

B 11348 F

mexicon

Aktuelle Informationen und Studien zu Mesoamerika
News and studies on Mesoamerica – Noticias y contribuciones sobre Mesoamérica

Vol. XX

Dezember 1998

Nr. 6



Contents

mexicon XX (6)

<i>News and Notes</i>	115–118
<i>Contributions</i>	
Lynette Heller and Barbara L. Stark Classic and Postclassic Obsidian Tool Production and Consumption: A Regional Perspective from the Mixtequilla, Veracruz	119–128
Nikolai Grube and Norman Hammond Rediscovery of La Milpa Stela 4	129–132
<i>Recent Publications (Periodicals)</i>	132–136
<i>Impressum</i>	136

Cover

A Classic Maya polychrome tripod plate from the Museo Popol Vuh

Apart from artifacts exhibited in the Museo Popol Vuh, Guatemala City, the museum keeps numerous artifacts of the Classic Maya culture in its depository, such as various ceramic vessels or sculpture. Since most of these objects were plundered by discreet looters their places of origin usually remain a secret. In March 1998 *mexicon* staff member Karl Herbert Mayer visited the Museo Popol Vuh and its depository. He was allowed to take photographs of several polychrome ceramic vessels of which one piece can now be published for the first time with the kind permission of the Museo Popol Vuh.

The artifact is a Classic Maya polychrome tripod plate of unknown provenance, referred by the museum as n° 0451. It is 24.5 cm in diameter and 6 cm high. In general the plate is not intensely damaged, but slight scratches overlay the surface without affecting the fineness of the iconography and hieroglyphic text painted in the tondo. On the right a discoloured area at the inner flaring wall interrupts the homogeneous orange coloration of the plate. The undercoat is orange, the circular hieroglyphic text and the rim are painted black, the figure in the centre is painted in a dark red.

The red-painted central figure depicts the head of the deity *K'awil*, characterized by three double-flames shooting up through his forehead, his jaw and his occiput – the mirror-sign on his forehead is another attribute of this deity. *K'awil* or God K was an important deity associated with the royal descent in Classic Maya iconography and so scepters held by rulers were images of *K'awil*. Possibly the red God K on this plate can be associated with the latter aspect of this important deity. For a similar illustration of God K compare a ceramic vessel [Kerr 1992] published by Justin Kerr (1989: 113) or another polychrome plate published by Coe (1973: 36).

A large portion of the circular hieroglyphic text consists of glyphs belonging to the Primary Standard Sequence (PSS). This formulaic hieroglyphic sequence appears in order to mention the dedication of the object, the

kind of content and the owner of the object. Our text begins with the so-called “Initial Sign” whose reading and exact translation is still problematic. The following glyph is an allograph of the so called “flat-hand” hieroglyph whose linguistic equivalent is still under discussion. Its semantic meaning may be “to dedicate”. In an article published in *mexicon* Barbara MacLeod (1989) proposed the decipherment of the next hieroglyph to be *yi-chi* “his (writing) surface”. The text continues with a strange writing variant of a glyph which often substitutes for *u tz'ibal* “his writing, painting”. Specifically on this plate the human head, elsewhere read as *ahaw* “ruler”, seems to adopt the phonetic value *u* in order to express the ergative pronoun *u* “his, her, its”. Thereafter, the owner of this plate is spelled *ma-ko ahaw la-tzuk*. This provides the information that a noble person, called *mak ahaw*, was the owner of this plate. Unfortunately there is no external information available about this *mak ahaw* from other sources. The last glyph, *la-tzuk*, may be a title. The complete text can be paraphrased as: “... it is dedicated the surface for the writing of *mak ahaw* [title]”.

The coloration and the hieroglyphic text of the plate is similar to other ceramic vessels from the northern Peten region, for instance an orange ceramic bowl published in the exhibition catalogue “Die Welt der Maya” (Eggebrecht, Eggebrecht & Grube 1992:384 – n° 75). The orange coloration and the blackened rim are identical with the style found on this plate. The shape and coloration of the tripod plate under discussion show some similarities to Tepeu I tripod ceramics from Uaxactun, as discussed by Smith in his analysis of Uaxactun ceramic vessels (Smith 1955). Tepeu I is dated between 550–700 A.D. (Sharer 1994: 691).

Photograph: Karl Herbert Mayer, 1998

Text: Christian Prager

References cited

- Coe, Michael D.
1973 *The Maya Scribe and His World*. The Grolier Club, New York.
- Eggebrecht, Eva, Arne Eggebrecht & Nikolai Grube
1992 *Die Welt der Maya*. Roemer- und Pelizaeus-Museum, Hildesheim.
- Kerr, Justin
1989 *The Maya Vase Book*. Volume 1. Kerr Associates, New York.
- MacLeod, Barbara
1989 Writing on the Curved Page: A Reading for the Manik Collocation in the Primary Standard Sequence. *Mexicon*, Vol. XI, No. 2: 27–30, Verlag von Flemming, Berlin.
- Sharer, Robert J.
1994 *The Ancient Maya*. Stanford University Press, Stanford, California.
- Smith, Robert E.
1955 *Ceramic Sequence at Uaxactun, Guatemala*. Volume 1 and 2. (Middle American Research Institute, Tulane University, Publication no. 20). Tulane University, New Orleans.

Guatemalan peasant families leave the Peten Maya Biosphere Reserve

GUATEMALA CITY (Prensa Libre). After having spent more than 15 years of their lives in the Maya Biosphere Reserve the Comunidades Populares en Resistencia in the Department of Peten (CPR-P, Popular Communities in Resistance in the Peten) will move to other areas as a result of negotiations with the Guatemalan government.

In 1981, with the assistance of national and international organizations, a group of about 300 families had settled in the area known as the Parque Nacional Sierra del Lacandon in the municipality La Libertad, Peten, trying to escape the armed conflict between the Guatemalan URNG (Unidad Revolucionaria Nacional Guatemalteca) guerrillas and the government in their home villages. Due to general hardship, lack of food and health problems, many of the families decided to emigrate to Mexico. Others who stayed were regarded by the Guatemalan military forces as supporters of the URNG guerrillas and were kept under military control. To receive more assistance, the communities organized themselves as CPR-P in 1991 and were recognized as civil population by the Mission of the United Nations for Guatemala, MINUGUA. At present, the CPR-P consists of the four communities La Esmeralda, Albeño, Fajardo and Virgilio, which integrate about 150 families coming from different departments of the country. No roads exist and visiting the communities is only possible on foot. The families are moving out to live in five ranchos offered to them by the Guatemalan government, which are situated between the municipalities of La Libertad and San Francisco.

Mexican archaeological patrimony recovered

MEXICO CITY (La Jornada). The Mexican Chief Department of Prosecution (Procuraduría General de la República, PGR) confiscated 2168 archaeological objects belonging to the Olmec and Teotihuacan cultural horizons. The objects, which are between 3000 and 3500 years old, were looted in the municipality of Iqualapa, in the Costa Chica region of the Mexican state of Guerrero. They include 1340 miniature plates, some semi-complete vessels, part of a stela, a granite stone with the design of an Olmec figurine with red colour, small Olmec-style heads, and head fragments and vessels of Teotihuacan style. Among the looted material are also 648 small clay tablets with grooved motives. According to INAH staff member María de la Cruz Paillés, they represent a type formerly unknown to archaeologists. The objects were detected by the PGR during a car check on the federal highway Acapulco-Pinotepa Nacional, about 120 kilometres from Acapulco. The Mexican driver, a native from Iqualapa who was arrested, claimed he was carrying the pieces, which he had allegedly received from acquaintances in the Costa Chica region, to hand them over to a museum in Acapulco. Nevertheless, other objects were found during a search of his home. According to the delegate of INAH Guerrero, Cristina Sánchez del Real, the objects are authentic and correspond stylistically to other archaeological findings from the Costa Chica zone.

This region is one of the least studied areas in Mexico. It is calculated that in the municipality of Ometepepec alone, where the archaeological site Piedra Labrada is located and which is adjacent to Iqualapa, about 900 unexcavated archaeological sites exist. The recovered objects have been sent to the INAH Historical Museum of Acapulco, Fuerte de San Diego.

Stelae from Los Alacranes salvaged

MEXICO CITY (Ivan Šprajc). As was reported in *mexicon* 19 (1997): 5ff, during the first season of the archaeological survey of southeastern Campeche conducted by Mexico's Instituto Nacional de Antropología e Historia (INAH) in 1996, two Maya stelae with reliefs and inscriptions were discovered at the archaeological site of Los Alacranes. The salvage of the stelae, undertaken as a precaution against theft or vandalism, was approved by INAH's Archaeological Council and put into effect in March 1998. The two monuments, originally situated in the site's East and West Complexes respectively, were transported into the centre of the town of Los Alacranes and set up securely on the west side of the main street (Fig. 1). Before being transported, the stelae were drawn by Ian Graham.

Unfortunately, when they arrived at the site to commence work on the stelae in February 1998, the salvage team discovered Stela 1 broken in two. At some point after August 1996, when the stela, after having been raised and photographed, was left in situ concealed by a layer of rubble, looters tried to raise it, perhaps in order to facilitate sawing it into transportable sections, but apparently changed their minds after causing the break. As luck would have it, the sculpted face of the monument did not suffer major damage. After transportation, the two fragments were assembled and attached to a specially prepared platform that facilitated the exercise of raising the stela into a vertical position (Fig. 1). The details of the salvage work have been presented in an information paper issued by INAH.

The town of Los Alacranes, located in the extreme southeast of the state of Campeche (89° 13' W, 17° 59' N), is accessible from Xpujil or Nicolas Bravo, by roads coming off Federal Highway 186 (Escarcega – Chetumal) to the south.



Fig. 1. Stelae 1 and 2 of Los Alacranes after transportation from the archaeological site to the modern town. Note the fracture on Stela 1.

Important discovery at Teotihuacan

TEMPE (James Hathaway/George Cowgill/ASU). The recent discovery of a skeleton and 150 surrounding artifacts inside the Pyramid of the Moon at the ruins of Teotihuacan could very well be a critical clue to understanding this culture, according to Arizona State University (ASU) Professor of Anthropology George Cowgill, a consultant on the excavation and longtime associate of ASU archaeologist Saburo Sugiyama, who made the find. Discovered in mid-October, the burial is suspected to date to approximately 100 A.D., in the early years of Teotihuacan. Perhaps even more archaeologically important are indications that the skeleton may have belonged to one of the city's rulers. If this is so, it would be the first grave of a Teotihuacan ruler to be found, and information learned from the site could literally revolutionize modern understanding of Teotihuacan's still largely unknown culture and history. Discovered under the city's second largest pyramid, along the centreline, the body was buried seated and is surrounded with many offerings, including large obsidian and green stone figurines. According to Cowgill, this is similar to the pattern of rulers' burials found at related sites to the south. If the pattern holds true, this may be just the first of several rulers' burials waiting to be found under the Pyramid of the Moon, as a series of such burials has been found similarly centred under other Mesoamerican monumental structures.

At its peak around 500 A.D. Teotihuacan housed perhaps 200,000 people in a planned city covering nearly eight square miles. The recent discovery is of special personal significance to Sugiyama and Cowgill, who were part of a team that found a spectacular series of mass graves under Teotihuacan's much smaller Feathered Serpent Pyramid in the late 1980s. Among that excavation's finds were some warriors' burials – probably sacrifices to dedicate the pyramid – but a large pit where the ruler was suspected to have been buried was found looted and empty. The older, more primitive construction lying under the Pyramid of the Moon may have protected its secrets. According to George Cowgill the Pyramid of the Moon is difficult to dig because of the mass of loose rock used in the construction. This makes it dangerous for archaeologists to tunnel under but it is also resistant to looters.

The grave is located within a structure that had subsequently been covered by two other structures and finally by the current pyramid, which was constructed around 250 A.D. The excavation is a joint project of the ASU Department of Anthropology and Mexico's National Institute of Anthropology and History (INAH) and is funded in part by a grant from the National Science Foundation (NSF). Sugiyama and Mexican archaeologist Ruben Cabrera head an international excavation team which includes graduate and undergraduate students from both institutions, as well as graduate students from the University of Tokyo, the National Autonomous University of Mexico, and the University of the Americas. Study and analysis of the burial items and other materials found in the excavation will be conducted at the ASU Archaeology Centre in nearby San Juan. The centre, which has quarters and laboratory space for ten archaeologists, was founded with the help of an NSF grant in 1987 to do research on Teotihuacan. Excavation of the site is expected to continue until March 1999.

The Maya ruins of El Temblor, Peten

GRAZ (Karl H. Mayer). On March 20, 1998 Karl Herbert Mayer of the staff of *mexicon*, accompanied a team of Guatemalan archaeologists of the Proyecto Nacional Tikal, Sub-Proyecto Triángulo, headed by Oscar Quintana Samayoa, during a visit to the Maya ruins of El Temblor. The latter are situated in the central section of the Guatemalan department of Peten, approximately 18 km SSE of the ruins of Tikal and 13 km NE of the ruins of Ixlu, as the parrot flies. The group was guided by Roberto García Lorenzana from the village of El Remate. The archaeological site of El Temblor has been known since it was recorded by Ian Graham of the Peabody Museum, Harvard University, in 1974, who mapped a small portion of the site and reported that it contains one sculpted monument with a hieroglyphic inscription (Graham, *Corpus of Maya Hieroglyphic Inscriptions*, Volume 3, Part 3, Cambridge, 1982); his three-letter code of the site's name is TMB, and his explorations of the ruins are as yet unpublished.

Access to the little-known, unguarded ruins is relatively easy from the village of El Caoba, a modern settlement on the asphalt road leading from Flores to Tikal; from El Caoba a dirt road heads east to Paso del Carmen in the vicinity of the ruins, which lie in a wooded area dotted with extensive maize fields. The exact geographical location of El Temblor was obtained by a hand-held GPS receiver, giving the following readings: latitude 17° 03.70' N, longitude 89° 36.70' W.



Fig. 2. A looter's trench at El Temblor (Photo: Karl Herbert Mayer, 1998)



Fig. 3. The sawn Stela 1 from El Temblor (Photo: Karl Herbert Mayer, 1998)

El Temblor is a medium-sized, compact settlement near a modern rancho, and consists of at least three architectural groups, preliminarily designated as Groups A, B, and C, with a roughly north-south axis and exhibiting no standing architecture. Oscar Quintana and Brenda Lou prepared preliminary sketch maps of the three sections of the site, indicating where looters have damaged the architectural remains. There are many high and low mounds, all of them trenched and tunneled by illegal excavations (Fig. 2), exposing masonry wall and floor remains, a sad fate that El Temblor shares with the majority of Maya ruins in Guatemala's Peten. Group A is located in the northern section of the ruins in a wooded area on a hill and features a pyramid of more than 10 m in height, where looters have excavated six trenches, and a long, palace-type structure north-east of the pyramid, with three large trenches on the west side. This edifice is at least 5 m high. East of the pyramid is a damaged stela. Group B is located to the south of Group A, in a lower, flat area, now mostly a milpa, and consists of at least five mounds or platforms, one of them with the signs of an illegal excavation. Group C, south of Group B, is a complex architectural group, consisting of eight structures, possibly temples and palaces, located on a hill with high vegetation and showing more than five major trenches made by looters. One of the collapsed structures in the eastern part of Group C contains an unusual chultun-like masonry interior with a rounded niche in the eastern section, which was inspected and measured. At Group C, to the west, one chultun, with a circular opening, was noted.

Although the guide provided the information that there are carved stone monuments at the site, only a single, mutilated stela was observed, with sawn-off lateral surfaces. This limestone monument is presently 195 cm high, 58 cm wide, and has a thickness of between 28 and 33 cm (Fig. 3). The front side shows only faint traces of the original relief. Ian Graham (written communication, May 1987) provided the information that the two sawn-off narrow sides of a stela from El Temblor were offered for sale in an art gallery in New York City, around 1970. One all-glyphic bas-relief fragment, bearing 24 glyph-blocks, 119 cm high and 32 cm wide, was acquired in 1981 by the Duke University Museum of Art in Durham, North Carolina where it is on exhibit; it was first suggested to be of unknown provenance and the museum assumed a place of origin in Belize. It was published for the first time in 1987, when its identity was still unknown (K. H. Mayer, *Maya Monuments: Sculptures of Unknown Provenance, Supplement I*, Cat. No. 19, Berlin, 1987). The present whereabouts of the second inscribed side of the stela, stolen around 30 years ago and not yet published, is unknown.

Although no diagnostic ceramics were found on the surface, the visible archaeological features indicate that El Temblor is generally of a Late Classic date.

The photographs presented here are published with the kind permission of the Guatemalan Instituto de Antropología e Historia.

Midwest Mesoamericanists Meeting

LOUISVILLE (Aztlan). The Midwest Mesoamericanists Meeting is a conference on the archaeology, art history, and ethnohistory of Mesoamerican cultures. The conference, which will be held from March 5–6, 1999 at the University of Illinois at Chicago, is being organized by Joel Palka, Virginia Miller and Ellen Baird. Those interested in participating should send paper titles and short abstracts by January 8, 1999 to: Virginia Miller, Department of Art History (M/C 201), University of Illinois, 935 W. Harrison St., Chicago, IL. 60607-7039, phone: (312)996-3303, email: <VEM@uic.edu>.

The Maya Meetings at Texas

LOUISVILLE (Aztlan). The next Maya Meetings at Texas on the epigraphy and iconography of Mayan, Mixtec, Preclassic, Central Mexican, and other cultures will take place from 11–20 March, 1999 at Austin, Texas. The 1999 meetings will focus on grammar, supernaturals, etc. Special guests will be Steve Houston, David Stuart, and John Robertson. For further information, please contact: Maya Meetings, PO Box 3500, Austin, Texas 78764-3500, phone: (512) 471-MAYA (471-6292), email: <mayameet@ccwf.cc.utexas.edu>.

Copan Archaeology Weekend

LOUISVILLE (Aztlan). From March 25–27, 1999 (Thursday & Friday evenings, Saturday morning) the Copan Archaeology Weekend with Prof. David Sadat will take place at the Maya Society of Minnesota. Topics include: "Tunneling into the Heart of the Copan Acropolis: Margarita's Secret: An Early Copan Acropolis Mystery" and "Issues in Copan Archaeology." For more information contact: email: <ljohnstn_97@yahoo.com>.

64th SAA Meeting at Chicago

WASHINGTON, D.C. (SAA). The 64th Meeting of the Society for American Archaeology will be held from 24–28 March, 1999, at Chicago, Chicago, Illinois. For further information contact: SAA, 900 Second St. NE #12, Washington, D.C., 20003-3557, phone: (202) 789-8200 email: <meetings@saa.org> or contact the webpage at: <<http://www.saa.org/index.html>>.

2nd Mesoamericanist Symposium of Germany

BREMEN (A. Koechert). The "II. Mesoamerikanistische Symposium" is scheduled to take place in Bremen, Germany, from 9 to 11 April 1999. The host will be the institute WE Ibero-Amerika of the University of Bremen. Everyone is invited who has a scholarly interest in Mesoamerica within

the framework of the discipline "Mesoamerikanistik" (– what that exactly means will be a topic of fervent discussion at the symposium). For further information and to register, please contact: WE Ibero-Amerika, FB 03, Universität Bremen, PF 330440, D-28334 Bremen, Germany; tel.: (+49-421) 218-2429 / -4850-7036, fax: (+49-421) 218-2997; website: <http://ibero.math.uni-bremen.de>.

Maya Weekend at the University of Pennsylvania Museum

LOUISVILLE (Aztlán). The 1999 Maya Weekend at the University of Pennsylvania Museum will be held from 9–11 April 1999, Philadelphia and focus on "Mayan Epigraphy: Progress and Prospects". For information contact: Special Events Office, Univ. of PA. Museum, 33rd and Spruce Streets, Philadelphia, PA, 19104-6234, phone: (215) 898-4890.

The Third Palenque Round Table

MEXICO CITY (INAH). The Mexican Consejo Nacional para la Cultura y las Artes, with the Instituto Nacional de Antropología e Historia, will hold the "Third Palenque Round Table" from June 28–July 4, 1999, at Palenque, Mexico. The meeting will be dedicated to the outstanding epigrapher and important promoter of the Mesas Redondas, Linda Schele. It will focus on the theme of social organization for the Prehispanic, Colonial and modern Maya, to be explored from the perspectives of epigraphy, iconography, anthropology, archaeology and history. Special emphasis will be given to the current interpretations of issues in family organization and institutions among the Maya. In addition to the main conferences, the upcoming Round Table includes sessions on new findings and the Premio Palenque. The main conference will be followed by a three-day weekend workshop on Maya epigraphy. The Organization Committee invites all contributors to submit a two-page abstract no later than February 28, 1999. For further information contact the INAH website at: <http://www.inah.gob.mx/palenque/finformacioni.htm>.

Websites in Germany of interest to Mesoamericanists

BERLIN/HAMBURG (IAI/mexicon). Recently, the Ibero-Amerikanisches Institut, Stiftung Preußischer Kulturbesitz, Berlin (Ibero-American Institute, IAI) has opened its website at: <http://www.iai.spk-berlin.de>. The IAI is a non-university interdisciplinary research centre with a large, internationally recognized special library and a Research Department. Its range of publications comprises several monograph series, three periodicals and exhibition catalogues. The IAI organizes international colloquia, public lectures, panel discussions, author's readings, exhibitions and concerts. The library of the IAI with its almost 800,000 books from about Spain, Portugal, and Latin America, 4,500 current periodicals, 63,000 maps, more than 600,000 newspaper clips, thematically filed, more than 20,000 records and 80,000 new slides and old photographs, as well as pictures, manuscripts and estates of distinguished scholars like Teobert Maler and Walter Lehmann is the largest library of this type in Europe. It is planned

to open the whole catalogue for Internet research. Currently, already 20,000 titles are available. The IAI website offers information in Spanish, Portuguese, English and German.

In addition, the websites of German university departments which have a specialization in Mesoamerican studies might be of interest to our readers. The Department of Prehispanic Languages and Cultures (Arbeitsbereich Altamerikanische Sprachen und Kulturen, Archäologisches Institut der Universität Hamburg) recently announced its new website at: <http://www.uni-hamburg.de/Wiss/FB/09/ArchaeoI/Altameri/index.html>. The websites of the Latin-America Institute of the Free University, Berlin (Lateinamerika-Institut der Freien Universität Berlin, LAI) and the anthropology departments at the University of Bonn and Freiburg can be contacted at: <http://www.fu-berlin.de/lai/>, at: <http://www.voelk.uni-bonn.de/> and at: www.uni-freiburg.de/ethno/institut2.htm. The websites include, among useful links and news, general information on academic research, education, staff, curricula, conferences, etc.

Archaeologist George Hasemann

LOUISVILLE (Aztlán/John W. Hoopes). On 8 October 1998 archaeologist George Hasemann died of cancer. Born in New York, Hasemann was a longtime resident of Honduras. He was chief of the Archaeology Section of the Instituto Hondureño de Arqueología e Historia and director of El Proyecto Los Naranjos. Among many other important publications, Hasemann was the author, with his wife Gloria Lara Pinto and Fernando Cruz Sandoval, of "Los Indios de Centroamérica" (Editorial MAPFRE, 1996), a major synthesis of Honduran prehistory, ethnohistory, and ethnography. As one of the most active archaeological fieldworkers in Honduran archaeology, Hasemann contributed to knowledge across an 11,000-year spectrum of prehistory (including a recent discovery of Paleo-Indian remains). His research includes work in the Rio Sulaco and El Cajon regions. He was also a key figure in the recent investigation of mortuary caves in the Talgua Valley region and sites in the Rio Platano Biosphere (including investigation of the "Ciudad Blanca" sites). His passing leaves a major void in Honduran archaeology. He will be sorely missed.



Classic and Postclassic Obsidian Tool Production and Consumption: A Regional Perspective from the Mixtequilla, Veracruz

Lynette Heller and Barbara L. Stark

Blanton *et al.* (1993) suggest that lowland Mesoamerican economies differed from their highland counterparts in that they were less heavily administered and more horizontally integrated. For much of Mesoamerica, obsidian provides one means of monitoring prehistoric economies. Obsidian tools represent durable reduction technology, capable of providing data on procurement, production, consumption, and discard over time.

For most of Mesoamerica, however, data to assess obsidian's economic role have not been systematically recorded at a regional scale (e.g., Sanders *et al.* 1979; Blanton *et al.* 1982). In the Maya lowlands, regional surveys normally select samples of features in transects rather than from large blocks because of vegetation density. Also, many obsidian studies have been site focused. Considerable emphasis has been placed on the economic role of obsidian in regard to highland sites close to sources (e.g., Spence 1981, 1984, 1986).

Systematic survey in the Proyecto Arqueológico La Mixtequilla (PALM) in south-central Veracruz, Mexico, provides an opportunity in the lowlands to examine local, regional, and – to some extent – interregional economic systems and their degree of specialization, centralization, and integration in a consumer population far from obsidian sources. The Mixtequilla is an area with rich alluvial soils situated on the western side of the Lower Papaloapan Basin, Veracruz (Figure 1). The project study zone is defined by the Blanco and Pozas Rivers to the north and south, respectively, and is surrounded by lower, seasonally flooded areas of diminished agricultural potential. PALM survey covered 40 km² of the study zone in the central block area and revealed a dense pattern of archaeological features, spanning late Middle Preclassic (900–600 BC) to colonial/historic occupations (Curet *et al.* 1994; Stark and Curet 1994). Project data indicate that Mixtequilla society was probably organized in weakly stratified systems similar to complex chiefdoms or petty states during much of the prehistoric occupation, similar to the Maya lowlands (Stark 1990).

Theoretical Issues

Current Mesoamerican studies of complex societies suggest considerable regional and temporal variation in the levels of craft specialization and the degree of elite involvement in production/distribution systems (e.g., Blanton *et al.* 1981; McAnany 1989; Rice 1987; Sanders and Webster 1988). For complex stratified Mesoamerican societies, craft production and distribution often have been characterized by specialization under elite and/or state regulation, that is, being strongly vertically integrated.

This viewpoint has been partially conditioned, especially for obsidian, by archaeological studies focused on major highland sites, rather than the production systems of more distant consuming populations (e.g., Healan 1986; Michels 1979; Spence 1981, 1986). As a result, production and distribution of obsidian, especially for prismatic blades, have been attributed largely to elites or higher-order sites (e.g., Appel 1982; Bové 1981; Michels 1979; Sidrys 1976) during the Late and Terminal Preclassic (600–100 BC, and 100 BC–AD 300, respectively) and Classic periods (AD 300–900). Recent work with regional survey and testing of lower-order sites has shown that obsidian was available to most consumers (e.g., Mallory 1984; Santley and Pool 1992; Sheets 1983; Webster and Gonlin 1988).

In recent years models have been proposed for the Maya lowlands that view economies as more horizontally integrated than some highland areas, with centers not dominating local economic processes. For example, Sanders and Webster (1988) treat Maya centers, such as Copan, as representing what Fox (1977) has termed regal-ritual centers, with very limited production and distribution functions, although some economic decision-making may have been fairly centralized. Rather, such sites were primarily consumers, with goods and services supplied from their sustaining areas.

An economic model for the Maya area proposes rather strong horizontal integration conditioned by small-scale environmental differences that fostered primarily household level production and distribution systems (Blanton *et al.* 1982, 1993; Fedick 1988; Rice 1987). In such horizontally

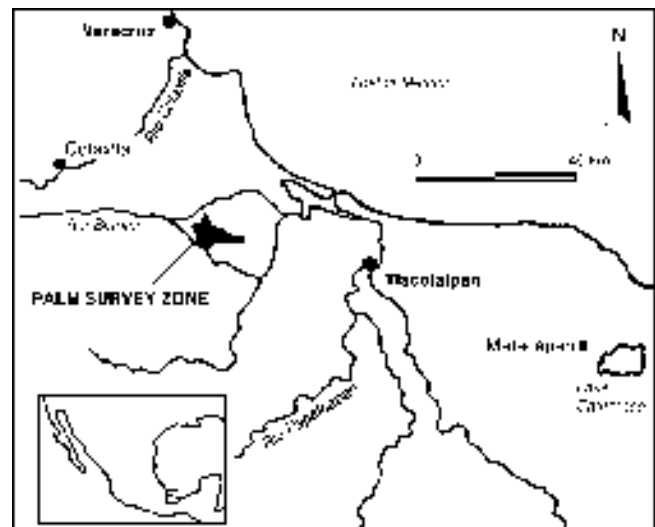


Fig. 1. The location of the PALM survey.

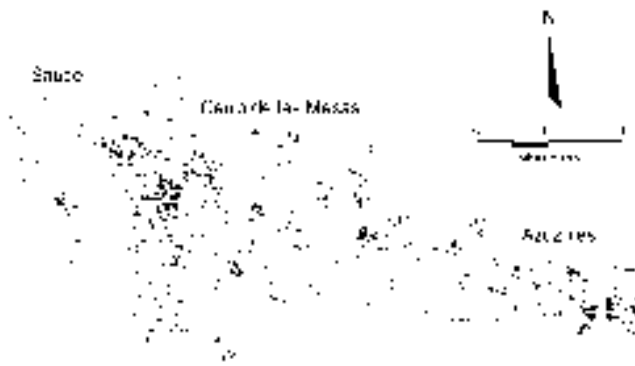


Fig. 2. PALM survey limits showing features and mapped areas of formal architecture. Dashed lines represent 500 m bands around the centers of Sauce, Cerro de las Mesas, and Azuzules.

integrated economies, centers are again seen as mainly consumers of craft items, rather than as conducting specialized production.

Expectations differ regarding the archaeological data representative of vertically versus horizontally integrated economies. Briefly, with strongly administered control, for many crafts production is expected to be limited to, or at least concentrated in, administrative sites to allow efficient regulation. Access to craft items would be greater in these localities (Finsten 1983; Mallory 1984; Sidrys 1976). Craft production would not be expected in areas of relatively low population, unless involving a localized resource. For many crafts, there would be a high degree of economic specialization, involving workshops. Differential access to craft items by class may be more distinct. There may be more evidence of resource pooling. Such systems tend to be characterized by well defined boundaries, and many have primate urban patterns (Blanton *et al.* 1981:218–221, Finsten 1983:336–347), although there may be large sites without administrative functions (i.e., lack formal architecture) (Finsten 1983:77–78).

Horizontally integrated economies are characterized by centers with few production and distribution functions. Production localities found in administrative sites will likely be located away from the administrative zone. Production localities will be more numerous and situated to allow for ease of access to goods by the general populace (Finsten 1983:117). The intensity of production is lower, i.e., at a household level and not supported by elites. Some village or residential specialization may be involved. There is more equalized access to goods across classes. Political boundaries tend to be more permeable (McAnany 1989:363), and centers are more equally sized. Politically, the system may be weak or unstable with discontinuity of ruling centers (Blanton *et al.* 1981:218–221; Finsten 1983: 334–348).

Lowland obsidian studies lend mixed support to the idea of a more horizontally integrated economy. Recovery of production indicators in lower-order sites and/or households (e.g., McKillop 1989; Santley 1989; Webster and Gonlin 1988) has led to varying interpretations of the degree of elite control of obsidian production in localities that were at considerable distances from major obsidian sources during the Classic period (Ashmore 1988; Mallory 1984; Sheets 1983). Interpretations include: (1) dispersed, if sometimes centrally controlled, household-based production at Quirigua

(Ashmore 1988); (2) control of obsidian procurement and distribution but not necessarily of blade production at Zapotitlan (Sheets 1983); and (3) equal availability of obsidian to all classes with no attempt to control production or distribution at Copan (Mallory 1984).

Postclassic Maya obsidian industries are generally seen as representing a period of increased access to obsidian facilitated by growing commercialization, changes in transport methods, and, possibly, by collapse of trading cartels that had formerly controlled long-distance trade (e.g., McKillop 1989; Rice 1987). Archaeological indicators of these changes include: increased access to obsidian by rural residents, more equitable distribution of obsidian, and a decrease of obsidian in elite contexts. The Postclassic data do not show a change from horizontal to more vertical economic integration.

The Mixtequilla obsidian data represent a lowland area, including numerous formal complexes or centers and residences, and they provide a broad diachronic perspective with which to address economic issues. Here we examine data from both Classic and Postclassic occupations in regard to (1) physical location of prismatic blade production, i.e., centers versus countryside localities, and (2) temporal variability of production systems. In this paper we do not attempt to address the social context of blade production and consumption because to do so requires separate space.

Mixtequilla Survey

The PALM involved full coverage survey utilizing aerial photographs for orientation. Modern fields were systematically walked with crew members spaced at 20 m intervals. A total of 1982 features was recorded, of which 1127 were collected; most are low earthen mounds assumed to represent residential loci. Where surface visibility permitted, collections of all rim and temporally diagnostic sherds, chipped stone, and other artifacts were made over measured areas for each feature; collection areas were scaled to provide 70–100 rim sherds. Non-mound occupational concentrations were rare and were collected in a similar fashion to mounds. In addition 12 zones containing formally arranged, monumental architecture were contour mapped and collected (Figure 2). we will focus on three formal complexes or centers, Cerro de las Mesas and Azuzules (combining Azuzules and Azuzules East) and Sauce.

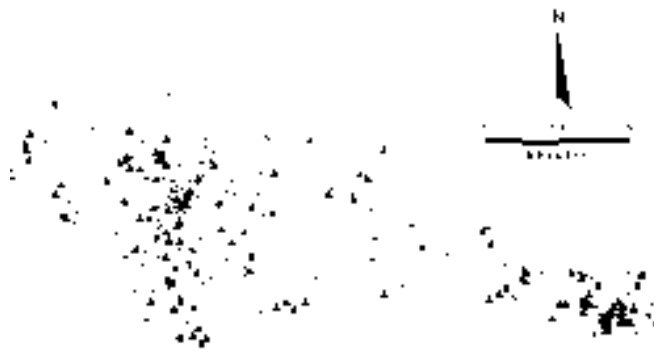


Fig. 3. Collections are plotted if they contain diagnostic Classic rims. Triangles indicate collections with black/dark gray production indicators. Dashed lines represent 500 m bands around the centers of Cerro de las Mesas and Azuzules.

Occupation throughout the survey area is generally dense but dispersed, similar to lowland Maya settlement patterns. Mound size for most low residential mounds is comparable to that of Maya plazuela groups. Thus, they could have supported multiple perishable dwellings and outdoor work areas (Stark 1990).

During the Late and Terminal Preclassic periods, settlement was generally concentrated in the western half of the survey area, but Classic settlement was widespread and continuous. Cerro de las Mesas was the predominant center during the Late to Terminal Preclassic and continued to function into the Classic period (Stark 1990). Additional centers developed as Classic period population increased. Azuzules and Zapotal are the two largest new centers for the immediate area. Azuzules, which lies at the eastern margin of the survey zone, contains Classic ceramics. Zapotal lies immediately to the north, outside of survey boundaries; work there has produced evidence of one Late Classic mound (Torres 1972; Torres *et al.* 1975).

Major settlement disruptions occurred within the Mixtequilla during the Postclassic period. Two Postclassic components have been identified using multivariate ceramic analyses (Curet *et al.* 1994). The earliest pertains to the Middle Postclassic (AD 1200–1350 or possibly beginning earlier). By this time, the large Classic sites of Cerro de las Mesas and Azuzules had ceased to function as higher-order centers. Middle Postclassic occupation is found throughout the region, including some occupation within the earlier centers; a new, residentially nucleated center was founded at Sauce (Figure 2). Settlement disruption was accompanied by equally marked changes in material culture (Curet *et al.* 1994). The Middle Postclassic ceramic assemblages show little continuity with Classic ceramics (Stark 1995), and, instead, have strong affinities with the Central Highlands, specifically Puebla and the Basin of Mexico. Obsidian technology and source use also changed (Stark *et al.* 1992). By the Late Postclassic (AD 1350–1521), Sauce apparently ceased functioning as a center. Late Postclassic occupation appears to have been light and dispersed primarily across the south-central survey zone (Curet *et al.* 1994). At this time the region was likely tributary to the Aztec Triple Alliance.

Mixtequilla Obsidian

No material suitable for knapping occurs within the Mixtequilla, necessitating dependence on imported materials, predominantly obsidian. In this regard, the lithic economy differs from both that of the highlands, where obsidian sources and other lithics occur, and that of the Maya lowlands, where cherts were available. Only 64 pieces of chert are present in the PALM collections, primarily associated with Postclassic materials as finished tools. Obsidian comprises almost the entire suite of chipped stone, with 15,084 pieces from 1123 surface collections and an additional 3,481 pieces from four excavations at residential locations. Only 61 surface collections produced no obsidian; these primarily represent heavily disturbed features or contexts with very low artifact counts. Median obsidian sample size is 8 pieces, with a range of 1 to 737, the latter representing specialized prismatic blade production. Mean obsidian sample size is 14.4 pieces.

Prior to technological classification, PALM obsidian was sorted by visual characteristics (i.e., color, texture, and trans-

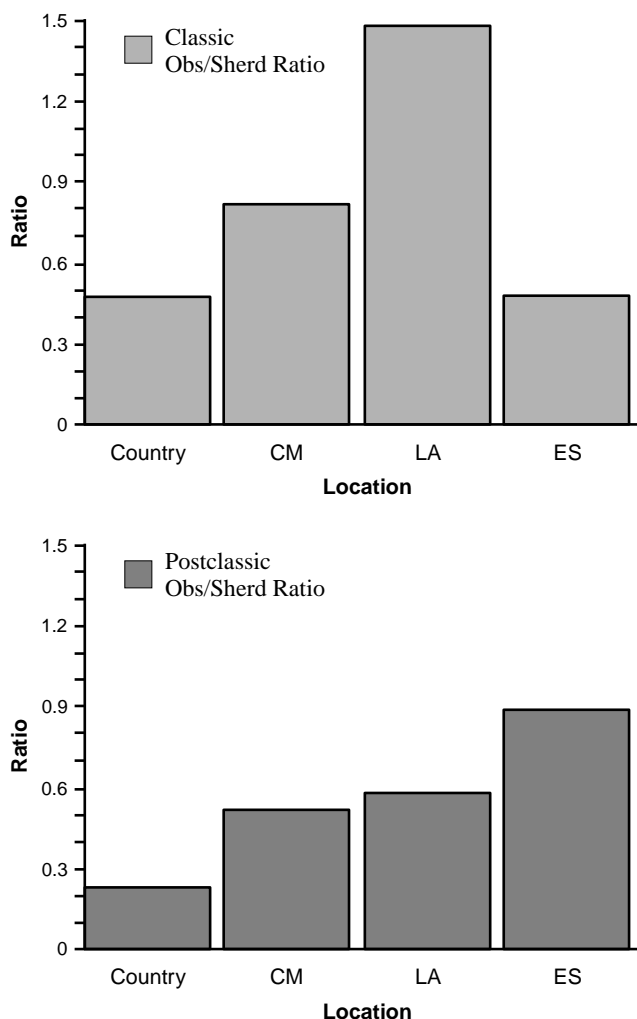


Fig. 4. Ratios of prismatic pieces to diagnostic rim sherds for the countryside features, Cerro de las Mesas (CM), Azuzules (LA), and Sauce (ES). Ratios are not comparable between periods because the number of diagnostic types varies by period.

parency) into five groups: (1) green, (2) clear gray, a pale, translucent obsidian with numerous small black inclusions and cloudy swirls, (3) black, usually very glassy, (4) dark gray, ranging from almost black to a translucent smoky gray (subsequently combined with the black category for analysis), and (5) indeterminate. Initial statistical analyses of the Cerro de las Mesas obsidian indicated strong associations between technological/visual groups and temporally diagnostic ceramics (Stark and Heller 1991). Clear gray flakes correlated with Preclassic ceramics; clear gray prismatic technology with Postclassic diagnostics, and black/dark gray prismatic technology with Classic diagnostics. These correlations were substantiated by PALM excavation data (Heller 1997).

Late Preclassic excavations reveal mainly percussion flake technology utilizing clear gray obsidian (83.7% of the obsidian pieces), whereas Classic excavated obsidian is primarily related to prismatic blade production from imported, preformed cores of black to dark gray obsidian (90–95%) (Heller 1997). Excavated Classic prismatic blades exhibit primarily small, smooth platforms. Although no Postclassic mounds were excavated, survey collections high in Postclassic ceramics contain high percentages of clear gray prismatic blades with large ground platforms.

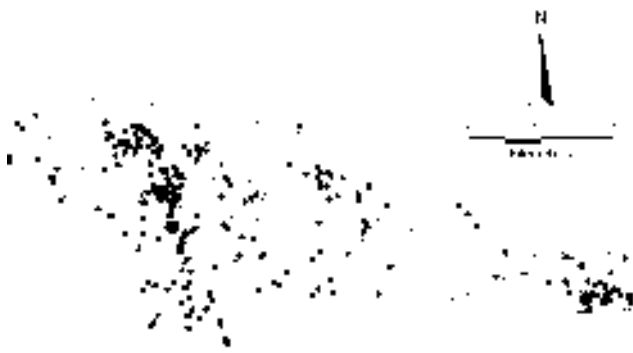


Fig. 5. Upper and lower quartiles of obsidian-to-rim sherd ratios (rims>53). Black squares represent the upper quartile (higher ratios) and open squares represent the lower quartile (lower ratios). Dashed lines represent 500 m bands around the centers of Sauce, Cerro de las Mesas, and Azuzules.

Instrumental neutron-activation analyses (INAA) of 201 artifacts from survey (N=80) and excavation (N=121) indicate that the Preclassic clear gray flakes derive primarily from Pico de Orizaba, Veracruz, and neighboring Guadalupe Victoria, Puebla; the Classic black and dark gray prismatic blades derive almost exclusively from Zaragoza-Oyameles, Puebla. Clear gray prismatic pieces derive primarily from Pico de Orizaba (see Stark *et al.* 1992 and Heller 1997 for a detailed description of analytic procedures and results.) For the INAA sample, visual group ascription proved quite reliable. Only 8.3% (N=15) of the pieces that had not been assigned to the indeterminate group were incorrectly assigned to a source. No green obsidian was sampled; all is assumed to derive from Pachuca, Hidalgo. Green obsidian comprises 6.7% of the surface collection, but it is rare in excavated deposits, especially those representing Classic occupations. It is most abundant in surface collections that contain Late Postclassic ceramics.

Although the majority of the PALM surface collections produced ceramic evidence for multi-component occupations, obsidian visual characteristics and technological variation can be utilized to “un-mix” the obsidian into broad temporal assignments. Based on covariance of color, technology, and temporally diagnostic ceramics, we consider black/dark gray prismatic blade technology to be primarily Classic and the clear gray prismatic industry to be Postclassic. Because of the scant quantities of green obsidian, it is not used for chronological divisions.

Based on the source analyses, it appears that by the Middle Postclassic period, Pico de Orizaba had replaced Zaragoza-Oyameles as the primary source for Mixtequilla prismatic cores. Due to the mixed nature of most collections, it is still unclear to what extent Zaragoza-Oyameles obsidian continued to be utilized. The black/dark gray visual group is greatly diminished in collections high in Postclassic ceramics, and, due to the mixed nature of most collections, these pieces may largely represent Classic deposition. However, ground black/dark gray blade platforms are twice as common in the Middle Postclassic subset (discussed below) as in the Epiclassic sample (AD 700–900) (35.9% versus 14.6%) suggesting that some importation of Zaragoza-Oyameles material may have continued into the Middle Postclassic period and that it more frequently was treated with platform grinding.

Distribution of Prismatic Blade Production

Examination of obsidian tool production and consumption patterns is an important axis along which to evaluate the degree of elite economic involvement. The identification of obsidian blade production loci is not straightforward and can be especially difficult using only surface data, since the small debitage often left at knapping locations is not normally recovered. However, controlled survey collections provide data on specific artifact types and their frequencies, which can also indicate of possible production locations.

Ethnoarchaeological studies (Hayden and Cannon 1983) suggest that care would have been taken to remove obsidian debris from the household zone, with discard in such places as pits, rivers, or ravines where disposal would not hinder household activities. However, no indication of this type of disposal was noted during PALM excavations (or at nearby Maticapan [Santley 1989]), and no off-mound obsidian concentrations were noted during survey. Low levels of production and consumption and importation of preformed prismatic cores would have yielded little debitage. As suggested by Moholy-Nagy (1990:272,276) economy of effort dictates that debitage is normally only moved as far as necessary to eliminate it as a potential hazard or hindrance. For the PALM mounds this would be household midden areas or at the fringes of the mound houselots. Thus, one basic assumption for this analysis is that artifact collections reflect their associated residential refuse.

Our analysis of production patterns focuses on (1) the distribution of collections with prismatic cores, core fragments, and other production indicators, including ridged blades, core face flakes, transverse core flakes, initial series blades, and plunging blades¹ and (2) obsidian density as measured by obsidian-to-rim sherd ratios and (3) proportional comparisons of artifact types. Exhausted cores and larger prismatic debitage may have been utilized as tools or recycled and, thus, may have been traded or scavenged, but our assumption is that, overall, deposition of these artifacts can reveal production patterns. High obsidian densities (as measured by the obsidian-to-rim sherd ratio) would also be expected where blade production occurred even if finished tools left the area. Although total obsidian density alone has sometimes been used to identify probable production localities (e.g., Finsten 1983), high densities can also indicate obsidian use for other types of craft production (e.g., Michels 1979:173–179). Production locations also might exhibit higher cortical percentages due to the initial stages of core reduction (Sheets 1983), but cortex is scarce among PALM obsidian, occurring on 2.8% of pieces, and initial core preparation debris is absent.² More than a single type of analysis for identifying blade production locations is desirable. We examine obsidian distribution both spatially (centers versus countryside) and temporally. Broad Classic and Postclassic variations are discussed as well as more restricted scales using temporal groupings of features statistically defined by other authors (Curet *et al.* 1994; Stark and Curet 1994).

The general pattern for blade production for the survey zone appears to be one of low-level production at the household level, with the exception of one Postclassic feature with more intensive production, possibly a household workshop (Heller and Massie 1986). Obsidian was present in 93.2% of

the collections, but production and distribution vary temporally and spatially.

Excluding the possible workshop, 186 obsidian prismatic cores/core fragments are present in 12.9% (n=135) of the collections that contained obsidian; when other probable production indicators are added, 24.6% of collections with obsidian contain production indicators. These same features contained 48% of the total obsidian recovered; this is a higher percentage than that of associated ceramics (30%). Production indicators within individual collections are not numerous. Where cores were present, normally only one was encountered (76.3% of cases with an indicator); multiple cores were more common in Postclassic collections. When other production indicators are considered in addition to cores, the mean is 1.6 pieces per collection.

Classic Period Production and Distribution Patterns

Black/dark gray obsidian predominated among the Classic period assemblages, and production indicators of this visual category are present in about 12% of the 961 collections containing at least a trace of diagnostic Classic ceramics. This proportion of features with production indicators is comparable to that of 10% reported for Monte Alban by Blanton (1978:96). However, distribution is not even across the survey zone (Figure 3; Table 1). Black/dark gray cores tend to cluster in the west near southeastern Sauce, a zone Drucker (1943) found to contain deep deposits of Classic material, around the south-central arm of Cerro de las Mesas, and in the east near Azuzules. Features with production indicators are least evident in the central survey zone.

It is useful to assess the role of centers both narrowly in terms of the mapped formally arranged area and more broadly in terms of the immediate vicinity. Our discussion will address centers as narrowly defined first, but the broader perspective is assessed in the discussion section where we make a final assessment of the horizontal versus vertical perspectives on Mixtequilla economy. The large centers of Azuzules and Cerro de las Mesas contain only 18.5% of the features with black/dark gray production indicators (Figure 3; Table 1). The majority (70.8%) of the features containing some evidence of black/dark gray production are outside of the zones of monumental architecture, at features near centers

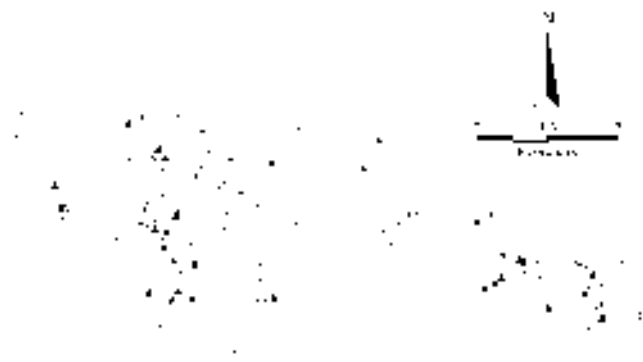


Fig. 6. Middle Classic subset. Triangles indicate collections with black/dark gray production indicators. Dashed lines represent 500 m bands around the centers of Cerro de las Mesas and Azuzules.

or dispersed in the countryside. Black/dark gray production indicators were recovered from 11.9% of the collected outlying features as compared to 15.6% of features within the major centers. This is a higher level of production than that of 3% of collections with obsidian production indicators reported at Quirigua for peripheral sites outside of the center core (Ashmore 1988:163).

The majority of production indicators (81.2%) from all PALM features were found on low mounds (< 3.5 m in height), which were probably residential. Within Classic centers, mounds associated with production tend to be lower structures. Bigger structures contain little evidence of production and tend to have low obsidian densities in general. For example, the more formal structures mapped at Azuzules around the central plaza contained only one core fragment and low obsidian densities. At Cerro de las Mesas, the larger structures located in the northeast sector contain no core fragments, cores being most common in the south-central area associated with rather low structures (although two of the larger, possibly elite residential platforms also contain cores).³

The Classic data suggest that prismatic blades produced within the centers were probably also consumed there or that production for distribution beyond the center was at a modest level. The ratios of black/dark gray prismatic pieces to Classic

Locus	Number of Collections with Obsidian	Number / % with Classic (Black/Dark Grey)				Number / % with Postclassic (Clear Grey)			
		<i>PI</i>		<i>PI</i> in 500 m Band		<i>PI</i>		<i>PI</i> in 500 m Band	
		N	%	N	%	N	%	N	%
Outside of Centers	773	92	11.9%	n/a		93	12.0%	n/a	
Cerro de las Mesas	125	13	10.4%	16	13.4%	15	12.0%	25	21.0%
Azuzules	29	11	37.9%	21	28.0%	1	1.3%	4	5.3%
Sauce	40	6	15.0%	11	19.6%	24	60.0%	23	41.1%
Beyond 500 m Band	549	49	8.9%	n/a		66	12.0%	n/a	

Table 1. Collections that Contain Probable Production Indicators (*PI*).

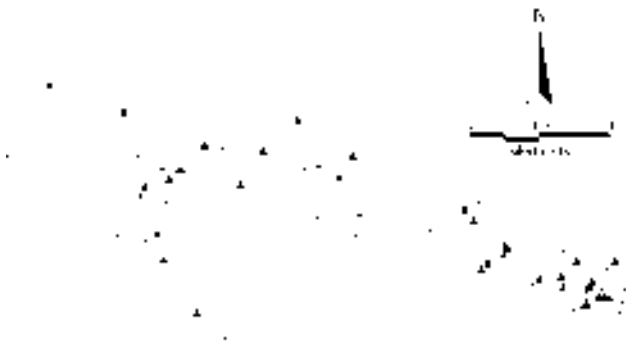


Fig. 7. Epiclassic subset. Triangles indicate collections with black/dark gray production indicators. Dashed lines represent 500 m bands around the centers of Cerro de las Mesas and Azuzules.

diagnostic rims are higher for centers than for the more dispersed population, suggesting higher rates of blade consumption within the centers (Figure 4). This is true, even though center collections may have higher percentages of diagnostic rims than do their countryside counterparts, as the diagnostics tend to be the more decorated ceramic types to which center inhabitants likely had favorable access. Black/dark gray core-to-proximal blade segment ratios for mounds outside of centers (1 : 29.8) are comparable to those within (1 : 26.7, excluding mound 1756), implying that the outlying areas were not dependent on centers for blades.

Individual features containing production indicators also tend to have high obsidian densities, including high numbers of utilized blade segments, suggesting much of the blade consumption may have taken place within the producing households. (No usewear analysis was conducted for surface obsidian, but most blade segments appeared to have been utilized. Whole blades were rare and no concentrations of unutilized blades were noted.) For example, at Azuzules about 60% of the black/dark gray prismatic pieces derive from the one-third of features containing possible production indicators. These same features contain only 28% of all rim sherds from the center. The ratio of black/dark gray prismatic blade fragments to Classic ceramic diagnostics is also considerably higher for these features (4.43) compared to the countryside (1.83). Thus, Classic data suggest that for production loci within centers, the blades may not have been destined for

distribution outside of the center; rather, they probably were consumed within the center, largely by producing households.

Examination of obsidian density by feature for all periods, measured by the total obsidian count-to-rim sherd ratios, confirms the high amounts of obsidian within the major centers. Figure 5 plots both the upper and lower quartiles of obsidian-to-rim sherd ratios for collections with 53 or more rims (representing all but the lower quartile for ceramic collection size), with the black blocks representing the higher ratios. The basic patterns are high densities at and near the large centers. Low densities are evident in the central survey zone.

In order to eliminate some of the temporal ambiguity produced by the multicomponent nature of most of the features, previously defined subsets of both Classic and Postclassic features were examined. The statistical details for feature selection and the associated ceramic diagnostics are discussed for the Middle and Epiclassic periods by Stark and Curet (1994) and for the Middle and Late Postclassic by Curet *et al.* (1994). Figures 6 and 7 show Middle Classic (N=223) and Epiclassic (N=284) subsets of collections with black/dark gray production indicators for collections with ceramic diagnostics for the respective periods above the median. (Note that individual collections may appear on both Middle and Epiclassic plots. Most of these collections also contain some evidence of Postclassic occupation.) In a comparison of the Middle Classic and Epiclassic there is no indication of a decline in black/dark gray obsidian blade production or consumption nor of a strong shift to the use of clear gray obsidian (Table 2).

Postclassic Production and Distribution Patterns

Postclassic production differs in several ways from that of the Classic period. Clear gray production indicators, which cluster near Sauce, are present in 14.1% of collections with traces of Postclassic ceramics. This percentage is slightly higher than the percentage for the Classic occupation. However, within Sauce 60.0% of the collected features contain clear gray production indicators – a much more intensive pattern than seen during the Classic period (Figure 8, Table 1). Sauce also contains evidence of at least one probable household-level obsidian workshop, mound 1756, outstanding in its concentration of cores and core reduction debitage.

Period	Total Obsidian	Clear Gray		Green		Black/Dark Gray		Total Rims	Obsidian-to-Rim Ratio
	N	N	%	N	%	N	%		
Middle Classic	3312	1204	36.3	156	4.7	1948	58.8	25,517	.129
Epiclassic	4379	1084	24.8	382	8.7	2903	66.3	31,323	.139
Middle Postclassic	1859	1616	86.9	44	2.3	198	10.7	2,634	.256
Late Postclassic	409	185	45.2	136	33.3	91	22.2	1,259	.110

Table 2. Temporal Subsets and Amounts of Visual Categories of Obsidian.

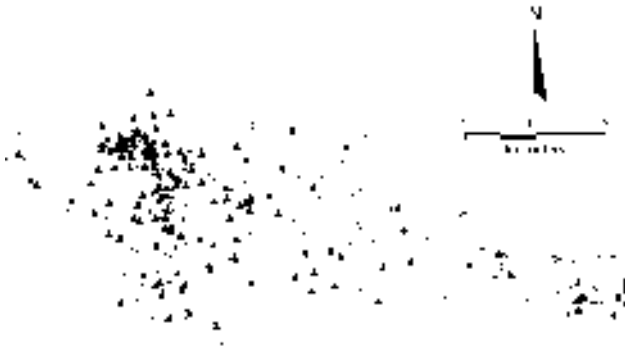


Fig. 8. Collections are plotted if they contain diagnostic Postclassic rims. Triangles indicate collections with clear gray production indicators. Dashed lines represent a 500 m band around the center of Sauce.

Mound 1756 is a rather small, low structure at the southern perimeter of the center, containing evidence of domestic refuse such as comales and metates. The collection consists of 737 pieces of obsidian, primarily clear gray, including 91 prismatic cores but only 362 prismatic blade fragments (1.5 proximal blade fragments per core). If a core is assumed to produce up to 150 prismatic blades (Sheets 1978), only 1% of the probable blades produced were recovered. (However, the size of preformed imported cores, as discussed below, would have affected this ratio.) These data indicate at least part-time specialized production of prismatic blades for distribution beyond the household level (Heller and Massie 1987). Numerous cores were also noted on at least one adjacent structure that could not be collected, suggesting the possibility of a zone of residential specialized production. The location and nature of the structures do not strongly suggest elite involvement because mound 1756 is at the perimeter of the Sauce center away from public construction.

Previous analysis of obsidian consumption rates at Cerro de las Mesas (Stark and Heller 1991) and the high obsidian-to-rim sherd ratios for Sauce (Table 2) suggest an increase in obsidian consumption in the Postclassic period. PALM data indicate that distribution of Postclassic prismatic blades may have been more uneven than that of the Classic period. Sauce, representing only a small proportion (4%) of the collections with traces of Postclassic ceramics, contains about one-quarter of all clear gray obsidian. Also, there are almost twice as many collections containing Postclassic diagnostics that lack clear gray prismatic blades as there are collections containing Classic diagnostics with no black-dark gray blades (Figure 9). Clear gray obsidian is especially scarce in the eastern sector and in the zone directly west of Sauce.

Figures 10 and 11 show the Middle and Late Postclassic subsets as defined by Curet *et al.* (1994). A much higher percentage of the Middle Postclassic collections contain production indicators compared to any of the Classic period subsets. Within Sauce, prismatic cores were present in 62% of collections versus 22% of the features outside of any centers. By the Late Postclassic period, the evidence of clear gray prismatic production dramatically drops off, as does the obsidian-to-rim sherd ratio (Table 2).

The Postclassic pattern suggests that Sauce was manufacturing blades for consumption outside of the center, or possi-

bly even for distribution outside of the survey zone. Prismatic blade-to-production indicator ratios are higher outside of the center, suggesting that blades were leaving Sauce. There is, however, greater access to blades within the center because the prismatic blade-to-Postclassic ceramic ratio is higher within the center, yet some blades appear to have been destined for export.

The presence of at least one mound with production beyond the household level and the large percentage of households involved in some prismatic blade manufacture suggest more economic interdependence than during the Classic period.⁴ As discussed above, there may have been an increased differential in access to blades at this time, with blades becoming more “expensive” for the lowest class. Distance from Sauce may also have affected access for the eastern survey area.

There appears not only to have been a change in source utilization between the Classic and Postclassic periods, but also in the form of imported cores. Ratios for both black/dark gray and green prismatic blades to cores are considerably higher than for clear gray obsidian. This initially suggested to me that some black/dark gray and green blades were imported. However, the blade-to-core ratios for these types of obsidian fall well within what has been suggested as probable for core reduction, 1 : 150 (Clark 1986:38). It is the proportion of clear gray blades to cores that is lower than what might be expected.

While this could represent the export of blades to outlying zones beyond the survey, it is more likely that the low ratios are conditioned by the size of the imported cores. Pico de Orizaba cores are considerably smaller than cores from Oyameles/Zaragoza or Pachuca due to geologic differences. Stocker and Cobean (1984:92) report cores at the Pico mines as small, generally 6–8 cm in diameter and 7–12 cm long. Two cores from the survey that had been discarded due to flaws prior to much reduction measured between 5–6.5 cm in length and 4–5 cm in diameter. We are not aware of published reports regarding the size of Zaragoza/Oyameles cores. However, cores that we photographed in 1989 near the source area and that we assume to derive from it measured approximately



Fig. 9. Collections with Postclassic ceramic diagnostics but no clear gray obsidian are represented by a square. Collections with Classic ceramic diagnostics but no black/dark gray obsidian are represented by a triangle. Collections with both Classic and Postclassic ceramic diagnostics but no black/dark gray or clear gray obsidian are represented by a circle. Dashed lines represent a 500 m band around the centers of Sauce, Cerro de las Mesas, and Azuzules.

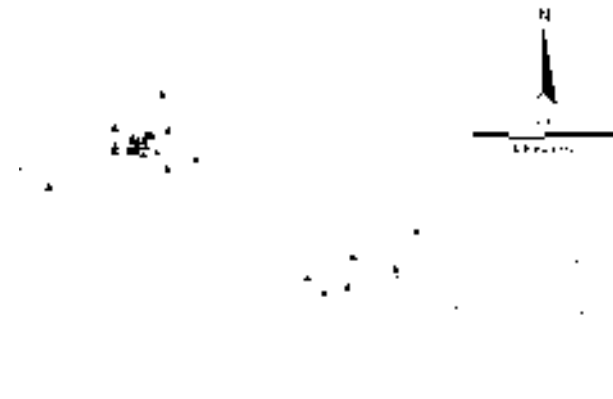


Fig. 10. Middle Postclassic subset. Triangles indicate collections with clear gray production indicators. Dashed lines represent a 500 m band around the center of Sauce.

20 cm in length and 15 cm in diameter. These would have supplied considerably more blades per core than the smaller Pico de Orizaba cores.

Discussion

What can the distribution patterns discussed above tell us about the nature of the Mixtequilla economy? The picture is complex. Occupants of higher-order centers appear to have controlled the obsidian system, but not in all respects. The fact that households within centers enjoyed increased access to obsidian has been noted elsewhere (e.g., Bove 1981; Finsten 1983:232, 347; Mallory 1984; Sidrys 1976) and has been used to infer elite control of blade production. However, as Mallory (1984) has pointed out, a similar pattern may occur for a simple market economy with elites or center occupants being better able to afford the obsidian. The greater access to obsidian within the Mixtequilla centers compared to the countryside, together with consistent procurement over hundreds of years suggests that centers controlled the procurement of obsidian cores and their redistribution in some manner. For the Maya area Dreiss and Brown (1989) have suggested regionally organized systems with elite-controlled redistributive centers that may have been linked to sources by long-term trade agreements and that administered the procurement of obsidian. Such a model may be applicable to the Mixtequilla as well.

That both the Classic and Postclassic centers did not strongly monopolize production is evident in the fact that in both periods more residential locations outside of centers were involved in production than within. Some of these features cluster quite close to major centers but others are sufficiently distant and abundant that direct control of blade production by the center seems unlikely. Production is thus fairly common beyond centers, but proportionally fewer locations appear to have been involved than within centers. However, residences in the immediate vicinity of the major centers can legitimately be viewed as part of the center residential area. This involves the broader concept of the center mentioned previously. There is no distinct cluster of occupation around the formal areas, but residences within, say, 500 m are so close that they could be viewed as part of the center. If we examine obsidian production indicators for this enlarged center area, the collections within the 500 m band around the centers of Cerro de las Mesas and Azuzules have

about the same or slightly higher proportions of collections with production indicators as the centers. The collections beyond the 500 m band have a still lower proportion (Table 1). The distinction for clear gray obsidian among Sauce, its associated 500m band, and more distant areas is more marked than that for black/dark gray obsidian. Survey of a larger area might show that quite distant locales contrast with the area studied so far, showing even less blade production. In other words, blade production may continue to decline with distance from the major centers, but investigation of this possibility must await additional survey.

Although we have focused on the two major centers of Azuzules and Cerro de las Mesas, Figure 3 shows that lesser formal complexes have very few production indicators. This contrast with the two major centers may indicate a more prominent role in obsidian procurement and processing for the major complexes compared to smaller ones and thus a degree of centralized control.

For horizontally integrated economies, centers act more as consumers of craft items rather than loci of production. For Classic Mixtequilla, it would appear that centers were also producers, at least for their own consumption needs and possibly for occasional distribution of blades beyond the centers the possibility of related craft. The higher density of blades within the centers also suggests production utilizing blades.

The Middle Postclassic period witnessed a marked change in obsidian tool production. Production was still focused on prismatic blades, but using smaller cores with ground platforms supplied from Pico de Orizaba. Production within the single center of Sauce was more intensive, including a probable specialized workshop, supplementing the blade supply of more rural households. Access to blades for some of the population apparently declined. Thus, the Mixtequilla obsidian economy changed over time and acquired a greater vertical emphasis in the Middle Postclassic period.

Data from the PALM survey do not neatly fit the expectations for strongly horizontally integrated lowland economies as previously outlined but, rather, exhibit some characteristics associated with vertical integration, i.e., more a mixture of economic principles and also display at least on episode of reorganization toward greater vertical integration. Similar problems of interpretation of elite involvement in lowland obsidian systems have been noted elsewhere (McAnany 1989:359).

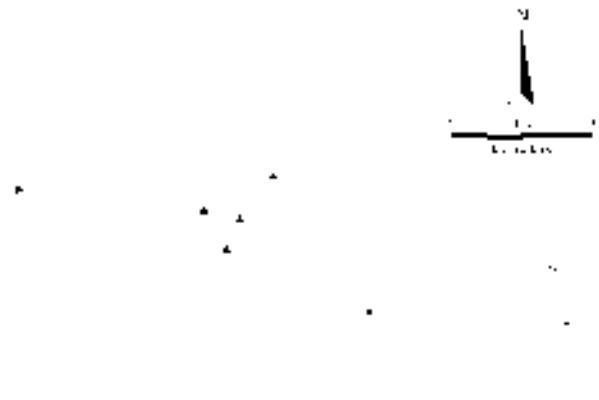


Fig. 11. Late Postclassic subset. Triangles indicate collections with clear gray production indicators. Dashed lines represent a 500 m band around the center of Sauce.

For obsidian, much of the coastal lowlands differs from the Maya lowlands in that local cherts were not available for chipped stone tools. Thus, obsidian may have been a more highly valued commodity in the Mixtequilla than in the Maya area. Mallory (1984:26) has pointed out that “clearly no large-scale organization nor concomitant complex institution were necessary to acquire obsidian at the rates at which it were imported to the Maya lowlands.” He feels that elite control of the obsidian system would have provided them with little economic gain. However, for the Mixtequilla a combination of political and economic returns of more centralized control of production and/or distribution may have been much higher.

Notes

1. Ridged blades bear bidirectional flake scars on their dorsal surfaces (Lamé a Crête Crabtree 1968:72). This flaking produces a ridge which guides the first blade removed from a core. Large ridged blades are normally associated with quarry sites. Small ridged or crested blades, such as those found in the Mixtequilla, are also produced during prismatic core reduction to remove hinge fractures from the core (Santley *et al.* 1986:113). Core face flakes are defined here as flakes produced from a prismatic core that exhibit multiple prismatic blades scars on their dorsal surfaces. They normally are long and are likely production errors or attempts at error recovery. Transverse core flakes are flakes which are struck crosswise across the prismatic core, exhibiting prismatic ridges on their lateral margins. These include Clark’s (1988:17) platform, distal, and lateral rejuvenation flakes. Initial series blades are the first ring of pressure blades removed from a polyhedral core. They retain evidence of percussion flaking on their dorsal surfaces. They tend to be shorter, wider, and more irregular than those blades removed later (Clark 1988:15). Plunging blades are those which have removed the entire distal end of the core along with the blade (Santley *et al.* 1986: 114).
2. The majority of the cortex occurs on clear gray blades and cores. The flat natural surfaces frequently were not completely removed during preparation of Pico de Orizaba cores at the mine sites (Stocker and Cobean 1984).
3. Some of this effect is due to the clean nature of the fill at Azuzules and functional differences for the largest structures within the site core, such as the ballcourt. However, low artifact densities for the larger structures are also a function of the difficulty of obtaining samples; larger structures often remain unplowed and covered with heavy vegetation. My examination of collections with production indicators shows that sample size affects the chance of encountering a production indicator. The average rim number of rims for collections containing production indicators is 116.5 sherds, with 116 initiating the upper quartile for rim sherd collection size among all PALM surface collections.
4. The Postclassic collections also indicated other areas suggestive of specialized production. Just to the east of Sauce two features contained high concentrations of obsidian scrapers, suggesting the possibility of specialized woodworking or other activities. Also, an unusual concentration of comal rims was recovered from several mounds in the south-central survey zone (Curet 1993).

Acknowledgments

This is a revised version of a paper presented in 1990, at the 55th annual meeting of the Society for American Archaeology in Las Vegas, Nevada. The Proyecto Arqueológico La Mixtequilla has been supported by grants to Barbara Stark from the National Science Foundation (BNS-8519167 and 8741867 and by 90-03606), the Wenner-Gren Foundation for Anthropological Research, and Arizona State University and by a Wenner-Gren Foundation for Anthropological Research grant to Barbara Hall. Permission for the research was received from the Instituto Nacional de Antropología e Historia in Mexico. We are grateful to the PALM staff members, colleagues, and agencies who have made this research possible.

Bibliography

- Appel, Jill Ann
1982 Political and Economic Organization in the Postclassic Valley of Oaxaca, Mexico: An Evolutionary Perspective. Ph.D. dissertation, Purdue University. University Microfilms, Ann Arbor.
- Ashmore, Wendy
1988 Household and Community at Classic Quirigua. In *Household and Community in the Mesoamerican Past*, edited by Richard Wilk and Wendy Ashmore, pp. 153–170. University of New Mexico Press, Albuquerque.
- Blanton, Richard E.
1978 Monte Alban: Settlement Patterns at the Ancient Zapotec Capital. Academic Press, New York.
- Blanton, Richard E., Stephen A. Kowalewski, Gary M. Feinman, and Jill Appel
1981 Ancient Mesoamerica: A Comparison of Change in Three Regions. Cambridge University Press, Cambridge.
1982 Monte Alban’s Hinterland, Part 1: The Prehistoric Settlement Patterns of the Central and Southern Parts of the Valley of Oaxaca, Mexico. *Memoirs of the Museum of Anthropology* 15. University of Michigan, Ann Arbor.
- Blanton, Richard E., Stephen A. Kowalewski, Gary M. Feinman, and Laura M. Finsten
1993 Ancient Mesoamerica: A Comparison of Change in Three Regions. Cambridge University Press, Cambridge.
- Bové, Frederick J.
1981 The Evolution of Chiefdoms and States on the Pacific Slope of Guatemala: a Spatial Analysis. Ph.D. dissertation, University of California at Los Angeles. University Microfilms, Ann Arbor.
- Clark, John E.
1986 From Mountains to Molehills: A Critical Review of Teotihuacan’s Obsidian Industry. In *Research in Economic Anthropology*, Supplement 2, pp. 23–74. JAI Press Inc., Greenwich.
1987 Politics, Prismatic Blades, and Mesoamerican Civilization. In *The Organization of Core Technology*, ed. by Jay K. Johnson and Carol A. Morrow, pp. 259–284. Westview Press, Boulder.
1988 The Lithic Artifacts of La Libertad, Chiapas, Mexico: An Economic Perspective. *Papers of the New World Archaeological Foundation*, No. 52. New World Archaeological Foundation, Provo, Utah.
- Curet, L. Antonio
1993 Regional Studies and Ceramic Production Areas: An Example from La Mixtequilla, Veracruz, Mexico. *Journal of Field Archaeology* 20:427–440.
- Curet, L. Antonio, Barbara L. Stark, and Sergio Vásquez
1994 Postclassic Change in South-central Veracruz, Mexico. *Ancient Mesoamerica* 5:1:13–32.
- Dreiss, Meredith L., and David O. Brown
1989 Obsidian Exchange Patterns in Belize. In *Prehistoric Maya Economies of Belize*, *Research in Economic Anthropology*, Supplement 4: 57–90, ed. by Patricia A. McAnany and Barry L. Isaac. JAI Press Inc., Greenwich.
- Drucker, Phillip
1943 Ceramic Stratigraphy at Cerro de las Mesas, Veracruz, Mexico. *Bureau of American Ethnology Bulletin* 141. Smithsonian Institution, Washington, D.C.
- Fedick, Scott Lee
1988 Prehistoric Maya Settlement and Land Use Patterns in the Upper Belize River Area, Belize, Central America. Ph. D. dissertation, Arizona State University, Tempe. University Microfilms, Ann Arbor. Feinman 1980
- Finsten, Laura
1983 The Classic–Postclassic Transition in the Valley of Oaxaca, Mexico. Ph.D. dissertation, Purdue University. University Microfilms, Ann Arbor.
- Fox, Richard
1977 *Urban Anthropology*. Prentice Hall, Englewood Cliff, NJ.
- Hayden, Brian and Aubrey Cannon
1983 Where the Garbage Goes: Refuse Disposal in the Maya Highlands. *Journal of Anthropological Archaeology* 2(2): 117–163.
- Healan, Dan M.
1986 Technological and Nontechnological Aspects of an Obsidian Workshop Excavated at Tula, Hidalgo. In *Economic Aspects of Prehispanic Highland Mexico*, edited by Barry L. Isaac, pp. 133–152. JAI Press, Greenwich.
- Heller, Lynette
1997 Lithic Artifacts: Sources, Technology, Production, Use, and Deposition of Knapped Obsidian. In *Classic Period Mixtequilla, Veracruz, Mexico: Diachronic Inferences from Residential Investigations*, ed. by Barbara L. Stark, Institute for Mesoamerican Studies, SUNY, Albany. (In press)
- Heller, Lynette and Dawn Massie
1987 A Preliminary Evaluation of a Postclassic Obsidian Concentration from El Sauce, Veracruz. Paper presented at “Balance y Perspectivas de la Antropología en Veracruz.” Jalapa, Veracruz, Mexico.

- Mallory, John K.
1984 Late Classic Maya Economic Specialization: Evidence from the Copan Obsidian Assemblage. Ph.D. dissertation, Pennsylvania State University. University Microfilms, Ann Arbor.
- McAnany, Patricia A.
1989 Economic Foundations of Prehistoric Maya Society: Paradigms and Concepts. In *Prehistoric Maya Economies of Belize, Research in Economic Anthropology, Supplement 4: 347–372*, ed. by Patricia McAnany and Barry L. Isaac. JAI Press Inc., Greenwich.
- McKillop, Heather
1989 Coastal Maya Trade: Obsidian Densities at Wild Cane Cay. In *Prehistoric Maya Economies of Belize, Research in Economic Anthropology, Supplement 4: 17–56*, ed. by Patricia McAnany and Barry L. Isaac. JAI Press Inc., Greenwich.
- Michels, Joseph W.
1979 *The Kaminaljuyu Chiefdom*. Pennsylvania State University Press, College Park.
- Moholy-Nagy, Hattula
1990 The Misidentification of Mesoamerican Lithic Workshops. *Latin American Antiquity* 1(3): 268–279.
- Rice, Prudence M.
1987 Lowland Maya Pottery Production in the Late Classic Period. In *Maya Ceramics: Papers from the 1985 Maya Ceramic Conference*, edited by Prudence M. Rice and Robert J. Sharer, pp. 525–561. BAR International Series 384(ii), Oxford, England.
- Sanders, William T., Jeffrey R. Parsons, and Robert S. Santley
1979 *The Basin of Mexico: Ecological Processes in the Evolution of a Civilization*. Academic Press, New York.
- Sanders, William T., and David L. Webster
1988 *The Mesoamerican Urban Tradition*. *American Anthropologist* 90(3): 521–546.
- Santley, Robert S.
1989 Obsidian Working, Long-Distance Exchange, and the Teotihuacan Presence on the South Gulf Coast. In *Mesoamerica after the Decline of Teotihuacan AD 700–900*, pp. 131–151, ed. by Richard A. Diehl and Janet C. Berlo. *Dumbarton Oaks, Washington D.C.*
- Santley, Robert S., Janet M. Kerley and Ronald R. Kneebone
1986 Obsidian Working, Long-Distance Exchange, and the Politico-Economic Organization of Early States in Central Mexico. In *Research in Economic Anthropology, Supplement 2*, pp. 101–132. JAI Press Inc., Greenwich.
- Santley, Robert S., and Christopher A. Pool
1992 Prehispanic Exchange Relationships among Central Mexico, the Valley of Oaxaca, and the Gulf Coast of Mexico. In *The American Southwest and Mesoamerica: Systems of Prehistoric Exchange*, pp. 179–211, ed. by Jonathan E. Ericson and Timothy G. Baugh. Plenum Press, New York.
- Sheets, Payson D.
1978 From Craftsman to Cog: Quantitative Views of Mesoamerican Lithic Technology. In *Papers on the Economy and Architecture of the Ancient Maya*, edited by Raymond Sidrys, University of California at Los Angeles, Institute of Archaeology Monograph No. 8, pp. 40–71. Los Angeles.
1983 Chipped Stone from the Zapotitán Valley. In *Archaeology and Volcanism in Central America: The Zapotitán Valley of El Salvador*, edited by Payson Sheets, pp. 195–223. University of Texas Press, Austin.
- Sidrys, Raymond V.
1976 Classic Maya Obsidian Trade. *American Antiquity* 41: 449–464.
1979 Supply and Demand among the Classic Maya. *Current Anthropology* 20(3): 594–597.
- Spence, Michael W.
1981 Obsidian Production and the State in Teotihuacan. *American Antiquity* 46:769–788.
1984 Craft Production and Polity in Early Teotihuacan. In *Trade and Exchange in Early Mesoamerica*, edited by Kenneth G. Hirth, pp. 87–114. University of New Mexico Press, Albuquerque.
1986 Locational Analysis of Craft Specialization Areas in Teotihuacan. In *Research in Economic Anthropology, Supplement 2*, edited by Barry L. Isaac, pp. 75–100. JAI Press, Inc., Greenwich, CT.
- Stark, Barbara L.
1978 An Ethnohistoric Model for Native Economy and Settlement Patterns in Southern Veracruz, Mexico. In *Prehistoric Coastal Adaptation*, edited by Barbara L. Stark and Barbara Voorhies, pp. 211–238. Academic Press, New York.
1990 The Gulf Coast and the Central Highlands of Mexico: Alternative Models for Interaction. In *Research in Economic Anthropology*, vol. 12, edited by Barry L. Isaac, pp. 243–285. JAI Press, Greenwich, CT.
1995 Introducción a la alfarería del Postclásico en La Mixtequilla, sur-centro de Veracruz. *Arqueología* 13–14: 17–36. México, D.F., Mexico.
- Stark, Barbara L. (editor)
1991 *Settlement Archaeology of Cerro de las Mesas, Veracruz, Mexico*. Monograph 34, Institute of Archaeology, University of California, Los Angeles, California.
1997 *Classic Period Mixtequilla, Veracruz, Mexico: Diachronic Insights from Residential Investigations*. Institute of Mesoamerican Studies, State University of New York, Albany. (In press)
- Stark, Barbara L. and L. Antonio Curet
1994 The Development of Classic Period Mixtequilla in South-central Veracruz, Mexico. *Ancient Mesoamerica* 5:2: 267–287.
- Stark, Barbara L. and Lynette Heller
1991 Cerro de las Mesas Revisited: Survey in 1984–85. In *Settlement Archaeology of Cerro de las Mesas, Veracruz, Mexico*, edited by Barbara L. Stark, pp. 1–25. Monograph 34, Institute of Archaeology, University of California, Los Angeles, California.
- Stark, Barbara L., Lynette Heller, Michael D. Glascock, J. Michael Elam, and Hector Neff
1992 Obsidian Artifact Source Analysis for the Mixtequilla Region, South-Central Veracruz, Mexico. *Latin American Antiquity* 3(3):221–239.
- Stark, Barbara L., and Pamela Showalter
1990 Reconocimiento en La Mixtequilla sur-central de Veracruz, Mexico. *Arqueología (new series)* 4:67–86. Instituto Nacional de Antropología e Historia, México, D.F.
- Stocker, Terrance L., and Robert H. Cobean
1984 Preliminary Report on the Obsidian Mines at Pico de Orizaba, Veracruz. In *Prehistoric Quarries and Lithic Production*, ed. by Jonathan E. Ericson and Barbara A. Purdy, pp. 83–96. Cambridge University Press, Cambridge.
- Torres Guzmán, Manuel
1972 Hallazgos en El Zapotal, Ver. *Boletín del Instituto Nacional de Antropología e Historia* 2(2):3–8, México.
- Torres Guzmán, Manuel, Marco Antonio Reyes, and Jaime Ortega
1975 Proyecto Zapotal, Ver. In *Arqueología*, pp. 323–329. Balance y Perspectiva de la Antropología en Mesoamerica, tomo I, XII Mesa Redonda, Sociedad Mexicana de Antropología, Mexico City.
- Webster, David and Nancy Gonlin
1988 Household Remains of the Humblest Maya. *Journal of Field Archaeology* 15:169–190.

ZUSAMMENFASSUNG: Klassische und postklassische Produktion von Obsidianwerkzeugen: eine regionale Perspektive von der Mixtequilla, Veracruz. In weiten Bereichen Mesoamerikas ist Obsidian ein Indikator für prähistorische ökonomische Systeme. Bislang sind jedoch Daten über die ökonomische Rolle von Obsidian noch nicht systematisch auf regionaler Ebene erhoben worden. Die Oberflächenbegehung von 40 km² durch das Proyecto Arqueológico La Mixtequilla (PALM) im südlichen zentralen Veracruz, Mexico wurde mit dem Ziel durchgeführt, ökonomische Systeme und den Grad ihrer Spezialisierung, Zentralisierung und Integration in eine Verbraucherpopulation auf lokaler, regionaler und interregionaler Ebene zu erforschen. Der Beitrag diskutiert die zeitliche und regionale Variation von Produktions- und Distributionssystemen. In den meisten komplexen Gesellschaften Mesoamerikas ist man bislang von einer Spezialisierung, zentraler Administration und ausgeprägter vertikaler Integration ausgegangen, doch sind in jüngster Zeit auch andere Modelle diskutiert worden, die zentrale Orte stärker als Konsumenten denn als Regulatoren interpretieren. Das Bild der Ökonomie, das sich aufgrund der Erforschung der Produktion und Distribution von Obsidian in der Mixtequilla abzeichnet ist komplex und deutet darauf hin, daß zentrale Orte das Obsidian-System kontrollierten, jedoch keineswegs in allen Aspekten. Über die meiste Zeit befanden sich die Werkstätten für die Herstellung des Obsidian außerhalb der zentralen Orte, die offenbar kein Monopol über die Distribution besaßen und vor allem als Konsumenten von Obsidian in Erscheinung treten. Die Daten sprechen für eine stärkere horizontale Integration des ökonomischen Systems, jedoch lassen sich auch deutlich temporäre Unterschiede erkennen, denn in der mittleren Postklassik konzentriert sich ein Teil der Produktion in der archäologischen Stätte von Sauce.

RESUMEN: La producción de obsidiana en el Clásico y en el Posclásico: una perspectiva regional para la Mixtequilla de Veracruz. Para muchas áreas de mesoamerica se considera obsidiana como un indicador para sistemas económicas prehistoricas. Hasta hoy hay una falta de datos sobre el papel económico del obsidiana en el nivel regional. El reconocimiento de superficie en un área de 40 km² por el Proyecto Arqueológico La Mixtequilla (PALM) en el centro sur de Veracruz, México fue realizado con la meta de estudiar los sistemas economicos, su grado de especialización, centralización y su integración en la población de los consumidores. El artículo analiza la variación cronológica y regional de sistemas de producción y distribución. El imagen del sistema económica que se esta presentando como resultado del estudio en la Mixtequilla es complejo y indica que los sitios principales controlaban el sistema de obsidiana, aunque solamente en unos aspectos. El mayor tiempo los talleres de producción de obsidiana se encontraban afuera de los sitios principales, cuales asumian el papel de consumidores y no tenían un monopolio sobre la distribución. Estas datas presentan evidencia para una mayor integración horizontal del sistema económico. Sin embargo, se tiene que tomar en cuenta diferencias temporales. En el Posclásico Medio una parte significativa de la producción se concentra en el sitio arqueológico de Sauce.

Rediscovery of La Milpa Stela 4

Nikolai Grube and Norman Hammond

When J. Eric S. Thompson first explored the site of La Milpa, northwestern Belize, in March 1938, he recorded a line of stelae along the eastern margin of the Great Plaza (Plaza A) in front of Structures 1–5 (Thompson 1938, Hammond 1991: Fig. 2). He numbered them from Stela 1, at the north end of the line in front of Structure 4, progressively southwards to Stela 12, in front of the large pyramid Structure 3. Since Thompson's time, several further monuments have been found (Stelae 13–18: Fig. 1), and it has also been shown that some of those he recorded are both fragmentary and also no longer in their original dedicatory locations (Hammond and Bobo 1994).

Rediscovery of Stela 4

The study by Hammond and Bobo (1994:22) noted the absence, when renewed exploration of La Milpa began in 1992, of Stela 4, which Thompson (1938: field notes) had found "fallen v, weathered. Once carved, butt may be in ground". Noting that Thompson gives the height as 1.86 m, much shorter than any of the complete stelae at La Milpa but comparable with the fragmentary Stelae 1, 2, 3 and 6, they suggested that "Stela 4 is probably buried under looter's rubble, but this suggests that it, too, was a fragmentary monument and quite possibly had not been reerected".

In 1996 a program of investigation and clearance on the east side of the Great Plaza began, including removal of the large heaps of looter's rubble in front of Structure 1, derived from several massive tunnels that had been driven into the western side of the mound. A deliberate search was made for Stela 4 prior to general clearance, and within 20 minutes of work beginning it was found, precisely where Thompson had recorded it, some 5 metres north of Stela 5 (Fig. 1). The stela was lying flat, with the head to the east; the topmost portion was broken off at shoulder level on the figures carved on each side, and the shortness of the uncarved butt also suggested truncation (as had been attempted, unsuccessfully, on Stela 2 (Grube 1994: 224, Fig. 8). Since Thompson's visit, the stela has cracked across the middle, probably because of the weight of the rubble piled on it; his recorded dimensions of $1.86 \times 1.02 \times 0.34$ metres are fairly accurate.

In view of the truncated state of Stela 4, and the absence of its topmost and basal portions, it seemed likely, as noted above, that it had been moved prior to intended resetting; a search was made around the base for a pit, with negative results. The Stela was either reerected in topsoil, like Stelae 3 and 6, or abandoned while still recumbent, like Stelae 1 and 2; its position between two reset monuments, and Thompson's ambiguous note that its companion Stela 5 was in 1938 "leaning back; now fallen" suggest that the former is slightly more likely. Stela 4 is made of creamy-white limestone, of good quality within the range of stone types available to the sculptors of La Milpa; while its cross-section matches in size the butt of Stela 18 found in situ in the stairway of Structure

9 in 1996, the latter is of a different stone (Nicholas Dunning and Timothy Beach, personal communications) and cannot be the missing base of Stela 4.

Description

Stela 4 is carved on both broad faces, and also on one edge where part of the design overlaps. The images on the faces are so similar that the terms "front" and "back" are difficult to apply: for the sake of description, the face on which the dwarf stands to the viewer's right is taken as the "front", if only because this composition is also used on the front of Stela 12 (Grube 1994: Fig. 3a), which also has a plain back. This face of Stela 4 is slightly less well preserved than the other (Fig. 2) from the waist of the principal figure upwards. It shows a richly dressed principal figure with a belt mask, belt attachment with seven large and six small celts, and "epaulettes". Long lines on both sides of the figure survive from the depiction of a once elaborate feather headdress. The figure is shown in frontal position with legs apart. Between the legs is the faintly preserved figure of a bird pointing up with its beak. To the right is the profile figure of a dancing dwarf dressed as a ballplayer. He wears a belt and knee protectors, in his right hand he holds a round object (a ball?). The headdress is a forward-sweeping arrangement of cloth, fastened by several strings knotted around the forehead. This headdress is consistently found with dwarves, although it is also used by rulers (Houston 1992: 527). Another figure may have been to the left of the principal figure, but that part of the face is almost completely eroded. The dwarf was identified by two, now effaced glyph blocks above his head. Although no traces of

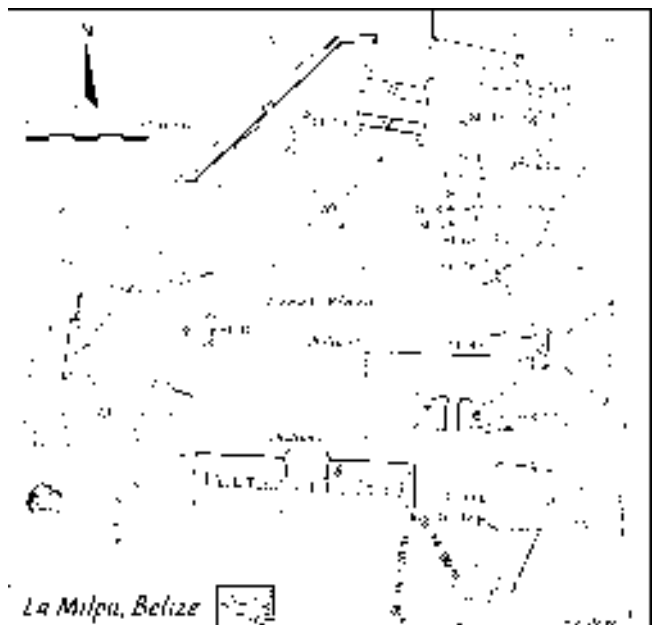


Fig. 1 The Great Plaza at La Milpa, showing the locations of Stelae 1–18.

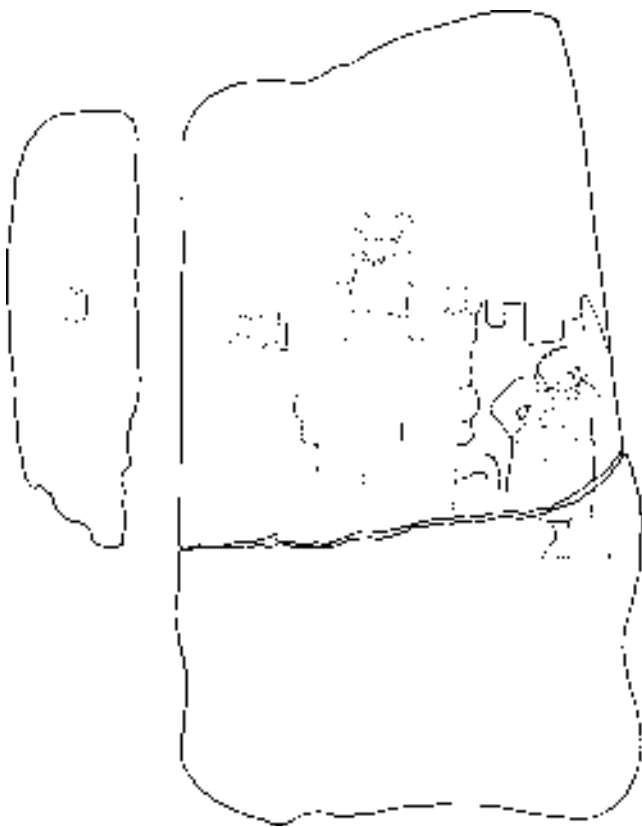


Fig. 2 La Milpa Stela 4, front



Fig. 3 La Milpa Stela 4, back

the hieroglyphs are left, it is likely that they spelled the word *mas*, identifying the dwarf as a “goblin, fright” (Houston 1992: 529).

The back side almost appears to be a mirror-image of the front. The principal iconographical elements are the same, although side-inverted. At a first glance one is tempted to interpret one side just as the back of the other. The presence of belt masks on both sides makes this alternative less likely, although the feather design on one of the smaller sides seems to connect the headdresses on both faces.

It is not necessary to repeat the description of all elements on the back of Stela 4: we see the same standing principal figure with a belt mask standing in frontal position with its legs apart. Between the legs and under the loincloth is a bird figure, now better preserved than on the other face, with well carved feathers. To the left of the main figure stands a dwarf, he looks towards the main figure and carries the same tied headdress as the dwarf on the other face. Whether this dwarf also was shown in dancing position is not discernable because of the complete obliteration of this part of the monument. Faint traces of arm protection can still be recognized, suggesting that he too was a ballplayer, and like his counterpart on the other side, he also is identified by a caption of two glyph blocks.

Except for these panels associated with the dwarves, no other inscription has survived on the monument. Since some of the feather design from the headdress wraps around the side, it is unlikely that the sides were carved with hieroglyphic text. If the stela had an inscription, it could have been written in the upper, now broken part of the monument, not unlike some of the late Xultun monuments. Another possibility for the text could have been as on Stela 8 – L-shaped in an upper

portion of the front. With this monument Stela 4 also shares the wrap-around design of the headdress feathers which leave no space for side-texts. Considering that the figures are incomplete from the shoulders up and lacking head and probably an elaborate headdress, the assumption can be made that the monument originally must have reached the considerable height of 2.50–3.00 metres, comparable with Stelae 7, 8, 12, and 15 and probably Stelae 2 and 11 when they were complete.

The Dwarf-and-Bird Motif

Stelae with the depiction of dwarves are quite common in the corpus of Maya art (Miller 1985, Mayer 1986, Coggins 1989). Dwarves are sinister beings associated with the Underworld and the abode of the dead (Houston 1992: 530; Miller 1985: 143). Dancing dwarves are rarely shown on stelae but represent a common motif on polychrome ceramics, especially in an iconographic ensemble known as the “Holmul Dancer” after the first appearance on vessels from that site (Merwin and Vaillant 1932: plates 29a, c; 30a, c; Reents 1985, 1991). The Holmul Dancer motif shows one or more richly dressed Maize Gods with elaborate backracks (Reents 1991: 217). These Maize Gods are displayed in a dancing position. Several examples of this iconographic ensemble on ceramics show the Maize Gods dancing in company of dwarves (Gann 1918: Plates 26–28; Smith 1955: fig. 2b). On a few examples, hieroglyphic captions state that in these scenes the Maize God is emerging from the Underworld. The role of the dwarf is less clear; it seems that

he assists the dancing Maize God in his endeavour to emerge from the abode of the dead.

The dwarf on the front of Stela 4 is unusual in that he does not hold one of two standard items carried by dwarves in their hands, which are either hafted objects that apparently have soft tips (El Peru Stela 34, Dos Pilas Stela 25, Xultun Stelae 10, 23, 24, 25) or K'awil sceptres (Caracol Stelae 5, 6, 9, 11, 21). The dwarf on the front grasps a round object which is probably a ball.

Dwarves in ballgame attire or ballgame contexts are extremely rare. A famous example for this composition is Step VII from the Hieroglyphic Stairway of Structure 33 at Yaxchilan. Here, two dwarves – identified hieroglyphically as *ch'at* “hunchback” are watching Bird Jaguar IV playing ball in an Underworld location.

Representations of birds are not uncommon in Maya art and are found sometimes on stelae. On two stelae (Dos Pilas Stelae 14 and 15), on the wooden lintel from Tikal Structure 5D-52, and on a jade found in the Cenote of Sacrifice at Chichen Itza (Proskourikoff 1974: 207), a water bird – identified as such by a fish in its beak – and a dwarf figure occur together flanking the principal figure. The dwarf-and-bird motif forms an iconographic ensemble of still unknown



Fig. 4 The dwarf-and-bird motif on Dos Pilas Stela 14 (Drawing by Stephen D. Houston after Houston 1993: Fig. 3-24)

meaning. Unfortunately, the hieroglyphic texts of monuments with this motif do not provide clues to its understanding. The discovery of further examples of this motif will eventually shed more light onto this specific scene. La Milpa Stela 4 therefore is an important addition to this small corpus.

Date

Dwarves do not appear in Early Classic Maya art, and their portraits on stelae are more common in the eastern than in the western part of the lowlands. The earliest dated image of a dwarf on a stela appears on Caracol Stela 1 at 9.8.0.0.0, while the last dated representation of a dwarf on a stela is on Xultun Stela 10, dated 10.3.0.0.0. These dates provide a loose chronological anchor for the dating of La Milpa Stela 4 which correlates well with the Late Classic style of the sculpture. The overall similarity of style, size and representation of the main figure with Stelae 7 suggests a date not too far from its 9.17.10.0.0 Long Count date. A more precise dating is impossible due to the lack of text.

The depiction of dwarves in ballgame attire probably connects this monument with one of the two roughly contemporary (Terminal Classic), but dissimilar ballcourts at La Milpa (Schultz, Gonzalez and Hammond 1994). The original location of the stela is unknown; a placement close to one of the ballcourts would establish a meaningful connection between the iconography and its location.

References

- Coggins, Clemency Chase
1989 Man, woman and dwarf. Paper presented at the Primer Congreso Internacional de mayistas, San Cristobal, Chiapas, Mexico, August 17, 1989.
- Gann, Thomas W. F.
1918 The Maya Indians of Southern Yucatan and Northern British Honduras. Bureau of American Ethnology Bulletin 64, Smithsonian Institution, Washington D.C.
- Grube, Nikolai
1994 A Preliminary Report on the Monuments and Inscriptions of La Milpa, Orange Walk, Belize. Baessler Archiv, Neue Folge, Band XLII: 217–238.
- Hammond, Norman
1991 The discovery of La Milpa. *Mexicon* 13(2): 46–50.
- Hammond, Norman and Matthew R. Bobo
1994 Pilgrimage's last mile: Late Maya monument veneration at La Milpa, Belize. *World Archaeology* 26(1): 19–34
- Houston, Stephen D.
1992 A Name Glyph for Classic Maya Dwarfs. In: *The Maya Vase Book Vol. 3*, edited by Justin Kerr: 526–531. Kerr Associates, New York.
1993 Hieroglyphs and History at Dos Pilas. *Dynastic Politics of the Classic Maya*. University of Texas Press, Austin.
- Mayer, Karl Herbert
1986 Zwergendarstellungen bei den präkolumbischen Maya. *Das Altertum Band 32* (4): 212–224. Berlin.
- Merwin, Raymond E. and George C. Vaillant
1932 The Ruins of Holmul, Guatemala. *Memoirs of the Peabody Museum of American Archaeology and Ethnology*, vol. 3, no. 2. Harvard University, Cambridge, Mass.
- Miller, Virginia E.
1985 The Dwarf Motif in Classic Maya Art. In: *Fourth Palenque Round Table, 1980*, Vol. VI, edited by Merle Greene Robertson and Elizabeth P. Benson: 141–153. Pre-Columbian Art Research Institute, San Francisco.
- Proskourikoff, Tatiana
1974 Jades from the Cenote of Sacrifice, Chichen Itza, Mexico. *Memoirs from the Peabody Museum of Archaeology and Ethnology*, vol. 10, no. 1. Harvard University, Cambridge, Mass.
- Reents-Budet, Dorie
1985 The Late Classic Maya Holmul Style Polychrome Pottery. Ph.D. dissertation, University of Texas at Austin. University Microfilms, Ann Arbor, Mich.

[Reents-Budet, Dorie]

1991 The "Holmul Dancer" Theme in Maya Art. In: Sixth Palenque Round Table, 1986, edited by Merle Greene Robertson and Virginia M. Fields: 217–222. University of Oklahoma Press, Norman and London.

Schultz, Kevan C., Jason J. Gonzalez, and Norman Hammond

1994 Classic Maya Ballcourts at La Milpa, Belize. *Ancient Mesoamerica* 5(1): 45–53.

Smith, Robert E.

1955 Ceramic Sequence at Uaxactun, Guatemala. Middle American Research Institute, Tulane University, Publication No. 20. New Orleans.

Thompson, John Eric S.

1938 Reconnaissance and excavation in British Honduras. Pp. 16–17 in Annual Report of the Division of Historical Research, 1937–38. Carnegie Institution of Washington Year Book 37: 1–37. Carnegie Institution of Washington, Washington, D.C.

ZUSAMMENFASSUNG: Die Wiederentdeckung von La Milpa Stele 4. Eric Thompson entdeckte 1938 eine Stele in La Milpa vor Struktur 1-5, die er Stele 4 nannte. Als 1990 die archäologische Erforschung La Milpas begann, konnte die Stele nicht mehr gefunden werden und es wurde vermutet, daß sie unter Schutt lag, der von Grabräubern zurückgelassen

worden war. Als 1996 nach der Stele gesucht wurde konnte sie tatsächlich an der von Thompson beschriebenen Stelle unter Schutt ausgegraben werden. Die spät- oder endklassische Stele zeigt auf beiden Seiten die gleiche Szene, eine Figur in Frontansicht und das ikonographische Motiv "Zwerg und Vogel", das eine relativ weite Verbreitung vor allem im Osten des Tieflandes hat. Das Fehlen erhaltener hieroglyphischer Beischriften schränkt die Möglichkeiten zur Deutung der Stele und ihrer Ikonographie ein.

RESUMEN: El redescubrimiento de la Estela 4 de La Milpa, Orange Walk, Belice. Eric Thompson descubrió una estela en La Milpa en frente de la Estructura 1–5. La llamó Estela 4. Cuando empezó la investigación arqueológica en el sitio en 1990, se notaron la falta de este monumento y se presumieron que la estela quedó enterrada bajo escombros dejado por 'huaqueros'. Cuando se buscaban sistemáticamente por el monumento en 1996 se lograron a localizarlo precisamente en el lugar definido por Thompson. El monumento es del clásico tardío ó terminal y muestra la misma iconografía en los dos lados, una figura de vista frontal y el motivo iconográfico "pájaro y enano", que tiene una gran distribución especialmente en el oriente de las tierras bajas. La falta de jeroglíficos acompañando la escena limita mucho la posibilidad de interpretar la estela y su iconografía.

Recent Publications

Periodicals

AMERICAN ARCHAEOLOGY, A Quarterly Publication of the Archaeological Conservancy, 5301 Central Ave. NE, Suite 1218, Albuquerque, NM 87102, USA, ISSN 1093-8400

Vol. 2, No. 3, Fall 1998

Ballcourt find comes as a pleasant surprise: Excavated mound reveals oldest arena found in Mesoamerica, p. 7; Crisell, Rob: *When stones speak: Palenque and its greatest king are finally history*, pp. 10–16

ANTHROPOLOGY AND EDUCATION QUARTERLY, Journal of the Council on Anthropology and Education, American Anthropological Association, 4350 North Fairfax Drive, Suite 640, Arlington, VA 22203, USA, ISSN 0161-7761

Vol. 29, No. 3, September 1998

Levinson, Bradley A.: *Student culture and the contradictions of equality at a Mexican secondary school*, pp. 267–296

ARCHEOLOGIA, 23, rue Berbisey, BP 669, 21017 Dijon, France, ISSN 0570-7270

No. 350, Novembre 1998

Hofman, Jean-Marc: *Une exposition majeure à Venise: Les Mayas*, pp. 18–25

ARQUEOLOGIA MEXICANA, Editorial Raíces, Rodolfo Gaona 86, Col. Lomas de Sotelo, Del. Miguel Hidalgo, C.P. 11200, México, D.F., Mexico, ISSN 0188-8218

Vol. 4, No. 24, Marzo–Abril 1997

Serra Puche, Mari Carmen: *El Museo Nacional de Antropología: historia y vocación*, pp. 4–11; Bernal, Ignacio: *El Museo Nacional de Antropología*, p. 10; Villar, Mónica del: *La construcción del Museo Nacional de Antropología: entrevista con Pedro Ramírez Vázquez*, pp. 12–21; Torres Bodet, Jaime: *El Museo Nacional de Antropología*, p. 21; Villar, Mónica del: *La museografía del Museo Nacional de Antropología: entrevista a Mario Vázquez*, pp. 22–31; Marquina, Ignacio: *El Museo Nacional de Antropología*, p. 31; Solís, Felipe: *Historia de la colección arqueológica del Museo Nacional de Antropología*, pp. 32–37; *El Museo Nacional de Antropología: salas de arqueología*, pp. 38–61; Suárez y Farías, María Cristina: *La etnografía en el Museo Nacional de Antropología*, pp. 62–67;

Conde, Teresa del: *Arte del siglo XX en el Museo Nacional de Antropología*, pp. 68–75

Vol. 5, No. 25, Mayo–Junio 1997

Barros, Cistrina y Marco Buenrostro: *El maíz, nuestro sustento: alimento, medicina, arte, rito*, pp. 6–15; Benz, Bruce F.: *Diversidad y distribución prehispánica del maíz mexicano*, pp. 16–23; Rojas Rabiela, Teresa: *De las muchas maneras de cultivar el maíz: técnicas agrícolas prehispánicas*, pp. 24–33; McClung de Tapia, Emily: *La domesticación del maíz: evidencia arqueológica*, pp. 34–39; García Cook, Angel: *Richard Stockton MacNeish y el origen de la agricultura*, pp. 40–43; Pérez Suárez, Tomás: *El dios del maíz en Mesoamérica*, pp. 44–55; Navarrete, Carlos: *Los mitos del maíz entre los mayas de las Tierras Altas*, pp. 56–61; Novelo, Victoria: *Las tortillas calientes, patrimonio cultural*, pp. 62–71; Pérez Suárez, Tomás: *De elemento creador a sustento vital: el maíz en los mitos mesoamericanos*, pp. 72–73

Vol. 5, No. 26, Julio–Agosto 1997

Winter, Marcus: *La arqueología de los Valles Centrales de Oaxaca*, pp. 6–17; Fernández Dávila, Enrique G.: *San José Mogote, Etla: origen y desarrollo de la civilización zapoteca*, pp. 18–23; Oliveros, Arturo: *Dainzú-Macuixóchitl: un lugar para el juego de pelota*, pp. 24–29; Miller, Arthur G.: *La tumba pintada de Huijazoo*, pp. 30–37; Robles García, Nelly M.: *El legado de Mitla*, pp. 38–41; Urcid Serrano, Javier: *La escritura zapoteca prehispánica: un milenio de registros históricos*, pp. 42–53; García Martínez, Bernardo: *La conversión de 7 Mono a don Domingo de Guzmán*, pp. 54–59; Bartolomé, Miguel y Alicia Barabas: *La presencia india contemporánea en Oaxaca*, pp. 60–65; Conde, Teresa del: *Francisco Toledo: férvida imaginación sin olvido*, pp. 66–71; *Guía de viajeros a los Valles Centrales de Oaxaca*, pp. 72–73

Vol. 5, No. 27, Septiembre–Octubre 1997

Langenscheidt, Adolphus: *La minería en el área mesoamericana*, pp. 6–15; León-Portilla, Miguel: *Oro y plata de Mesoamérica vistos por indígenas y europeos*, pp. 16–25; Weigand, Phil C.: *La turquesa*, pp. 26–33; Hosler, Dorothy: *La tecnología de la metalurgia sagrada del Occidente de México*, pp. 34–41; Clark, John E.: *La fabricación de instrumentos de piedra en Mesoamérica*, pp. 42–51; Ridinger, Mary Louise: *El jade*, pp. 52–59; Radding, Cynthia: *Las misiones y la minería colonial en Sonora*, pp. 60–65; Williams, Eduardo:

Producción de sal en la cuenca de Cuitzeo, Michoacán, pp. 66–71; *Las piedras sagradas: mitos*, pp. 72–73

Vol. 5, No. 28, Noviembre–Diciembre 1997

Nalda, Enrique y Sandra Balanzario: *La casa maya: el espacio cotidiano*, pp. 6–13; Tiesler Blos, Vera: *El aspecto físico de los mayas*, pp. 14–19; Reents-Budet, Dorie: *Cerámica maya: los maestros pintores*, pp. 20–29; León Cázares, María del Carmen: *Hombres de maíz en tierra de pavos y venados*, pp. 30–37; Andrews, Anthony P.: *La sal entre los antiguos mayas*, pp. 38–45; Fernández Tejedo, Isabel: *El ppolom, mercaderillo o regatón*, pp. 46–53; Viqueira, Juan Pedro: *Prácticas y creencias religiosas de los indios de Chiapas*, pp. 54–59; Ochiai, Kazuyasu: *Las tejedoras de los Altos de Chiapas*, pp. 60–67; Hernández Pons, Elsa: *La ceiba: patrimonio cultural de los grupos mayas*, pp. 68–73

Vol. 5, No. 29, Enero–Febrero 1998

López Austin, Alfredo: *La parte femenina del cosmos*, pp. 6–13; León-Portilla, Miguel: *Cihuayotl iixco ca: la femineidad luce en su rostro*, pp. 14–19; Serra Puche, Mari Carmen y Karina R. Durand V.: *Las mujeres de Xochitécatl*, pp. 20–27; Jansen, Maarten y Gabina Aurora Pérez Jiménez: *Dos princesas mixtecas en Monte Albán*, pp. 28–33; Benavides C., Antonio: *Las mujeres mayas de ayer*, pp. 34–41; *El embarazo y el parto en la mujer mexicana: textos nahuas de Thelma Sullivan*, pp. 42–49; Gómez, Arturo: *Los mayas y las exploradoras y arqueólogas del pasado*, pp. 50–55; Muriel, Josefina: *Las indias cacicas en la época virreinal*, pp. 56–63; Poniatowska, Elena: *¿Collar de piedras finas o espinas de maguey? El feminismo indígena contemporáneo*, pp. 64–71; Serrano, Francisco: *Lamento de Azcalxochitzin: cuento*, pp. 72–73

Vol. 5, No. 30, Marzo–Abril 1998

Nalda, Enrique: *La arqueología mexicana*, pp. 6–17; Matos Moctezuma, Eduardo: *De Coatlicue al Templo Mayor: monolitos mexicanos*, pp. 18–21; Matos Moctezuma, Eduardo: *Don Antonio de León y Gama (1735–1802)*, p. 20; Garza Tarazona, Silvia y Norberto González Crespo: *La Pirámide de las Serpientes Emplumadas*, pp. 22–25; Garza Tarazona, Silvia y Norberto González Crespo: *José Antonio Alzate y Ramírez (1737–1799)*, p. 24; Manzanilla, Linda: *Teotihuacan*, pp. 26–29; Ignacio Bernal y García Pimentel (1910–1991), p. 28; Cabrera C., Rubén: *Descubrimientos recientes en el Templo de Quetzalcóatl, Teotihuacan*, pp. 28–29; García-Bárcena, Joaquín: *Fotografía aérea*, p. 28; García Uranga, Baudelina: *Chalchihuites*, pp. 30–33; González Gamio, Angeles: *Manuel Gamio (1883–1960)*, p. 32; Lozano Ordóñez, José Carlos: *Museo de sitio y unidad de servicios La Quemada*, p. 32; Jiménez Betts, Peter: *La Quemada*, p. 33; Pérez Campa, Mario: *El Gran Basamento Circular de Cuicuilco*, pp. 34–37; López Camacho, Javier: *Byron Cummings (1860–1954)*, p. 36; García-Bárcena, Joaquín: *Geomorfología*, p. 36; Pérez Campa, Mario: *La Estela de Cuicuilco*, p. 37; Peña Castillo, Agustín: *El Castillo de Chichén Itzá*, pp. 38–41; Peña Castillo, Agustín: *Karl Ruppert (1895–1960)*, p. 40; Maldonado C., Rubén: *Los relieves del Juego de Pelota de Chichén Itzá*, p. 41; Robles García, Nelly: *La Tumba 7 de Monte Albán*, pp. 42–45; Robles García, Nelly: *Alfonso Caso (1896–1970)*, p. 44; Gallegos Ruiz, Roberto: *Las Tumbas 1 y 2 de Zaachila*, p. 45; García-Bárcena, Joaquín: *Análisis metalúrgico*, p. 45; González Lauck, Rebecca B.: *La Venta, Tabasco*, pp. 46–49; González Lauck, Rebecca B.: *Matthew Williams Stirling (1896–1975)*, p. 48; García-Bárcena, Joaquín: *Radar de penetración*, p. 48; González Lauck, Rebecca B.: *Prospección arqueológica con equipo moderno en La Venta*, p. 49; Tovalfín Ahumada, Alejandro: *Bonampak*, pp. 50–53; Agustín Villagra Caletí (1907–1985), p. 52; Lombardo de Ruiz, Sonia: *Los murales de Cacaxtla*, p. 53; García-Bárcena, Joaquín: *Mamutes de Santa Isabel Iztapan*, pp. 54–57; García-Bárcena, Joaquín: *Pablo Martínez del Río (1892–1963)*, p. 56; Morett, Luis, Joaquín Arroyo-Cabrales y Oscar J. Polaco: *El sitio paleontológico de Tocuila*, p. 57; García-Bárcena, Joaquín: *Análisis polínico*, p. 57; González Cruz, Arnoldo: *El Templo de las Inscripciones*, pp. 58–61; Izquierdo, Ana Luisa:

Alberto Ruz Lhuillier (1906–1979), p. 60; González Cruz, Arnoldo: *El Templo de la Reina Roja, Palenque, Chiapas*, p. 61; González Arratía, Leticia: *La cueva de la Candelaria*, pp. 62–65; González Arratía, Leticia: *Walter W. Taylor (1913–1997)*, p. 64; Brown, Roy B.: *Paquimé*, p. 65; García Moll, Roberto: *Convento de San Jerónimo de la ciudad de México*, pp. 66–69; Corona del Conde, Tessa: *Francisco de la Maza (1913–1972)*, p. 68; Hernández Pons, Elsa: *El Proyecto Arqueológico Bethlemitas, Ciudad de México*, p. 69; López Mestas C., Lorenza y Jorge Ramos de la Vega: *La tumba de Huitzilapa*, pp. 70–73; López Mestas C., Lorenza y Jorge Ramos de la Vega: *Isabel Trusdell Kelly (1906–1982)*, p. 72; García-Bárcena, Joaquín: *Genética molecular*, p. 73

Vol. 6, No. 31, Mayo–Junio 1998

Renfrew, Colin: *El Proyecto Templo Mayor*, pp. 6–11; Matos Moctezuma, Eduardo, Francisco Hinojosa y J. Alvaro Barrera Rivera: *Excavaciones arqueológicas en la Catedral de México*, pp. 12–19; Barba, Luis, et al.: *Arqueometría en la Casa de las Águilas*, pp. 20–27; Román Berrelleza, Juan Alberto y Alfonso Torre Blanco: *Los sacrificios de niños en el Templo Mayor: un enfoque interdisciplinario*, pp. 28–33; Montúfar López, Aurora: *Arqueobotánica del centro ceremonial de Tenochtitlan*, pp. 34–41; Carrasco, David: *Centro y periferia en el Templo Mayor*, pp. 42–51; Fournier, Patricia: *La cerámica colonial del Templo Mayor*, pp. 52–59; Olmedo Vera, Bertina: *Henry B. Nicholson: presencia en la arqueología y la etnohistoria de Mesoamérica*, pp. 60–65; Anawalt, Patricia R.: *Los conejos y la embriaguez*, pp. 66–73

Vol. 6, No. 32, Julio–Agosto 1998

Stuart, David: *Testimonios sobre la guerra durante el Clásico maya*, pp. 6–13; Graulich, Michel: *El rey solar en Mesoamérica*, pp. 14–21; Manzanilla, Linda: *El Estado teotihuacano*, pp. 22–31; Nalda, Enrique: *El reajuste mesoamericana*, pp. 32–41; Carrasco, Pedro y Jesús Monjarás-Ruiz: *La estructura interna de la Triple Alianza*, pp. 42–49; Michelet, Dominique: *Reino y reyes tarascos*, pp. 50–57; García Martínez, Bernardo: *El altépetl o pueblo de indios: expresión básica del cuerpo político mesoamericano*, pp. 58–65; Vos, Jan de: *El mundo maya rebelde*, pp. 66–73

Vol. 6, No. 33, Septiembre–Octubre 1998

Romero R., María Eugenia: *La navegación maya*, pp. 6–15; Andrews, Anthony P.: *El comercio marítimo de los mayas del Posclásico*, pp. 16–23; Gallareta Negrón, Tomás: *Isla Cerritos, Yucatán*, pp. 24–31; Navarrete, Carlos: *La navegación en la costa de Chiapas*, pp. 32–39; Lombardo de Ruiz, Sonia: *La navegación en la iconografía maya*, pp. 40–47; Hristov, Romeo H. y Santiago Genovés T.: *Viajes transatlánticos antes de Colón*, pp. 48–53; *Colón y los navegantes del Nuevo Mundo*, pp. 54–55; Rueda Smithers, Salvador: *La nao de China: riqueza a contracorriente*, pp. 56–63; García-Bárcena, Joaquín: *Patrimonio cultural bajo las aguas de México*, pp. 64–71

Vol. 6, No. 34, Noviembre–Diciembre 1998

López Austin, Alfredo: *Los ritos: un juego de definiciones*, pp. 4–17; Heyden, Doris: *Las cuevas de Teotihuacan*, pp. 18–27; Freidel, David y Charles Suhler: *Visiones serpentina y laberintos mayas*, pp. 28–37; Taube, Karl A.: *Enemas rituales en Mesoamérica*, pp. 38–45; Guilliem Arroyo, Salvador: *El Templo Calendárico de México-Tlatelolco*, pp. 46–53; Baudot, Georges: *La brujería española importada a México por fray Andrés de Olmos*, pp. 54–57; Alberro, Solange: *Las “abusiones” de origen prehispánico*, pp. 58–63; Ramírez Castañeda, Elisa: *Sobre los pasos de los ancestros*, pp. 64–71; Navarrete, Carlos: *Ritualismo agrícola en los Altos Cuchumatanes, Guatemala*, p. 72

THE ARTIFACT, El Paso Archaeological Society, P.O. Box 4345, El Paso, TX 79914, USA, ISSN 0004-3680

Vol. 34, No. 1/2, 1996

Sutherland, Kay: *Spirits from the south [Mesoamerica]*, pp. 1–101

133

BAESSLER ARCHIV, Museum für Völkerkunde, Berlin / Dietrich Reimer Verlag, Unter den Eichen 57, 12203 Berlin, Germany, ISSN 0005-3856

N.F. Band 44, H. 2, 1996

Chinchilla Mazariegos, Oswaldo: "Peor es nada": *el origen de las esculturas de Cotzumalguapa en el Museum für Völkerkunde, Berlin*, pp. 295–357; Swanton, Michael und Bas van Doesburg: *Some observations on the last lienzo de Santa Maria Ixcatlan (Lienzo Seler I)*, pp. 359–377; von Winning, Hasso und Thomas S. Barthel: *Zur Bedeutung der dreifarbigen Gesichtsbemalung auf Götterbildern der Codex Borgia-Gruppe*, pp. 379–399

BEITRÄGE ZUR ALLGEMEINEN UND VERGLEICHENDEN ARCHÄOLOGIE, Kommission für Allgemeine und Vergleichende Archäologie des Deutschen Archäologischen Instituts, Bonn / Verlag Philipp von Zabern, Mainz, Germany, ISSN 0170-9518

Bd. 17, 1997

Reindel, Markus: *Xkipché: Eine Mayasiedlung im nördlichen Yucatán, Mexiko*, pp. 177–250 [includes a spanish translation, pp. 227–248]; Wagner, I. B. und G. A. Wagner: *Thermolumineszenz-Datierung an Gefäßkeramik des Fundplatzes Xkipché/Yucatán*, pp. 251–255; Hermes Cifuentes, Bernard A., Raúl Noriega Girón und Z. Calderón Santizo: *Investigación arqueológica y trabajos de conservación en el Edificio 216 de Yaxhá*, pp. 257–309; Fialko Coxemans, Vilma: *Arqueología regional de intersitios entre los centros urbanos mayas de Yaxhá y Nakum*, pp. 311–324

Bd. 18, 1998

Cifuentes, Bernard Hermes: *Cerámica maya del noreste del Petén, Guatemala: análisis de nueve sitios arqueológicos del programa de rescate*, pp. 331–347

BULLETIN OF LATIN AMERICAN RESEARCH, Elsevier Science Ltd., Bampfylde St., Exeter EX1 2AH, UK, ISSN 0261-3050

Vol. 15, No. 2, May 1996

Martin, C. J.: *Economic strategies and moral principles in the survival of poor households in Mexico: An urban and rural comparison*, pp. 193–210; Kampwirth, Karen: *Creating space in Chiapas: An analysis of the strategies of the Zapatista Army and the rebel government in transition*, pp. 261–267

Vol. 15, No. 3, Sept. 1996

Siembieda, William J.: *Looking for a place to live: Transforming the urban ejido*, pp. 371–385

CAMBRIDGE ARCHAEOLOGICAL JOURNAL, McDonald Institute for Archaeological Research, University of Cambridge, Downing St., Cambridge CB2 3ER, UK, ISSN 0959-7743

Vol. 5, No. 2, October 1995

Folan, William J., et al.: *Verification of a Maya settlement model through remote sensing*, pp. 277–283

Vol. 6, No. 2, October 1996

Bricker, Harvey M., and Victoria R. Bricker: *Astronomical references in the throne inscription of the Palace of the Governor at Uxmal*, pp. 191–229

CANADIAN JOURNAL OF LATIN AMERICAN AND CARIBBEAN STUDIES, Faculté de Droit Civil, Pavillon Leblanc 120, Université d'Ottawa, Ottawa, Ontario K1N 6N5, Canada, ISSN 0826-3663

Vol. 19, No. 37–38, 1994

Lapointe, Marie: *Les origines de l'insurrection indienne de 1847 au Yucatán*, pp. 155–187; Lovell, W. George: *The century after independence: Land and life in Guatemala, 1821–1920*, pp. 243–

CARAVELLE, Cahiers du Monde Hispanique et Luso-Brésilien, Université Toulouse-Le Mirail, 56 rue du Taur, 31000 Toulouse, France, ISSN 0008-0152

No. 67, 1996

Dehouve, Danièle: *Les élites indiennes du Mexique central face à la conquête espagnole*, pp. 9–21; Dauzier, Martine: *Élites indiennes au Chiapas: Création sous influence et réappropriation ethnique (1970–1985)*, pp. 155–169

No. 70, 1998

Magni, Caterina: *Imagerie de la caverne-miroir dans l'art du Mexique ancien*, pp. 5–28; Johansson, K. Patrick: *Moctezuma II.: Crónica de una muerte anunciada*, pp. 29–54

COMPARATIVE STUDIES IN SOCIETY AND HISTORY, Cambridge University Press, The Edinburgh Building, Shaftesbury Road, Cambridge CB2 2RU, U.K. / 40 West 20th Street, New York, N.Y. 10011, USA., ISSN 0010-4175

Vol. 39, No. 1, January 1997

Davis, Diane E., and Viviane Bracket-Márquez: *Rethinking democracy: Mexico in historical perspective*, pp. 86–119

Vol. 39, No. 2, April 1997

Gruzinski, Serge, and Nathan Wachtel: *Cultural interbreedings: Constituting the majority as a minority*, pp. 231–250; Brandes, Stanley: *Sugar, colonialism, and death: On the origins of Mexico's Day of the Dead*, pp. 270–299

CRITIQUE OF ANTHROPOLOGY, A Journal for the Critical Reconstruction of Anthropology, Sage Publications, 6 Bonhill St., London EC2A 4PU, U.K. / P.O. Box 5096, Thousand Oaks, CA 91359, USA, ISSN 0308-275X

Vol. 17, No. 3, September 1997

McDonald, James H.: *A fading Aztec sun: The Mexican opposition and the politics of everyday fear in 1994*, pp. 263–292

Vol. 17, No. 4, December 1997

Feinberg, Benjamin: *Three Mazatec wise ones and their books*, pp. 411–437

Vol. 18, No. 3, September 1998

Gutmann, Matthew C.: *For whom the Taco Bell tolls: Popular responses to NAFTA south of the border*, pp. 297–315

CUADERNOS CULTURALES, Instituto de Cultura de Campeche, Calle 12 No. 156 (altos) entre 57 y 59, Zona Centro, Campeche, Campeche CP 24000, Mexico

Año 1, No. 1, Agosto 1993

Piña Chan, Román: *Plataforma de los Cuchillos: Edzná, 1970*, pp. 5–22; Millet Cámara, Luis: *Etná, Campeche: el Juego de Pelota*, pp. 23–38; Boucher, Sylviane: *La cerámica itzá y foránea de los Complejos VI y XI de Edzná, Campeche*, pp. 39–65

Año 1, No. 2, Noviembre 1993

Carrasco V., Ramón: *Edificios de torres: un problema arquitectónico*, pp. 3–22; Piña Chan, Román y Beatriz Barba Ahuatzin: *Mascarones zoomorfos del estilo Río Bec*, pp. 23–42; Ramayo Lanz, Teresa: *Estrategia política regional: Campeche y Quintana Roo 1934–1940*, pp. 43–59

Año 1, No. 3, Diciembre 1993

Victoria Ojeda, Jorge: *Campeche en la circunscripción del caribe español*, pp. 3–16; Domínguez Carrasco, María del Rosario: *El recinto superior del Edificio VII de Calakmul, Campeche*, pp. 11–54

Año 1, No. 4, Enero 1994

Delfín Quezada-D., Ricardo: *Las costas de Campeche en el siglo XVI: su papel en la conquista de Yucatán*, pp. 21–28; Arnaiz Burne, Stella Maris y Alfredo César Dachary: *Campeche y la costa oriental de Yucatán: tiempos y espacios comunes*, pp. 45–49

Año 1, No. 5, Febrero 1994

Alvarez Aguilar, Luis Fernando: *Crónica ecoarqueológica del la Isla Triste*, pp. 3–16; Piña Chan, Román y Jorge Harada Prieto: *Hipótesis en torno al nombre de Edzná*, pp. 33–38

Año 1, No. 6, Marzo 1994

Dzib Can, Ubaldo: *Los secretos de un curandero*, pp. 7–11; Gantús, Fausta: *El poder de curar el espíritu y la materia: los hmenes, sacerdotes y médicos*, pp. 13–18; Dzib Can, Ubaldo: *Religión y ritos en la medicina tradicional: relatos de un yerbatero*, pp. 19–22; Gantús, Fausta: *El oficio de partera*, pp. 23–24; Dzib Can, Ubaldo: *La partera indígena*, pp. 25–28; Gantús, Fausta: *Historia de una partera*, pp. 29–38; Chan May, Guadalupe: *Textos traducidos al maya*, pp. 39–56

Año 1, No. 7, Abril 1994

García Cruz, Florentino: *Aspecto social y político del Proyecto Arqueológico Etzná*, pp. 3–24; Contreras Acereto, Gabriela: *Los jesuitas y la educación en la Nueva España y Campeche: 1572–1767*, pp. 25–30; Carrasco V., Ramón: *Consideraciones sobre el Postclásico en la provincia de los chehaches*, pp. 31–42

Año 1, No. 8, Mayo–Julio 1994

Ortega Cam, Roberto: *Importancia de la conservación del patrimonio histórico-arquitectónico del la Ciudad de Campeche*, pp. 3–26; Miranda Ojeda, Pedro: *Desalojo y explotación en comunidades indígenas en Campeche: siglos XVI–XVII*, pp. 27–32

CUADERNOS DE ARQUITECTURA MESOAMERICANA

Núm. 23, Enero 1993

Chávez de Ortega, Estefanía: *El diálogo y la investigación interdisciplinarias*, pp. 3–12; Ortega Chávez, Germán: *Teorías urbanas mayas y mexicas, una comparación*, pp. 13–22; Novoa Magallanes, César: *El ser urbano en Tenochtitlán*, pp. 23–28; Martínez de la Macorra, Cecilia: *Elementos urbanos en México Tenochtitlán*, pp. 29–36; Morales Schechinger, Carlos: *Propiedad urbana mexicana y la estructura de Tenochtitlán*, pp. 37–58; Flores Peña, Sergio: *Los servicios públicos en las culturas prehispánicas: un nuevo punto en la agenda de investigaciones*, pp. 59–63; Mangino Tazzer, Alejandro: *Tipologías del espacio interior arquitectónico en Mesoamérica*, pp. 64–75; Acevedo A., Renaldo y Ana M. de la Luz Paz Bone: *El patrón de asentamiento de Uaxactún durante el Clásico Tardío*, pp. 76–84; Siller, Juan Antonio: *Arquitectura y urbanismo en Paquimé, Casas Grandes, Chihuahua*, pp. 85–96

Núm. 24, Febrero 1993

Molina, Augusto: *El urbanismo en Xochicalco*, pp. 3–8; Garza Tarazona de González, Silvia: *Una de las entradas a la ciudad de Xochicalco, Morelos*, pp. 9–17; Vega Nova, Hortensio de: *Interpretación de un conjunto habitacional en Xochicalco, Morelos*, pp. 19–28; Rivas Castro, Francisco: *Dos elementos iconográficos teotihuacanos asociados al ritual del pulque en la Pirámide de las Serpientes Emplumadas de Xochicalco, Morelos*, pp. 29–38; Smith, Michael E.: *Arquitectura y sociedad en sitios rurales postclásicos en el oeste de Morelos: el Proyecto Morelos Postclásico*, pp. 39–51; Pelz Marín, Ana María: *Una estructura habitacional del formativo tardío en Cuernavaca, Morelos*, pp. 53–60; Canto Aguilar, Giselle: *Zona arqueológica de Olintepepec, Morelos*, pp. 61–67; Maldonado Jiménez, Druzo: *Estudio iconográfico de la "Pintura de Acapistla" (Morelos)*, pp. 68–86; Siller, Juan Antonio: *Arquitectura megalítica de Chimalacatlán, Morelos*, pp. 87–96

Núm. 25, Marzo 1993

Brambila, Rosa: *Datos generales del Bajío*, pp. 3–10; Viramontes Anzures, Carlos: *La integración del espacio entre los grupos de recolectores cazadores en Querétaro*, pp. 11–16; Saint-Charles Z., Juan Carlos: *Asentamientos sobre barrancas, Rí San Juan*, pp. 17–22; Castañeda López, Carlos y Yolanda Cano Romero: *Los túmulos funerarios de Chupícuaro: el Caso de la Virgen, Guanajuato*, pp. 23–28; Herrera Muñoz, Alberto: *Cuicillo del Conejo, Punta de Obrajuelo,*

Guanajuato, pp. 29–40; Ramos de la Vega, Jorge, Lorenza López Mestas y Carlos Santos: *Conjuntos habitacionales en los sitios del noroeste de Guanajuato*, pp. 41–50; Sánchez Correa, Sergio: *Comentarios sobre algunos sitios arqueológicos localizados al suroeste de Guanajuato*, pp. 51–57; Crespo, Ana María y Juan Carlos Saint-Charles: *Formas arquitectónicas del Bajío: la división en cuadrantes del espacio ceremonial*, pp. 58–63; Castañeda, Carlos y Yolanda Cano: *La arquitectura monumental de San Bartolo Agua Caliente*, pp. 64–72; Brambila, Rosa y Carlos Castañeda: *Los basamentos con espacios hundidos*, pp. 73–78; Crespo, Ana María: *Estructuras de planta circular en el Bajío*, pp. 79–87; Brambila, Rosa, Ana María Crespo y Juan Carlos Saint-Charles, pp. 88–95

Núm. 26, Enero 1994

Ramírez Vázquez, Pedro: *Influencia de la arquitectura prehispánica en mi arquitectura*, pp. 4–14; Arancón García, Ricardo: *Los valores de la arquitectura prehispánica en las composiciones de Ramírez Vázquez*, pp. 15–26; Vargas Salguero, Ramón: *La obra del arquitecto Pedro Ramírez Vázquez*, pp. 27–30; Cejudo Collera, Mónica: *La conquista espiritual de México y su culminación en la Basílica de Guadalupe*, pp. 31–41; Cejudo Collera, Mónica: *Breve comentario sobre la presencia prehispánica en la Expo-Sevilla 92*, pp. 42–46; Robina y Rothiot, Ricardo de: *Notas sobre la teoría de la visualidad pura en relación con la arquitectura mesoamericana*, pp. 47–51; Siller, Juan Antonio y Víctor Rivera: *Reconocimiento arquitectónico en Belice, Centroamérica, del 1 al 13 marzo de 1991: consideraciones generales, marzo de 1991*, pp. 52–90; Arancón García, Ricardo: *Pedro Ramírez Vázquez-Semblanza*, pp. 91–94

Núm. 27, Febrero 1994

Brambila, Rosa: *Fuentes bibliográficas sobre la arquitectura de Teotihuacán (1865–1991)*, pp. 3–96

Núm. 28, Febrero 1995

Molina, Augusto: *Palenque: la ciudad arqueológica de hoy*, pp. 4–14; Robina, Ricardo de: *Consideraciones sobre algunos problemas de restauración*, pp. 15–20; Rodríguez García, Ignacio: *Patrimonio cultural, interés público y privatización*, pp. 21–42; Guevara Sánchez, Arturo: *Arquitectura prehispánica del Estado de Chihuahua*, pp. 43–48; Andrews, George F.: *Architecture and architectural style at Xkipché, Yucatán, México*, pp. 49–58; Rivera, Víctor y Juan Antonio Siller: *Reconocimiento arquitectónico en Guatemala, Honduras, El Salvador y México: consideraciones generales, marzo 1992*, pp. 59–92; Siller, Juan Antonio: *Semblanza de Augusto Molina Montes*, pp. 93–95

Núm. 29, Marzo 1995

Quintana, Oscar: *Plan de intervención del Templo I de Tikal, El Petén, Guatemala*, pp. 3–14; Aoyama, Kazuo: *Los tres centros mayores a lo largo del Río Chamelecón en la región de La Entrada, Honduras*, pp. 15–20; Kostka, Robert y Hasso Hohmann: *Geodetic and photogrammetric survey of monuments and sites*, pp. 21–28; Prem, Hanns: *Consideraciones sobre la técnica constructiva de la arquitectura Puuc*, pp. 29–38; Prem, Hanns: *Ficha técnica de registro arquitectónico: Proyecto Arqueológico Xkipché*, pp. 39–44; Pascual Soto, Arturo: *Las plazas de Hormiguero: Transformaciones urbanas en un sitio maya de la región Río Bec*, pp. 45–52; Muñoz Cosme, Alfonso y M. Cristina Vidal Lorenzo: *Un ejemplo de la evolución de la arquitectura Puuc: el Grupo Ah-Canul de Oxkintok*, pp. 53–58; Gallegos Gómora, Miriam Judith: *Algunas consideraciones sobre la torre de Palenque, Chiapas*, pp. 59–70; Kurjack Basco, Eduardo B., Norberto González Crespo y Silvia Garza T. de González: *Atlas Arqueológico de Yucatán: Inferencias sobre la ubicación de los asentamientos prehispánicos*, pp. 71–78; Andrews, George F.: *The Palace of Santa Rosa de Xtampak*, pp. 79–92

Núm. 30, Octubre 1996

Guillén Cyphers, Ann: *Una provincia estilística en el oriente de Morelos*, pp. 3–11; Hirth, Kenneth G.: *Teotihuacán Clásico: una perspectiva regional sobre el valle oriental de Morelos*, pp. 12–44;

Morante López, Rubén B.: *Mecanismos de corrección calendárica en Xochicalco*, pp. 45–52; Garza Tarrazona de González, Silvia: *Tres casa cargador de flechas*, pp. 53–63

Núm. 31, Diciembre 1996

De la Fuente, Beatriz: *Reflexiones en torno al concepto de estilo*, pp. 3–8; Staines Cicero, Leticia: *La historia pintada: diversidad temática en los murales mayas del área norte*, pp. 9–17; de la Fuente, Beatriz: *Modos de representar a la figura humana en la pintura mural prehispánica*, pp. 18–32; Arellano Hernández, Alfonso: *El dios K en algunas tapas de bóveda en la península de Yucatán*, pp. 33–41; Obregón Rodríguez, Ma. Concepción: *Evolución temporal del arte monumental paleneco: primeras etapas*, pp. 43–62

CULTURAL SURVIVAL QUARTERLY, Cultural Survival, 96 Mount Auburn St., Cambridge, MA 02138, USA, ISSN 0740-3291

Vol. 21, No. 2, Summer 1997

Warren, Kay B.: *The indigenous role in Guatemalan peace*, pp. 24–27; Montejo, Victor D.: *The pan-Mayan movement: Mayans at the doorway of the new millennium*, pp. 28–31

Vol. 22, No. 1, Spring 1998

Freedson González, Margaret, and Elías Pérez Pérez: *Indigenous rights and schooling in Highland Chiapas*, pp. 41–43; De la Torre López, Antonio: *Chanub Vun ta Batzi Kop of Sna Jtzibajom: An alternative education in our native languages*, pp. 44–45; Burns, Allan: *Maya education and Pan Maya ideology in the Yucatán*, pp. 50–52; Herrera Peña, Guillermina: *Indigenous legal translators: Challenges of a university program for the Maya of Guatemala*, pp. 53–56; Nahmad, Salomón: *Historical and contemporary policies of indigenous education in Mexico*, pp. 59–60; Alvarez Q., Francisco, Robert M. Laughlin, and Diego Mendez Guzmán: *A traveler to the other world: In memory of Anselmo Pérez*, p. 62; Stephen, Lynn: *Massacre of Tzotzil Indians in Chiapas in the wake of low intensity war*, p. 64

Vol. 22, No. 2, Summer 1998

Smyth, Frank: *San Jorge's struggle: A Guatemalan village blocks a planned luxury resort*, pp. 22–24

CURATOR, The Museum Journal, American Museum of Natural History, Central Park West at 79th St., New York, NY 10024, USA, ISSN 0011-3069

Vol. 41, No. 2, June 1998

Brown, Susan Fisher, and John J. Koran, Jr.: *Learning from ruins: A visitor study at Uxmal*, pp. 121–131

CURRENT ANTHROPOLOGY, Wenner-Gren Foundation for Anthropological Research / University of Chicago Press, Journals Division, P.O. Box 37005, Chicago, IL 60637, USA, ISSN 0011-3204

Vol. 38, No. 2, June 1997

Haslip-Viera, Gabriel, Bernard Ortiz de Montellano, and Warren Barbour: *Robbing Native American cultures: Van Sertima's afrocentricity and the Olmecs (with CA comment)*, pp. 419–441; Haviland, William A.: *On the Maya state*, pp. 443–445; Cowgill, George L.: *A fresh take on the Chichén-Tula connection: Twin city tales – A hermeneutical reassessment of Tula and Chichén Itzá, by Lindsay Jones (review)*, pp. 467–469

Vol. 38, No. 4, August–October 1997

Flannery, Kent V. / Mac Neish, Richard S.: *In defense of the Tehuacán project*, pp. 660–672

Vol. 38, No. 5, December 1997

Hale, Charles R.: *Consciousness, violence, and the politics of memory in Guatemala (with CA comment)*, pp. 817–838

Vol. 39, No. 1, February 1998

Buckler IV, Edward S., Deborah M. Pearsall, and Timothy P. Holtsford: *Climate, plant ecology, and Central Mexican archaic subsistence*, pp. 152–164

DIALECTICAL ANTHROPOLOGY, Sponsored by the Institute for Critical Anthropology, Kluwer Academic Publishers, P.O. Box 322, 3300 AH Dordrecht, The Netherlands / P.O. Box 358, Accord Station, Hingham, MA 02018-0358, USA, ISSN 0304-4092

Vol. 23, No. 2, July 1998

Pyburn, K. Anne: *Consuming the Maya*, pp. 111–129; Mysyk, Avis: *Susto: An illness of the poor*, pp. 187–202

ECONOMIC GEOGRAPHY, Clark University, 950 Main St., Worcester, MA 01610, USA, ISSN 0013-0095

Vol. 74, No. 1, January 1998

Jones, Richard C.: *Remittances and inequality: A question of migration stage and geographical scale*, pp. 8–25; Conway, Dennis, and Jeffrey H. Cohen: *Consequences of migration and remittances for Mexican transnational communities*, pp. 26–44

ESTUDIOS GEOGRAFICOS, Instituto de Economía y Geografía Aplicadas, Pinar, 25, 28006 Madrid, Spain / Distribución de Publicaciones del CSIC, Vitrubio, 8, 28006 Madrid, Spain, ISSN 0014-1496

Vol. 58, 226, Enero–Marzo 1997

Ribera Carbó, Eulalia: *Independencia política y transformación de una metrópoli colonial: la ciudad de México vista por tres británicos, 1821–1841*, pp. 95–112

IMPRESSUM

mexicon ISSN 0720-5988

General Editor: Im Auftrag der Internationalen Gesellschaft für Mesoamerika-Forschung e.V., Berlin: Gordon Whittaker.

Publisher: Verlag Anton Saurwein, Am Hennigbach 17, D-85570 Markt Schwaben, Germany; Tel: 0 81 21-92 49 30; Fax: 089-9 82 74 76.

Editorial Offices:

Cover Stephan Merk (Am Katzenstahl 3, D-86152 Augsburg, Germany).
News Ute Schüren (Görresstr. 6, D-12161 Berlin, Germany, Tel./Fax: 030-8 59 30 64, e-mail: schueren@zedat.fu-berlin.de); Gordon Whittaker (Tel./Fax: 0 55 94-8 93 33).

Contributions Nikolai Grube (Seminar für Völkerkunde, Römerstrasse 164, D-53117 Bonn, Germany; Fax: 02 28-55 03 85, e-mail: ngrube@bt1.net).

mexicon regrets that unsolicited manuscripts and materials cannot be returned. Responsibility for such materials and their contents lies with the author(s) alone.

Bibliography Elke Wagner (Talstr. 15, D-54666 Irrel, Germany; Tel./Fax: 0 65 25-93 61 69, e-mail: ewagner@okay.net), Claudine Hartau, Martin Seger, Gunther Dietz, Christian Prager.

Austrian Office Karl Herbert Mayer (J. Loserthgasse 16, A-8010 Graz, Austria, Fax: 00 43-316-32 93 22).

US Office Thomas H. Guderjan (Maya Research Program, St. Mary's University, San Antonio, TX 78228; e-mail: guderjan@netxpress.com); Richard C. Williams (Bibliography).

Mexican Office Alfredo Barrera Rubio (Calle 25 por 58-A, No. 502, Cruzero de Itzimna, 97100 Mérida, Yuc., Mexico).

Subscription: Inland DM 48,-/Studenten DM 38,- (inkl. MwSt. und Zustellung); Europa DM 50,-; Overseas US \$35,-.

Der Vertrieb erfolgt nur im Jahresabonnement geschlossener Volumen; zurückliegende Jahrgänge sind (z. T. nur auf Microfiche) erhältlich. Abonnentenbetreuung und Versand durch den Verlag. mexicon is available only by annual volume subscription; back numbers are available (Vols. 1-5 on microfiche only). To subscribe, change an address, or order back issues, please write to the publisher.

Bankverbindung: Anton Saurwein, Postal Giro Account: München. Cheques and money orders must be payable to Anton Saurwein. Euro-, Master-, Visa- and DinersCard accepted.

Satz: Markus Eberl, Bonn. *Druck:* Karle GmbH, Möckmühl.