, pp. 41–61. Palenque Round Table Series I. Pebble Beach, Calif.: Robert Louis Stevenson School.

- 1976 Accession Iconography of Chan-Bahlum in the Group of the Cross at Palenque. In *Second Palenque Round Table*, 1974, ed. Merle Greene Robertson, pp. 9–34. Palenque Round Table Series III. Pebble Beach, Calif.: Robert Louis Stevenson School.
- 1979 Genealogical Documentation on the Tri-figure Panels at Palenque. In *Third Palenque Round Table*, 1978, Part 1, ed. Merle Greene Robertson and Donnan Call Jeffers, pp. 41–70. Palenque Round Table Series IV. Palenque/Monterey: Pre-Columbian Art Research Center/Herald Printers.
- SCHELE, LINDA, PETER MATHEWS, and FLOYD LOUNSBURY
- 1977 Parentage Expressions in the Classic Maya Inscriptions. Unpublished MS.
- SCHELLHAS, PAUL
- 1904 Representation of Deities of the Maya Manuscripts. Papers of the Peabody Museum of American Archaeology and Ethnology 4, no. 1. Cambridge, Mass.: Harvard University.
- SCHULTZE-JENA, LEONHARD
- 1933 Leben, Glaube und Sprache der Quiché von Guatemala. *Indiana* 1. Jena.

SEJOURNÉ, LAURETTE

- 1966a *Arqueología de Teotihuacán, la cerámica*. Mexico City: Fondo de Cultura Económica.
- 1966b *Arquitectura y pintura en Teotihuacán*. Mexico City: Editorial Siglo XXI.
- 1966c El Lenguaje de las formas en Teotihuacán. Mexico City: Editorial Litoarte.
- 1970 Arqueología del Valle de México: Culhuacán. Mexico City: Instituto Nacional de Antropología e Historia.
- 1971 América Latina I: Antiguas culturas precolombinas. Mexico City: Editorial Siglo XXI.
- SELER, EDUARD
- 1916 Die Quetzalcouatl-fassaden yukatekischer Bauten. Koliglische Preussische Akademie de Wissenshaften 2. Berlin.
- 1927 Einige Kapitel aus dem Geschichtswerk des Fray Bernardino de Sahagún aus dem Aztekischen übersetzt. Stuttgart.
- SIDRYS, RAYMOND, and RAINER BERGER
- 1979 Lowland Maya Radiocarbon Dates and the Classic Maya Collapse. *Nature* 277, no. 5694: 269–274. London.
- SMAILUS, ORTWIN
- 1975 El Maya-Chontal de Acalan. *Centro de Estudios Mayas Cuaderno* 9. Mexico City.
- SPENCE, LEWIS
- 1930 The Arcane Secrets and Occult Lore of Mexico and Mayan Central America. London: Rider & Co.
- SPINDEN, HERBERT J.
- 1957 Maya Art and Civilization. Indian Hill, Colo.: Falcon's Wing Press.
- 1975 A Study of Maya Art: Its Subject Matter and Historical Development. New York: Dover.

STEPHENS, JOHN L.

- 1938 *Viaje a Yucatán, 1841–1842.* Trans. Justo Sierra O'Reilly. 2d ed. 2 vols. Mexico City.
- STEPHENS, LAURENCE D., and JOHN J. JUSTESON
- 1979 Some Generalizations Concerning Glides. Proceedings of the 8th Annual Meeting of the Western Conference on Linguistics.
- STIRLING, MATTHEW W.
- 1957 An Archaeological Reconnaissance in Southeastern Mexico. *Bureau of American Ethnology Bulletin* 164: 213–240.
- STUART, GEORGE E., and GENE STUART
- 1969 Discovering Man's Past in the Americas. Washington, D.C.: National Geographic Society.
- TEJEDA F., ANTONIO
- 1950 Morleyana Anecdotes. In *Morleyana*. Santa Fe: School of American Research and the Museum of New Mexico.
- THOMAS, CYRUS
- 1900 Mayan Calendar Systems. Bureau of American Ethnology Annual Report 19: 693–819.
- 1904 Mayan Calendar Systems—II. Bureau of American Ethnology Annual Report 22: 197–305.
- THOMPSON, EDWARD H.
- 1898 Ruins of Xkichmook, Yucatán. Field Columbian Museum Anthropological Series 2, no. 3: 209–229.
- 1904 Archaeological Researches in Yucatán. Memoirs of the Peabody Museum of American Archaeology and Ethnology 3, no. 1.

THOMPSON, J. E. S.

- 1927 The Civilization of the Mayas. Field Museum of Natural History Anthropology Leaflet 25.
- 1936 The Dates of the Temple of the Cross, Palenque. Maya Research 3: 287–293.
- 1938 Sixteenth and Seventeenth Century Reports on the Chol Mayas. American Anthropologist, n.s. 40: 584–604.
- 1943 Las Llamadas fachadas de Quetzalcóatl. Paper presented at the 1939 International Congress of Americanists, Mexico City.
- 1950 Maya Hieroglyphic Writing: An Introduction. Carnegie Institution of Washington Publication 589. Washington, D.C.: Carnegie Institution.
- 1952 The Introduction of the Puuc Style of Dating at Yaxchilan. Carnegie Institution of Washington Notes on Middle American Archaeology and Ethnology 110.
- 1960 Maya Hieroglyphic Writing. Norman: University of Oklahoma Press.
- 1962 *A Catalog of Maya Hieroglyphs.* Norman: University of Oklahoma Press.
- 1970 Maya History and Religion. Norman: University of Oklahoma Press.
- 1972 *A Commentary on the Dresden Codex*. Philadelphia: American Philosophical Society.
- 1973 The Painted Capstone at Sacnicte, Yucatán, and Two Others at Uxmal. *Indiana* 1: 59–61. Berlin.

1975 Monarquía indiana (1615). Edition prepared under

TORQUEMADA, JUAN DE

the coordination of M. León Portilla. Mexico City: Universidad Nacional Autónoma de México.

TOZZER, ALFRED M.

- 1907 A Comparative Study of the Mayas and Lacandones. New York.
- 1941 [ed.] Landa's Relación de las cosas de Yucatán. Papers of the Peabody Museum of American Archaeology and Ethnology 18. Cambridge, Mass.: Harvard University.
- TOZZER, ALFRED M., and GLOVER M. ALLEN
- 1910 Animal Figures in the Maya Codices. Papers of the Peabody Museum of American Archaeology and Ethnology 4, no. 3. Cambridge, Mass.: Harvard University.
- TRICK, AUBREY S.
- 1939 *Temple XXII at Copán.* Carnegie Institution of Washington Publication 509. Washington, D.C.: Carnegie Institution.
- TURNER, P., and S. TURNER
- 1971 Chontal to Spanish-English Dictionary; Spanish to Chontal. Tucson: University of Arizona Press.
- ULTAN, RUSSELL
- 1971 A Typological View of Metathesis. *Working Papers in Language Universals* 7: 1–44.
- VENTRIS, MICHAEL G. F., and JOHN CHADWICK
- 1953 Evidence for Greek Dialect in the Mycenaean Archives. *Journal of Hellenic Studies* 73: 84–103.
- VILLACORTA C., J. ANTONIO, and CARLOS A. VILLA-CORTA R.
- 1930 Códices mayas: Dresdensis, Peresianus, Tro-Cortesianus. Guatemala City: Tipografía Nacional.

VILLAGRA CALETI, AGUSTÍN

- 1949 Bonampak, la ciudad de los muros pintados. Anales del Instituto Nacional de Antropología e Historia, supplement to vol. 3. Mexico City.
- 1955 Trabajos realizados en Teotihuacán: 1952. Anales del Instituto Nacional de Antropología e Historia 6, no. 34. Mexico City.

- VOGT, EVON Z.
- 1969 Zinacantan: A Maya Community in the Highlands of Chiapas. Cambridge, Mass.: Harvard University Press.
- WEBB, MALCOLM C.
- 1973 The Petén Maya Decline Viewed in the Perspective of State Formation. In *The Classic Maya Collapse*, ed. T. P. Culvert. Albuquerque: University of New Mexico Press.
- WEST, ROBERT C., N. P. PSUTY, and B. G. THOM
- 1969 The Tabasco Lowlands of Southeastern Mexico. *Coastal Series* 27.
- WHITTAKER, ARABELLE, and VIOLA WARKENTIN
- 1965 *Chol Texts on the Supernatural.* Summer Institute of Linguistics of the University of Oklahoma Publications in Linguistics 13. Norman.

WINNING, HASSO VON

- 1947 A Symbol for Dripping Water in the Teotihuacán Culture. In *El México Antiguo* 6. Mexico City.
- 1948 The Teotihuacán Owl-and-Weapon Symbol and Its Association with "Serpent Head X" at Kaminaljuyú. *American Antiquity* 14, no. 2: 129–132.
- 1961 Teotihuacán Symbols: The Reptile's Eye Glyph. *Ethnos* 26, no. 3: 121–166.
- 1971 *Ancient Art of Veracruz.* Los Angeles: Los Angeles County Museum of Natural History.
- WOLF, ERIC R., ED.
- 1971 *The Valley of Mexico: Studies in Pre-Hispanic Ecology and Society.* A School of American Research Book. Albuquerque: University of New Mexico Press.

WONDERLY, WILLIAM L.

1949 Some Zoquean Phonemic and Morphophonemic Correspondences. *International Journal of American Linguistics* 15: 1–11.

ZIMMERMANN, GUNTER

1956 Die Hieroglyphen der Maya-Handschriften. Hamburg: Cram, de Gruyter.







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Jacket illustration: LORD CHAACAL III Birth: 9.12.6.5.8 3 Lamat 6 Zac Accession to the throne of Palenque: 9.14.10.4.2 9 Ik 5 Kayab Death: pre-9.14.11.12.14 8 Ik 7 Yaxkin

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