8. Cultural and Environmental Components of the First Maya States: A Perspective from the Central and Southern Maya Lowlands

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Richard D Hansen
University of Utah
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Cultural and Environmental Components of the First Maya States: A Perspective from the Central and Southern Maya Lowlands

RICHARD D. HANSEN

Archaeology is the only discipline that can tell us how government began, the nature of the world's first governments, and the role those governments played in the organization of their respective political systems. (Haas 1982:216)

Archaic states are stratified into a series of classes including full-time occupational specialists, and are topped by a highly centralized, hierarchical government that rules a territory with more or less defined boundaries. (Sharer 1994:139)

The search for a comprehensive understanding of the development of social and political complexity in Mesoamerica has attracted considerable interest and prompted significant debate. Much of the controversial posturing that has surrounded this topic can be attributed to the lack of adequate or uniform definitions, incomplete data, faulty or inadequate interpretations of available data, and the exploitation of obscure semantics to justify specific theoretical positions. Recent archaeological investigations throughout the Maya lowlands have provided new data pertaining to the sophistication and complexity of early Maya "civilization." The resultant information, reviewed here in diachronic format and in synchronic contexts, provides an empirical foundation for conclusions and hypotheses that can be further investigated and tested.

This chapter proposes that the first lowland Maya states began to emerge in the Middle Preclassic period (ca. 1000–400 BCE), perhaps jointly with the developments at La Venta, and flourished during the Late Preclassic period (ca. 300 BCE–150 CE), led by developments in the Mirador Basin of northern Guatemala, and southern Campeche, Mexico. The resultant hypotheses derived from a series of multi-disciplinary investigations suggest: (1) The Preclassic lowland Maya developed one of the first states in Mesoamerica through a sequentially defined process that evolved into a four-tier hierarchy of settlement distribution and socio-political organization within a specific territorial area; (2) the origins of states in Mesoamerica, and in particular within the Mirador Basin, are found in the Middle Preclassic period, between ca. 1000 and 400 BCE, with more expansive states appearing by the latter part of the Middle Preclassic and the early Late Preclassic periods (ca. 400–200 BCE); (3) lowland Maya states were the result of autochthonous processes likely inspired and spurred by competitive ideologies and peer polity interactions, consistent with other models of political and economic evolution; (4) in a two-way process other Mesoamerican societies, including those on the Gulf and Pacific coasts and in the Mexican Highlands (see Chapters 3–5, this volume), provided important ingredients to contemporaneous Mesoamerican social and political identities which the lowland Maya adopted, adapted, and integrated in their social memory, while contributing some of their own innovations to other Mesoamerican societies in the process; (5) the economic, architectural, and ideological components of early lowland Maya society provided the cultural foundations for later Maya states in the Classic period.

The explanations for the rise of social and political complexity in Mesoamerica and, in particular, in the Maya lowlands have implications of global concern. The objectives of such paradigms are (1) to define the evidence for the emergence of Maya states; (2) evaluate extant models for the emergence of Maya states; and (3) to refine or replace models for the emergence of Maya states (see Chapter 1, this volume).

State formation in Mesoamerica has received considerable attention, often resulting in varied or opposing perspectives (e.g., Sahlins and Service 1960; Krader 1968; Sanders and Price 1968; Marcus 1976; Wright 1977, 1978, 1986; Jones and Kautz 1981; Johnson and Earle 1987; Sanders and Webster 1988; Yoffee 1988, 2005; Flannery 1972, 1995; Feinman and Marcus 1998; Flannery and Marcus 2000; Spencer and Redmond 2004; Blomster et

al. 2005; Flannery et al. 2005; Stoltman et al. 2005; Hansen 2005; Neff 2006; Neff et al. 2006a, 2006b; Sharer et al. 2006; Sharer 2007; Hansen and Suyuc-Ley 2011). However, there also appear to be areas of common ground. For example, many theoretical discussions of the evolution of complex societies accept the development of "big men" or "chiefs" from simple "egalitarian" societies that existed with less-complex economic structures (e.g., Service 1962, 1975; Lindstrom 1984; Johnson and Earle 1987; Gregg 1991; Earle 1997). Such discussions often propose that in the initial stages of societal development individuals attained higher rank or status on the basis of skills, talents, personal wealth, merchant acumen, or other capabilities that propelled them into administrative or leadership roles, becoming "accumulators" or "aggrandizers" (Hayden and Gargett 1990; Clark and Blake 1994; Rathje 1971, 1972, 2000). Status and rank differentiations of individuals and, subsequently, lineages have been posited as a response to societal restraints or opposition to the accumulation of personal power, and to maintain or expand wealth and power structure (see Clark and Blake 1994; Earle 1991b, 1997). In time, elevated status apparently became invested in specific lineages or similar groups, and leadership positions acquired by achievements became subordinate to those inherited from lineage or group membership, sanctioned and recognized by the remainder of society. The formation of such hierarchical power structures has universal anthropological implications, but the testing of such developmental processes can only be obtained from areas where developmental sequences can be defined from diachronic and synchronic perspectives furnished by detailed archaeological research (Haas 1982:216).

Mesoamerica is an area in which the process of socio-political and economic complexity can be critically evaluated (e.g., Adams 1977; Clark 1991, 1994). The relatively close proximity of resources and the linguistic and environmental diversity within Mesoamerica provide test cases for defining the chronology and causal factors of evolving complexity. Although the well-known "mother culture" model calls for a single origin or point of influence for all Mesoamerican civilizations (e.g., Clark 1990), examination of numerous examples throughout the world suggests that states generally do not emerge in isolation, a subject that prompts a discussion of "primary states" versus "secondary states," and the formation of "Sister States" (see below). The "mother culture" model has been criticized (Hammond 1988; Flannery and Marcus 1994, 2000; Marcus and Flannery 1996; Clark

and Hansen 2001; Hansen 2005) for conclusions unsupported by available data, including assumptions of primacy based on inexact chronologies with leeways of 100 to 200 years or more, while ignoring chronologies and comparable developments in other areas. Further problems lie in wrangling over semantics and definitions, especially when it comes to defining the first appearance of states in Mesoamerica. Most of these problems and issues were noted in the 1970s and 80s. In the volume, *The Transition to Statehood in the New World* (Jones and Kautz 1981), each chapter was followed by "a discussion of certain definitional problems that still plague the archaeology of state formation, concluding, perhaps unfashionably, that definitions should be as fully grounded empirically as they are logically constructed from theoretical premises" (Jones and Kautz 1981:3).

It is highly likely that Maya states emerged by a far more complex process than can be comprehended by previously proposed models. An improved understanding of this process must rely on the application of more sophisticated archaeological methodologies, including greater utilization of multi-disciplinary approaches, more advanced technologies, improved chronometric strategies, and investigations conducted on a regional scale. Long-term, comprehensive regional investigations hold many advantages including a broader, multi-disciplinary perspective based on multiple lines of evidence. Wide-reaching and in-depth investigations enable the evaluation and testing of multiple hypotheses, identification of multi-causal factors, and the definition of alternative models for the rise of complexity within specific regions (Sharer et al. 2006).

While long-term comprehensive investigations have been conducted in the Maya lowlands since the mid 20th century, only recently has this kind of research focused on the critical Preclassic era. These Preclassic archaeological and ecological investigations, such as those in the Mirador Basin of northern Guatemala and in several other regions of the Maya lowlands (e.g., Estrada-Belli et al. 2004a, 2004b, 2006a; Andrews and Robles 2004; Anderson 2011), have revolutionized our understanding of the origins of Maya states. We now have evidence for the centralization of social, economic, and political systems and the emergence of a hierarchical sociopolitical structure, as well as the institution of sacred kingship. The results of these archaeological and ecological studies provide the foundation for models and hypotheses that can be further tested. The Mirador Basin was, apparently, a crucial core of these Preclassic developments in the Maya lowlands. As pre-

sented below, the rise to social and political complexity in this region was a process that derived from a combination of economic, environmental, and ideological components enabled by agricultural productivity, specialized production systems, the mobilization of labor, extensive communication and interaction systems—especially evident in a causeway network linking major and minor polities into a cohesive unit—and the manipulation of architectural art and religious ideology.

Over the past two decades, research in the Basin has led to a hypothesis that state level organizations first emerged in northern Peten and southern Campeche during the Middle Preclassic period (ca. 1000–400 BCE). This hypothesis is based on evidence for the Middle Preclassic development of centralized administrative hierarchies within a specific territorial area. Beyond the Mirador Basin, surveys and settlement studies in Peten, Campeche, northern Yucatan, and Quintana Roo have identified an astonishing number of Middle Preclassic settlements with probable tiered hierarchies by this period (Robles-Castellanos and Andrews 2003, 2004; Robles-Castellanos 2004; Andrews and Robles 2004; Rissolo and Ochoa 2002; Sprajc 2002, 2003, 2002–2004, 2005a, 2005b, 2005c; Sprajc and Grube 2008; Estrada-Belli et al. 2006; Anderson 2011; A. Andrews, pers. comm. 2006; K. Reese-Taylor, pers. comm. 2011). These early settlements are in areas thought to be vacant in the Middle Preclassic period less than two decades ago.

The appearance of complex political, social, and economic institutions in the Maya lowlands, in a process comparable to developments seen on the Gulf coast and in the highlands of Mexico (Clark and Hansen 2001; Garber et al. 2002; Hansen 1992a, 1992c, 1998, 2001a, 2005, 2012a; Hansen and Guenter 2005; Hansen and Balcarcel 2008; Hansen, Howell et al. 2008; Hansen and Suyuc-Ley 2011; Marcus and Flannery 1996; Reilly 1994; see also Chapters 3–5, this volume). The dynamic processes of the formation of state-level administrative hierarchies can best be understood through the observation of the earlier stages of this development and by understanding the political, geographical, and economic environment in which it originated (see also Clark 1991; Clark and Blake 1994; Earle 1997:14).

During the Late Preclassic period (ca. 300 BCE–150 CE), the process of political, social, and economic centralization reached its apogee. Initial data from El Mirador and other lowland sites such as Edzna, Cerros, Cuello, and Colha promoted the notion that Maya sacred kingship and related institutions that have traditionally defined Maya civilization began in the Late Pre-

classic period (e.g., Freidel 1981, 1985, 1986b; Hansen 1982, 1984; Matheny 1986a, 1986b, 1987; Freidel and Schele 1988a, 1988b; Fields 1989; Reese-Taylor 1996; Kappelman 1997). Subsequent research, however, suggests that the architectural and cultural florescence of the Late Preclassic period represents the culminating manifestations of the growth of complexity, including the presence of sacred kingship, which began centuries earlier during the Middle Preclassic (Hansen 1992a, 2012a; Hansen and Guenter 2005; see also Estrada-Belli, Bauer et al. 2003; Bauer 2005a, 2005b; Estrada-Belli 2006).

The process of Preclassic state development in the Maya lowlands has a particular focus in the Mirador Basin of northern Guatemala (Hansen and Suyuc-Ley 2011), although it is clear that other lowland regions, including the sites of Holmul, Cival, and San Bartolo, were also important players, either in their own developmental trajectories or as part of a Mirador hegemony. The diachronic processes of economic, architectural, and ideological complexity indicate the autochthonous manner by which the first Maya states emerged. It did not require contact with, or inspiration from, the Olmec to enlighten the Maya on these developmental processes, particularly since they were already in place on a pan-Mesoamerican scale. What this highly sophisticated development did require, however, was an acute awareness of the ideological systems and associated political, economic, and religious symbolism which created a competitive agenda to propel the Maya, as well as other Mesoamerican societies, into increasing displays of political and economic prowess by the late Middle Preclassic period. The great Olmec capital of La Venta and the monumental capitals in the Mirador Basin were emerging simultaneously. However, the cultural emulations and variations between these societies are more consistent with a "peer-polity" and "competitive neighbor" process of development than a "mother-daughter" relationship. The developmental consequences of competing ideologies among major powers have been evident in the 20th century as well as in ancient times. Throughout history, social competition has driven technological, political, economic, and scientific innovations forward and thereby promoted the growth and increasing complexity of societies.

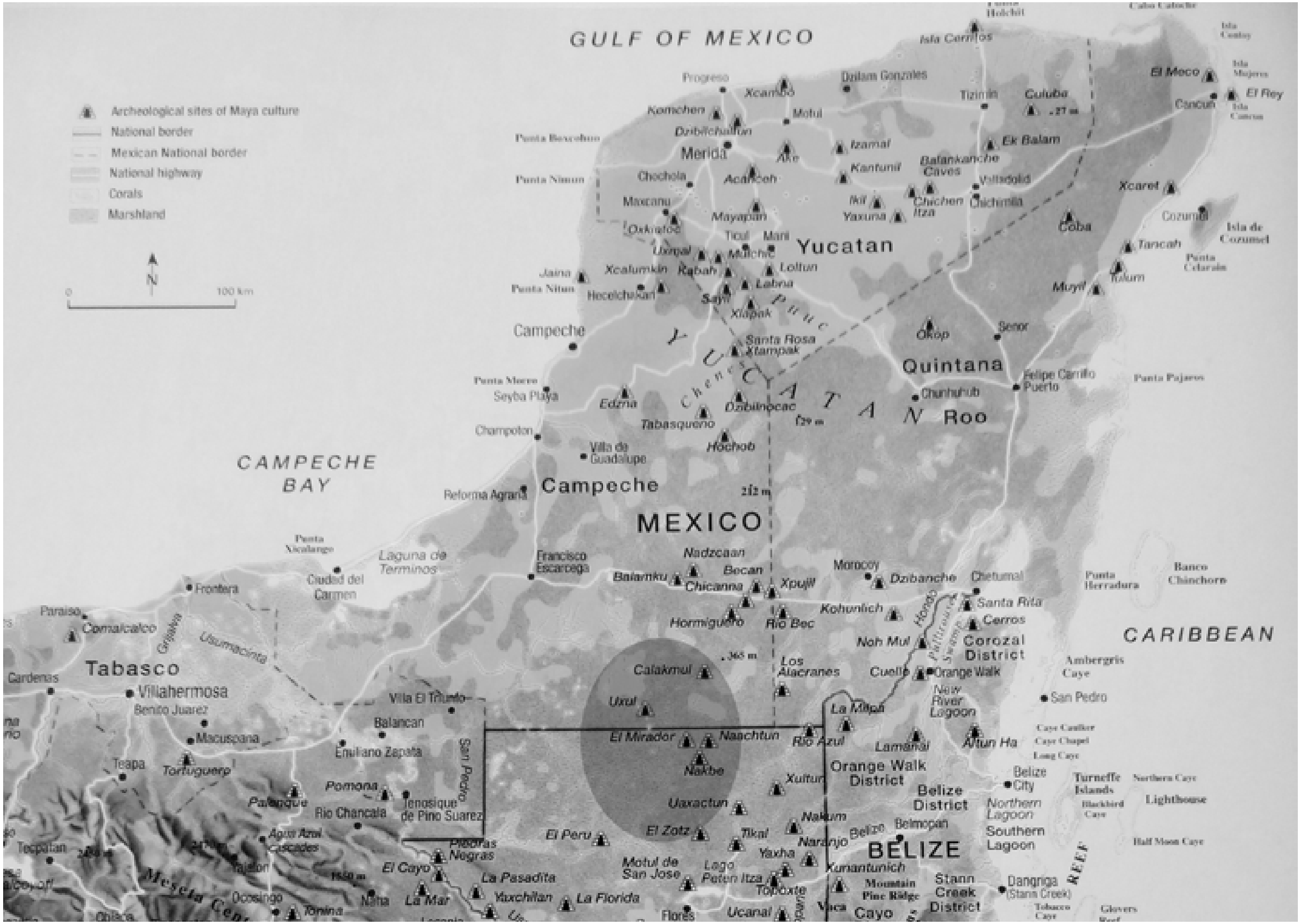
GEOGRAPHICAL AND HISTORICAL CONTEXTS

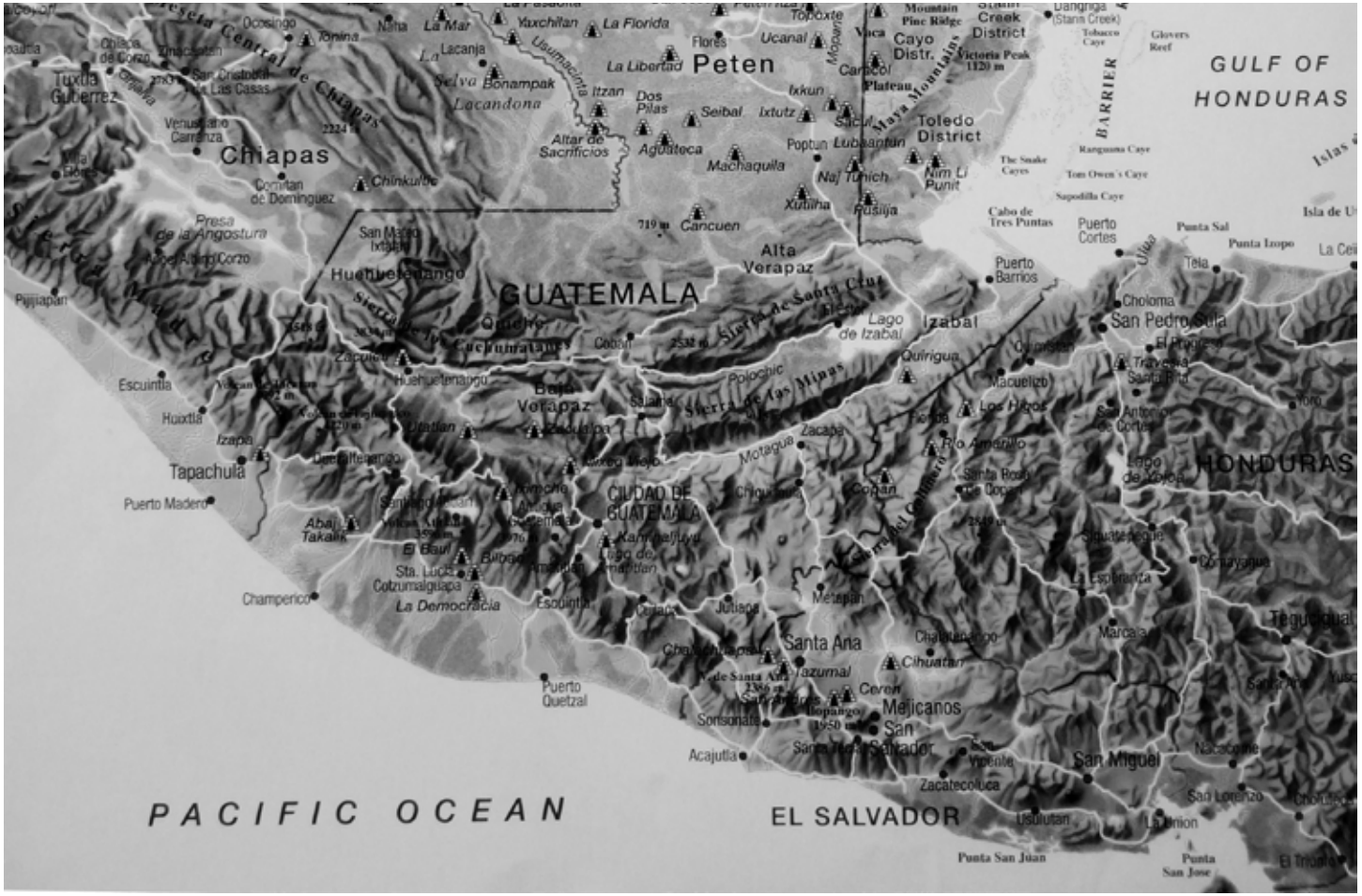
The Mirador Basin is located in the extreme north-central area of the department of Peten, Guatemala, and the extreme southern part of Campeche

(Fig. 8.1). The Basin is circumscribed by a narrow range of karstic hills on the north, east, and south, with lower and less pronounced elevations on its western edge. These natural features form a rounded, triangular-shaped depression characterized by a high percentage of what are now tree-covered seasonal swamps known as *bajos* (Fig. 8.2). Primary drainage near the sites of El Mirador, Wakna, and Nakbe extends towards the Candelaria River to the northwest, which ultimately drains into the Laguna de Terminos of the Gulf coast. This drainage system is important as it signals a possible route to, and a possible point of contact with, the Gulf coast cultures and other regions of Mexico.

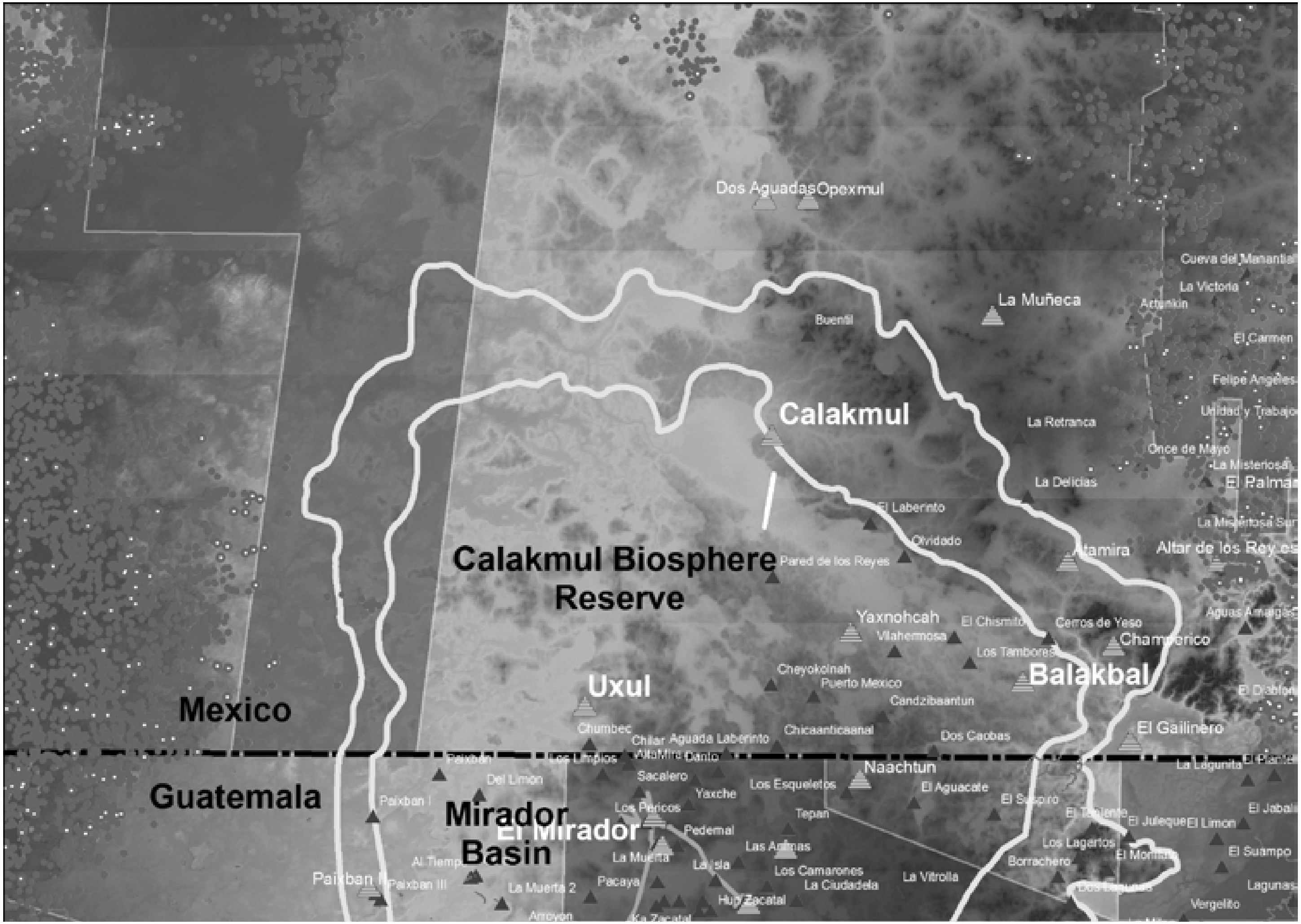
The landscape of the Basin is dominated by the low-lying bajos that are partially the result of the natural elevated circumscription of the area, which creates hydraulic pressure and stagnation of water within the basin (Fig. 8.3). The stunted-tree-covered swamps form approximately 60 percent of the surface area of the Basin, and a comprehensive study of the Basin's flora has detailed the evolutionary format of vegetative types, as well as specific floral communities that may have bearing on settlement patterns (Castañeda and Hansen 2007a, 2007b, 2008). The soils found in this delimited area are distinct from all other soils in the northern Peten, consisting of clayey types known as Uaxactun, Macanche, and Yaloch soils of poor to medium fertility at present (Simmons et al. 1959; FYDEP 1968; Stevens 1964). Additionally, bajos contain rare and uncommon minerals such as todorokite, identified in magnesium oxide nodules (Dixon et al. 1994).

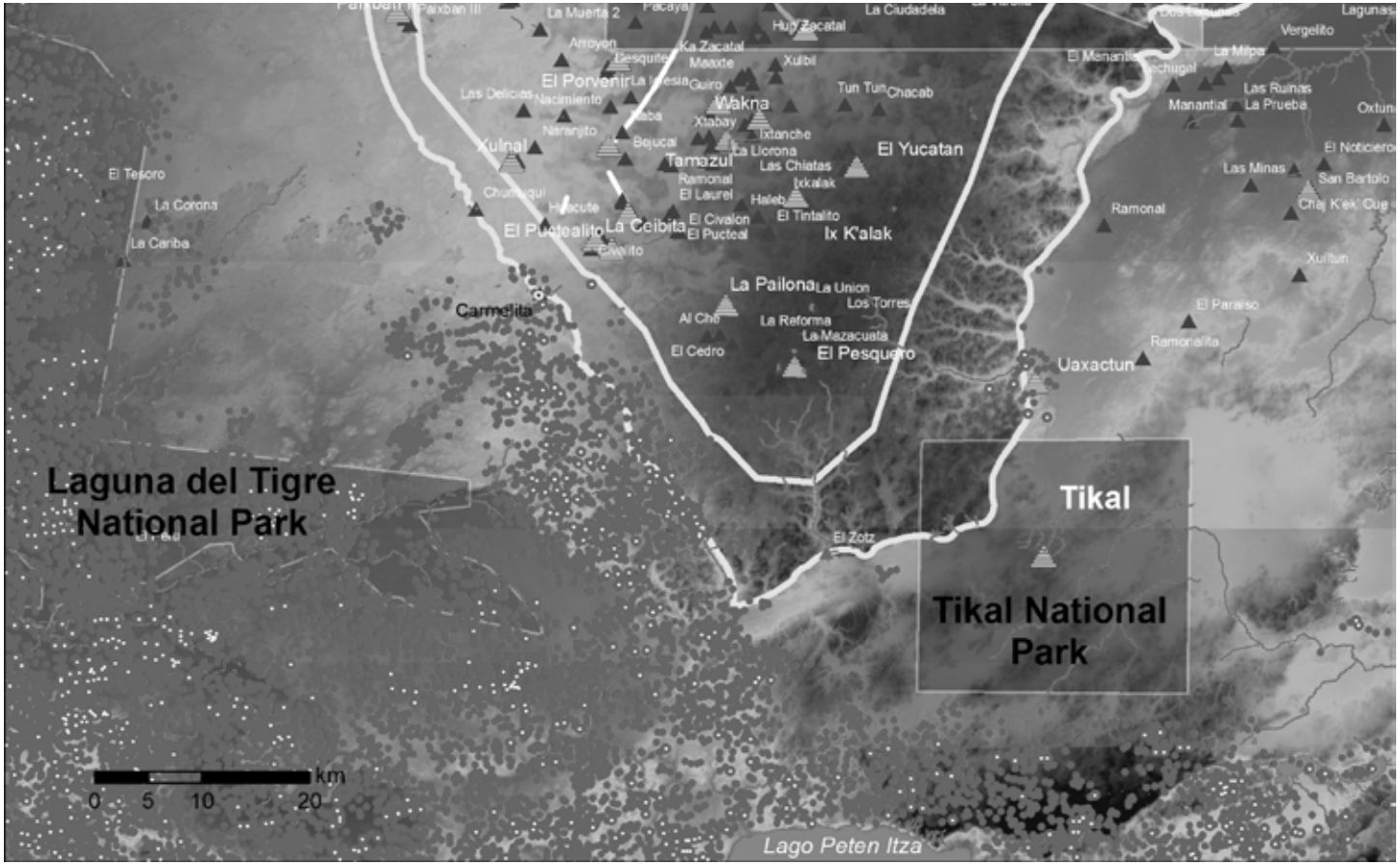
Early explorations of the Mirador Basin, including those of Ian Graham in the 1960s, Heinrich Berlin in the 1950s, and even earlier explorations by the Carnegie Institution in the 1920s and 30s, resulted in the identification of a few of the major sites within its confines, including Calakmul, Uxul, Balakbal, El Mirador, Nakbe, Naachtun, La Muralla, and La Iglesia (Morley 1938; Ruppert and Denison 1943; Berlin 1951; Graham 1967). To date, an additional 51 major and minor sites have been identified, tested, and mapped by the Mirador Basin Project on the Guatemalan side of the Basin (Hansen et al. 2006; Hansen, Howell et al. 2008; Hansen et al. 2009; Hansen and Suyuc-Ley 2002, 2007, 2010; Mejía 2006, 2008; Mejía, Hansen et al. 2010; Mejía et al. 2007; Mejía et al. 2008; Mejia, Aguilar et al. 2010). In addition, the effort to locate major and minor sites by Ivan Sprajc and Nikolai Grube has proven productive in southern Campeche, Mexico (Sprajc 2002, 2003, 2005a, 2005b, 2005c, 2005d; Sprajc and Grube 2008).


GULF OF MEXICO
CAMPECHE BAY
CARIBBEAN
Archeological sites of Maya culture
National border
Mexican National border
National highway
Corals
Marshland
N
0
100 km
MEXICO
Yucatan
Campeche
Quintana Roo
YUCATAN
Tabasco
BELIZE
Orange Walk District
Belize District
Corozal District
Stann Creek District
Cayo
Merida
Progreso
Campeche
Chetumal
Cancun
Cozumel
Isla de Cozumel
Villahermosa
Belize City
Belmopan
Dangriga (Stann Creek)
Flores
Chichen Itza
Uxmal
Mayapan
Dzibilchaltun
Izamal
Ek Balam
Coba
Tulum
Xcaret
El Meco
El Rey
Kabah
Sayil
Labna
Xlapak
Loltun
Edzna
Hochob
Tabasqueno
Dzibilnocac
Santa Rosa Xtampak
Becan
Chicanna
Xpujil
Rio Bec
Hormiguero
Balamku
Nadzcaan
Calakmul
Uxul
El Mirador
Nakbe
Naachtun
Uaxactun
El Zotz
Tikal
Yaxha
Nakum
Naranjo
Xultun
Rio Azul
La Milpa
Lamanai
Altun Ha
Cuello
Nohmul
Kohunlich
Dzibanche
Palenque
Pomona
Tortuguero
Comalcalco
Piedras Negras
Yaxchilan
El Peru
La Florida
La Pasadita
Motul de San Jose
Ucanal
Topoxte
Xunantunich
Laguna de Terminos
Ciudad del Carmen
Francisco Escarcega
Champoton
Seyba Playa
Villa de Guadalupe
Reforma Agraria
Felipe Carrillo Puerto
Valladolid
Tizimin
Motul
Maxcanu
Chochola
Hecelchakan
Frontera
Paraiso
Cardenas
Teapa
Macuspana
Balancan
Emiliano Zapata
Tenosique de Pino Suarez
Villa El Triunfo
Usumacinta
Grijalva
San Pedro
Rio Hondo
Ambergris Caye
San Pedro
Turneffe Islands
Lighthouse
Northern Lagoon
Southern Lagoon
New River Lagoon
Mountain Pine Ridge
Punta Pajaros
Banco Chinchorro
Punta Herradura
Isla Cerritos
Dzilam Gonzales
Punta Xicalango
Punta Nimun
Punta Boxcohuo
Jaina
Oxkintok
Xcalumkin
Akanceh
Ake
Kantunil
Balankanche Caves
Ikil
Yaxuna
Culuba
Muyil
Tancah
Okop
Chunhuhub
Senor
Tecpatan
Ocosingo
Tonina
Mesa Central

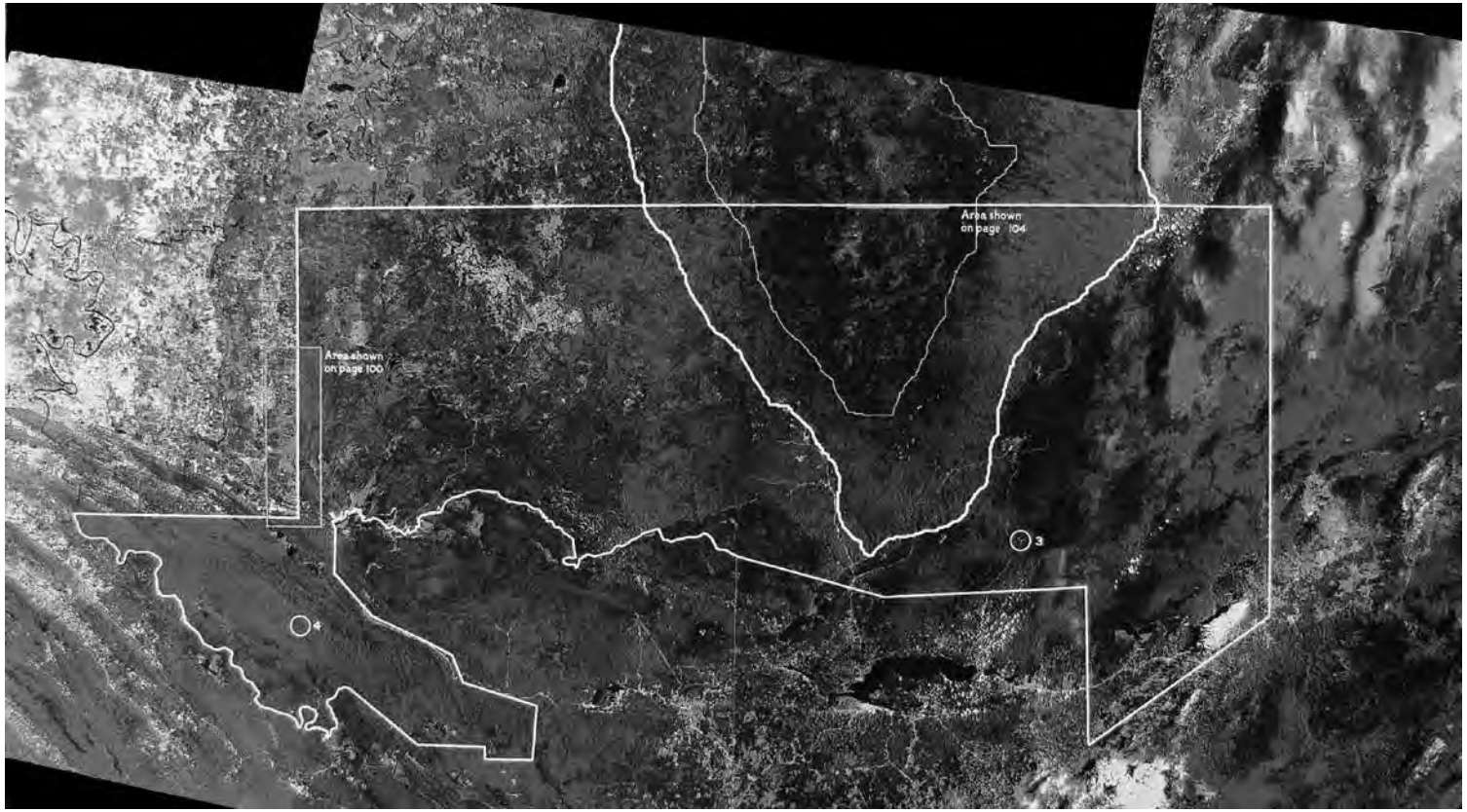


8.1. Map of the Maya area in Mesoamerica showing the general location of the Mirador-Calakmul Basin (modified after Grube 2001:10).


Mexico
Guatemala
Calakmul Biosphere Reserve
Calakmul
Uxul
Balakbal
Mirador Basin
El Mirador
Naachtun
Dos Aguadas
Opexmul
La Muñeca
Yaxnohcah
El Gallinero
Altamira
Altar de los Reyes
El Palmar
Champerico
Cerros de Yeso
Los Tambores
El Chismito
Vilahermosa
Cheyokolnah
Puerto Mexico
Candzibaantun
Chicaanticaanal
Dos Caobas
Chumbec
Aguada Laberinto
Pared de los Reyes
Olvidado
El Laberinto
La Delicias
La Retranca
Buenfil
Once de Mayo
La Victoria
Cueva del Manantial
El Carmen
Felipe Angeles
Sacalero
Yaxche
Los Pericos
Pedernal
Los Esqueletos
Tepan
Las Animas
Los Camarones
La Ciudadela
La Vitrolla
El Aguacate
El Suspiro
Los Lagartos
Borrachero
El Suampo
Vergelito
La Lagunita
Del Limon
Paixban I
Paixban III
La Muerta 2
Pacaya
Arroyon



8.2. Map of the Mirador-Calakmul Basin area showing the concentration and density of known large and early sites within the geographical borders of the karstic ridge that surrounds the system (identified by the two lines) (Map by Josephine Thompson, ©FARES 2011).



8.3. Infrared photo by NASA in 1992 showing the geographical borders of the Mirador-Calakmul basin system. The high upland forest is sharply defined by deforestation areas (upper left) and the *bajo* vegetation of north central Peten and southern Campeche (modified after Stuart 1992: 98–99).

Overall, mapping teams using traditional methods, Total Station instruments, and GPS technology have located an extraordinary concentration of major and minor settlements dating to the Middle and Late Preclassic periods and the Late Classic period within the Basin, representing one of the highest settlement densities yet recorded in the Maya area (Mejía 2012). Mapping and explorations accompanied by test pit excavations have increased the chronological and spatial characterization of settlements. The concentration of sites appears to be much greater within the geographical confines of the Basin than in the areas surrounding the Basin. Furthermore, the remains of the Basin's monumental Middle and Late Preclassic cities contain structures that rival the largest in the Western Hemisphere. Yet, in contrast to complex societies throughout the remainder of the ancient world, the precocious political and economic development that occurred in the Mirador Basin coalesced in the region most distant from riverine or coastal areas of any in the Maya lowlands.

The Mirador Basin Project has conducted extensive investigations that provide detailed chronological assessments of sites and associated architecture. The architectural sampling strategies have included large public buildings (i.e., Matheny et al. 1980; Hansen 1984, 1990, 1992a, 1998, 2000; Hansen and Balcarcel 2008; Matheny 1986a, 1986b, 1987; Stutz-Landeen 1986; Howell and Copeland 1989; Velasquez-Fergusson 2011), as well as a stratified sample of Preclassic and Classic residences of varying sizes (Nielsen 1980; Dahlin et al. 1980; Demarest et al. 1984; Balcarcel 1999; Balcarcel and Lopez 2001; Castellanos 2008; Meagher and Schrodt 2009). This work has allowed a more comprehensive perspective on the precocious Preclassic occupation and the accompanying cultural and environmental changes on a regional scale (Hansen 1998; Balcarcel 1999; Balcarcel and Lopez 2001, 2002, 2004; Balcarcel et al. 2004; Mejía 2006, 2008).

ENVIRONMENTAL CONTEXT

The recovery of archaeological and ecological materials in stratified contexts has allowed for the definition of environmental and cultural events in distinct time periods. For example, studies of pollen sequences (50 samples) and associated AMS carbon dates (12) from more than 17 vertical m of highly stratified cylindrical cores from a series of deep-water lakes and aguadas along the western edge of the Basin have defined occupation spans

(settlement onset and abandonment) and cultigens at specific points in time that coincide with the archaeological record (Wahl 2000, 2005; Hansen et al. 2002; Wahl et al. 2005; Wahl et al. 2006; Wahl, Byrne et al. 2007). Since the prevailing winds come from the east, it is likely that pollen of taxa from grasses (*Poaceae*), weeds (*Asteraceae*), forest species (*Melastomataceae-Combretaceae-Urticaceae*), and agricultural products (*Zea*) in these cores are indicators of agricultural and biological occurrences within the Basin to the east. While there are disputes about the capacity of certain pollens to travel with winds, the record is remarkably similar in all three sample locations, suggesting a continuity in the vegetation record. Furthermore, there is direct correlation of the presence of pollen (or lack thereof) to non-carbonate inorganic sediment deposits, indicating increased sedimentation due to deforestation and agricultural activity, as determined by magnetic susceptibility. The stratified pollen samples reflect a consistent record of 8,500 years, and the associated results of sediment chemistry, organic content, and magnetic susceptibility analyses should accurately portray the Basin's cultural and ecological sequences.

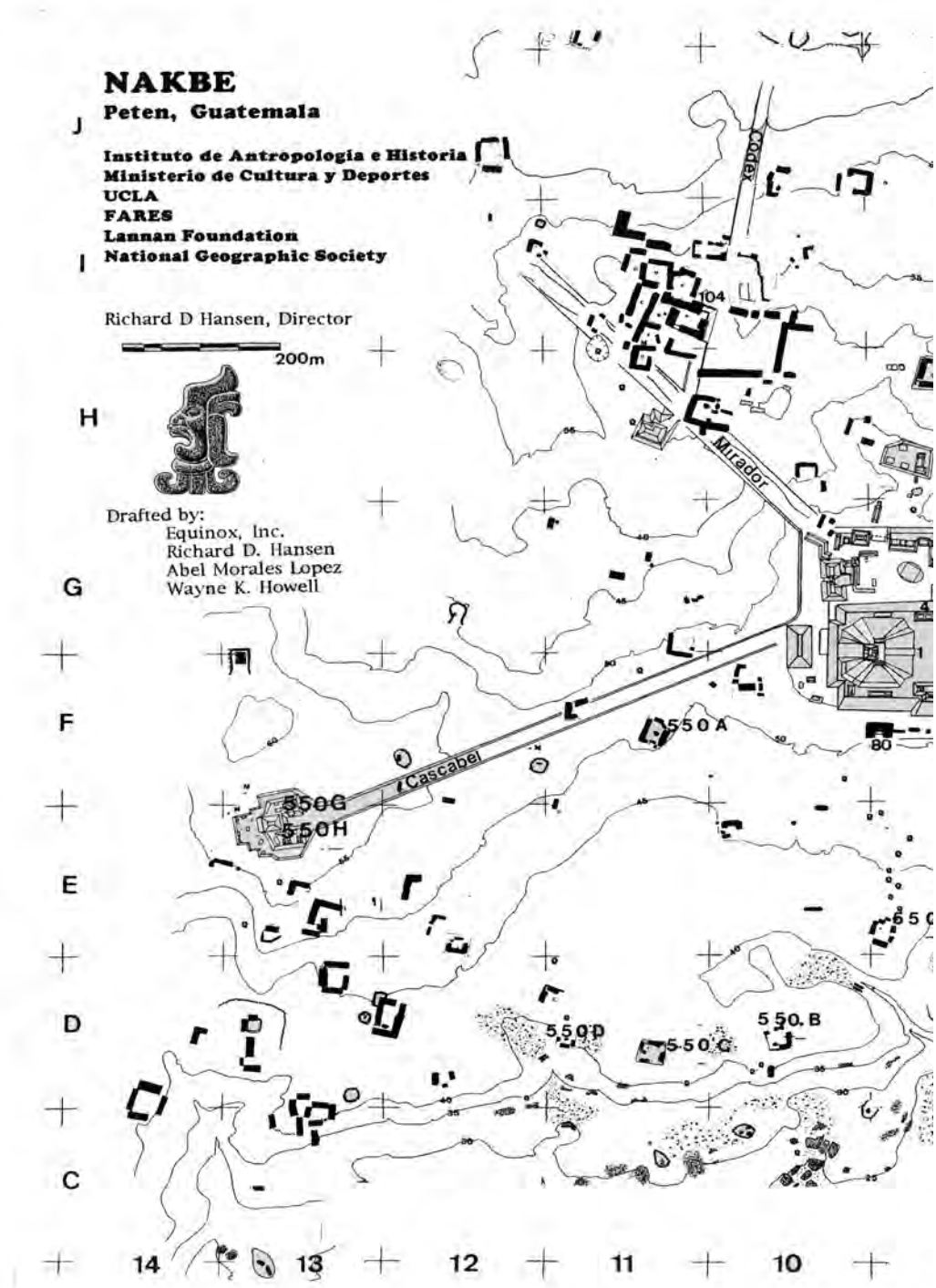
The Mirador Basin pollen data indicate that the area had shifted from grassland savannas to moist tropical forest by at least 8,400 cal years BP (Wahl et al. 2006). The first evidence of maize pollen at the lake of Puerto Arturo dates to a median age of 4,600 BP with a 2-sigma age range of 4440–4750 BP (Wahl et al 2006:385; Wahl, Byrne et al. 2007:817).[1] This maize pollen sample is associated with the appearance of *Ambrosia*, a common agricultural weed of the sunflower family, indicating that there were agricultural disturbances in the area by about 2650 BCE. The cultural remains of this early occupation have not yet been identified, or perhaps not yet recognized, but it is evident that the area was marked by a human presence at this time. The samples also contain a relatively high amount of *Poaceae*, sedges and grasses commonly found in wetland marshes (*civales*). This suggests that the bajos, which were likely lakes during the Pleistocene period, were primarily wetland marshes by the time of Maya occupation. By ca. 3400–3200 cal. years BP (1420–1270 BCE cal.—CAMS #94186), permanent Maya settlement is suggested by a dramatic decrease in forest taxa, an abrupt increase in *Zea mays* pollen, plus *Amaranthaceae* and *Asteraceae-Ambrosia* pollen, common weeds associated with agricultural disturbances (Wahl, Byrne et al. 2007:817). These data have a strong correlation with the chronometric data from archaeological excavations, where a cluster of

dates (n=8) for the earliest occupation at Nakbe range between 1235 and 840 BCE (uncal. C-14 years; calibrated dates push the range to between 1465 BCE and 923 BCE) (Hansen 2005), indicating a sedentary occupation and subsistence by about the same time as incipient occupation was occurring in the Gulf Coast region.

CULTURAL CONTEXT

Thus the beginnings of permanent occupation of the Mirador Basin occurred by ca. 1000 BCE, with a primary concentration of activity at the sites of Nakbe and El Mirador (Hansen 1998, 2001a, 2005; Clark et al. 2000; Clark and Hansen 2001). There is evidence for early Middle Preclassic occupation at the sites of Wakna, Xulnal, and La Florida as well (Fig. 8.2). The initial sedentary occupation at Nakbe corresponds to a period dubbed the "early Ox" phase. Ceramics from this earliest occupation are sparse and consist of red-rimmed unslipped tecomates, incised body sherds, incised rims, and thumbnail-impressed bowls and tecomate forms. Chert blades were also produced at this initial stage. We do not yet have evidence of obsidian importation or other evidence of outside contact in this period, but this may be a sampling problem. It appears that there was a limited occupation at Nakbe (primarily in the East Group, Fig. 8.4) that utilized hard-packed clay floors and postholes carved in bedrock. It is clear that soon thereafter, between 1000 and 800 BCE, Nakbe was a permanent, sedentary village with structures built on low platforms.

Although a hierarchical political and economic structure is difficult to identify at this early juncture without broader horizontal exposure of residences and associated deposits—often buried by later Preclassic architecture—it is clear that nucleated settlement had begun by the early Middle Preclassic period. As noted above, pollen and stable isotope data (Jacob 1994; Hansen et al. 2002) indicate that seasonal swamps around Nakbe and El Mirador were open, grass-covered wetland civales or marshes (Hansen et al. 2002; see also Dunning et al. 2002). Fossil remnants of these systems are still found in the large bajo to the east of Nakbe, the central regions of the Basin, and in the extreme southern area of the Basin near El Pesquero. These marshes would have had a myriad of natural resources, including abundant birds, turtles, reptiles, shellfish, deer, and peccaries. Even more crucial were deposits of wetland mud in the marshes, rich in nutrients and organic



8.4. Map of Nakbe, Mirador Basin-RAINPEG Project (after Hansen et al. 2002:285, © FARES 1998).


601
207
207
83
82
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KAN
31
4
1
13
18
78
206
550 F
205
200
550 E
703
502
512
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53
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75
66
Palma (S)
Palma (I)
9
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6
5
4

matter. Excavations by John Jacob, Tom Schreiner, Kara Nichols, Enrique Hernandez, and David Wahl in bajos throughout the Mirador Basin have identified this rich layer, now buried by extensive sedimentation (Fig. 8.5). In addition, the natural landscape would have provided farmers areas to cultivate without having to clear large and extensive forest cover. A similar pattern is seen at Tikal, where the majority of early Middle Preclassic (Eb) materials were found near the Bajo de Santa Fe (W. Coe 1965a, 1965b) or, as in the case of the Central Lakes area, near lacustrine resources (Rice 1976b). At both Nakbe and El Mirador (and presumably at other sites in the Basin as well), food production was expanded by transporting rich muck to other areas, thus replicating the fertile system found in the marshes. The perennially wet marshes ultimately became the economic engines of the Mirador Basin that launched the hierarchical structure evident in succeeding periods of Maya occupation of the region.

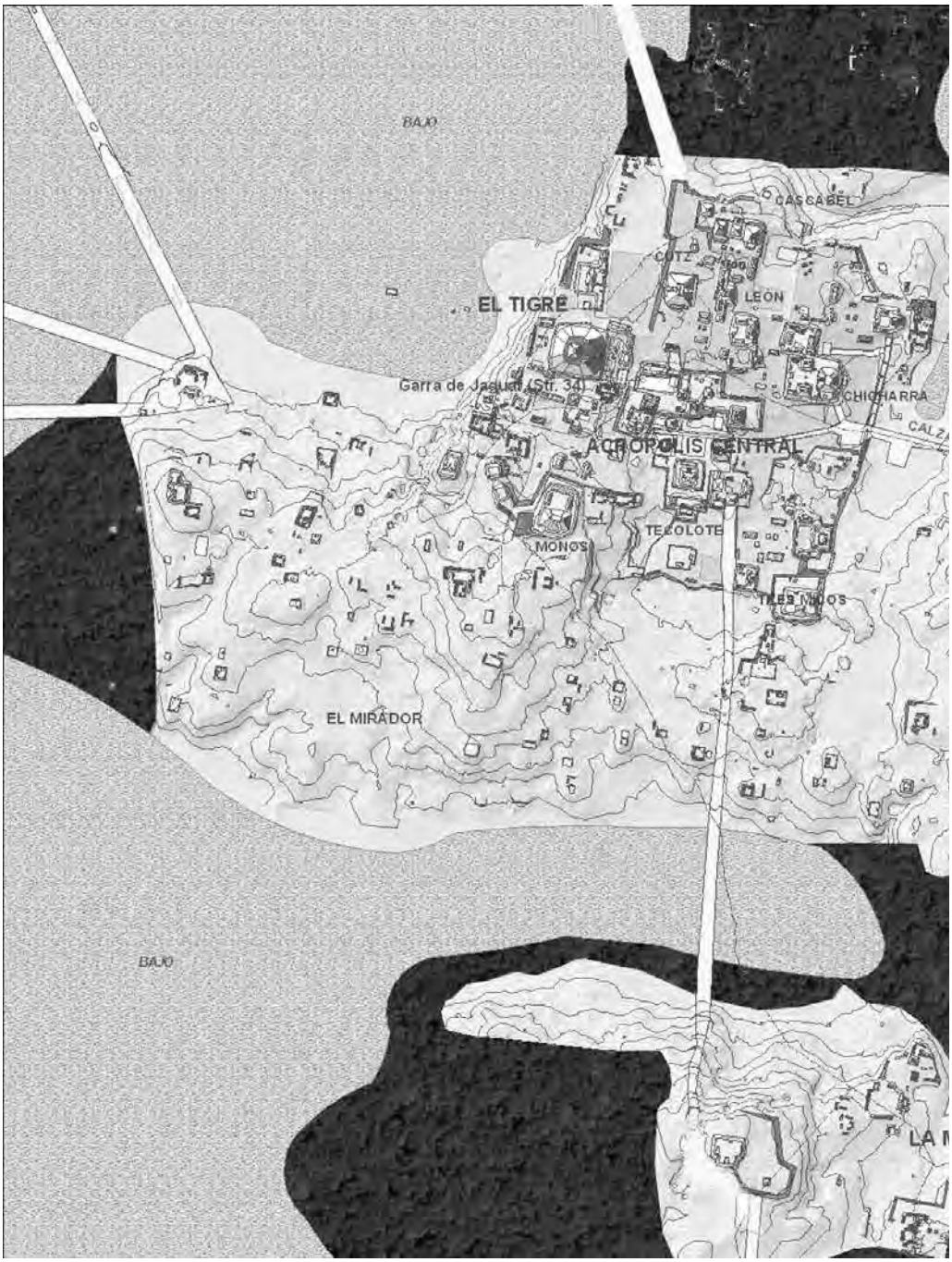
8.5. Dr. Thomas Schreiner investigating what appears to be the buried A-horizon of the original *bajo* surface prior to intense sedimentation (Photo by R.D. Hansen).

THE FOUNDATIONS OF LOWLAND STATES IN THE EARLY MIDDLE PRECLASSIC PERIOD (CA. 1000–600 BCE)

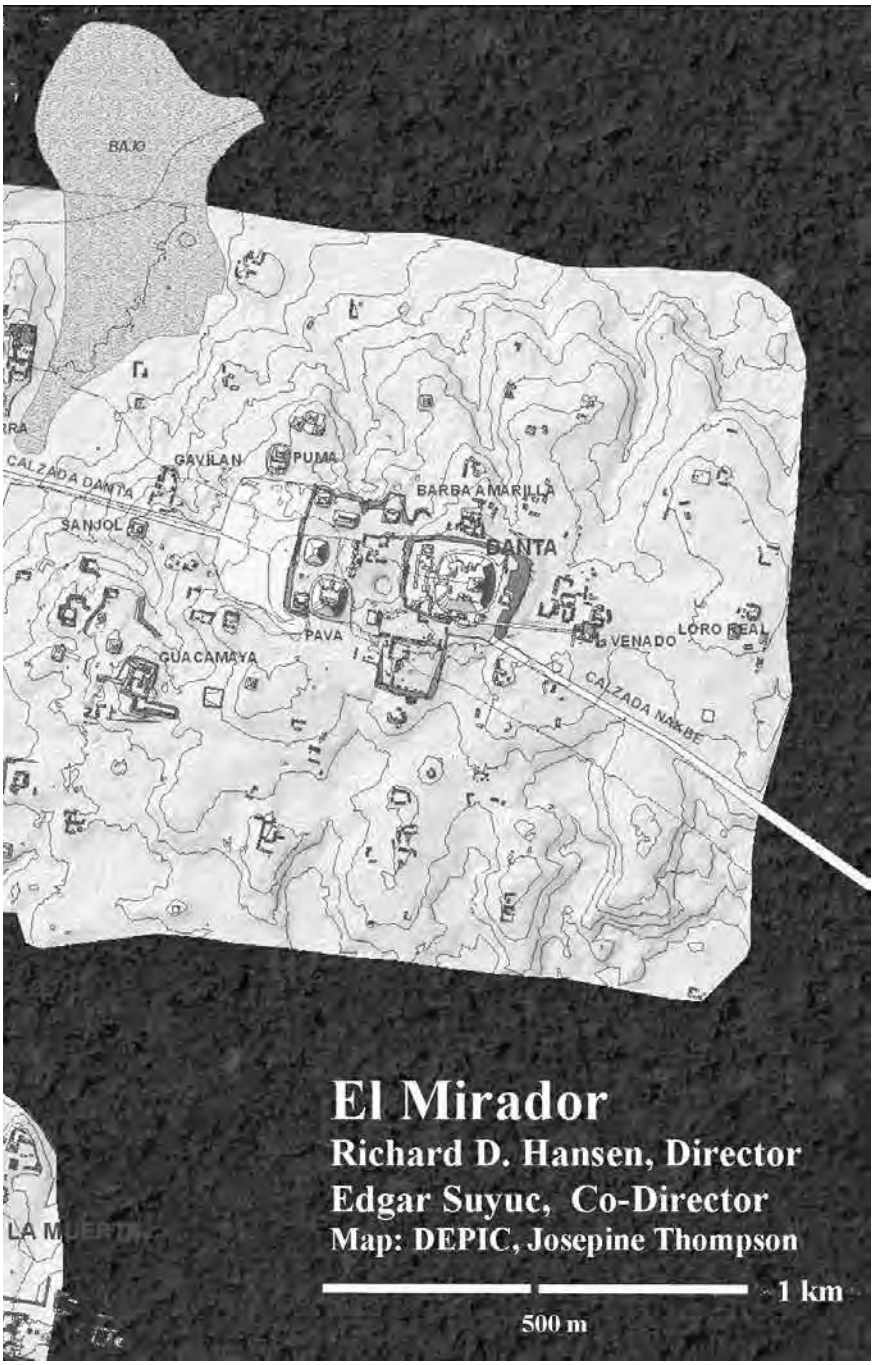
Economic surpluses are fundamental to the growth of complex societies. When surpluses of labor, food, and other resources are associated with a rich ideological system of shared beliefs and ritual behavior, economic capabilities are converted into power. This economic power is reflected in growing populations, social stratification (including elites, religious specialists, artisans, and other manufacturing specialists), mobilization of labor for monumental constructions, development of infrastructure for public benefit (i.e., reservoirs, causeways, terrace systems, canals), feasting and socially cohesive interactions, importation of exotic goods, security, and enforcement of civil and legal controls.

In the Mirador Basin, as throughout Mesoamerica, the underlying economic foundation of Preclassic society was agriculture (Flannery et al. 1967; Siemens and Puleston 1972). As defined above, perennially wet marshes attracted early maize farmers by about 2650 BCE, most likely by exploiting their rich muck soils. By ca. 800 to 600 BCE (the middle Ox phase at Nakbe), structures with vertical stone walls, wattle-and-daub residences, and monumental platforms were being constructed throughout the site. Additionally, elsewhere in the Basin, Middle Preclassic occupations with similar characteristics have been located at Wakna, La Florida, Xulnal, and most recently in the northern sector of El Mirador. Early Middle Preclassic masonry consists of small, roughly shaped stones hewn from limestone quarries and transported to construction areas. Masonry walls were then covered with a rather primitive lime and clay plaster or a chalky, powdered lime plaster, while floors consisted primarily of packed clay, sascab, or thin lime plaster.

One characteristic clearly differentiates early lowland Maya settlements from their neighbors on the Gulf coast. While major lowland Maya sites were organized on an east-west axis, contemporary Olmec centers such as La Venta were laid out along a north-south axis. An east-west causeway was constructed between the two dominant architectural groups of early lowland Maya sites, as if to emphasize their alignment and orientation (Figs. 8.4 and 8.6). Furthermore, ritual structures were laid out to meet specific alignment requirements, indicating that their construction and placement was a planned process, probably associated with important astronomical/solar features (see Sprajc 2005d, 2008; Sprajc et al. 2009).



8.6. Map of the central civic center of El Mirador (Map by Josephine Thompson, © FARES 2010).


BAJO
GAVILAN
PUMA
CALZADA DANTA
BARBA AMARILLA
SANJOL
DANTA
PAVA
VENADO
LORO REAL
GUACAMAYA
CALZADA NAAKBE
El Mirador
Richard D. Hansen, Director
Edgar Suyuc, Co-Director
Map: DEPIC, Josepine Thompson
1 km
500 m

The scale of construction activities within the Mirador Basin indicates that large labor forces were being marshaled for public construction projects during the Middle Preclassic period. Constructions from this period were located in both the East Group and West Group at Nakbe, and within the Cascabel, Leon, Sacalero, Monos, and Central Acropolis Groups at El Mirador (Fig. 8.6). At both sites, evidence for nucleated settlement exceeded an area of 50 to 100 $h.^2$

Pottery from this period (800–600 BCE) at Nakbe and El Mirador is clearly within the Middle Preclassic pre-Mamom and Mamom tradition. Diagnostics include figurines, incised bowls, cylinder seals, pre-slip and post-slip incised tecomates, painted stucco-on-slipped monochromes, chamfered bowls with bichrome and dichrome slips, incised and chamfered resist types, along with Palma Daub types with streaky, linear, or blotchy bands of light red, black, and/or orange wash (Fig. 8.7). The dominance of these ceramics and their known distribution within the Basin (and beyond, in some cases) helps identify specific contacts and influences during certain periods. Ceramic studies supervised by Donald Forsyth (Brigham Young University) indicate that early Middle Preclassic ceramics from Nakbe and El Mirador (Early and Middle Ox and Monos Complexes) are typologically more similar to pottery from Uaxactun than from Tikal. They are also more similar to the Xe-Escoba-San Felix Mamom phases in the Pasión and Usumacinta region than with Belize or Yucatan (Forsyth 1989, 1992, 1993a, 1993b:40–41). This suggests that residents had stronger links with sites to the south and southwest of the Basin than to the north, east, or southeast.

Ceramic figurines are found in all levels associated with the Middle Preclassic periods from Nakbe and El Mirador (Fig. 8.8). Figurine forms include solid and hollow masculine bodies, feminine torsos, punctate eyes and nipples, as well as zoomorphic creatures. Ron Bishop (Smithsonian Institution) analyzed the chemical composition of figurines from Middle Preclassic Uaxactun and Nakbe, and identified three Nakbe figurines in the Uaxactun collections; however, no Uaxactun materials have yet been identified in Nakbe samples (Bishop n.d.; Hansen 2001a). Bishop's discovery indicates that Middle Preclassic figurine production was primarily by local artisans for local consumption, rather than being exported from a single source. The overwhelming typological similarities and prevalence of figurines throughout the Middle Preclassic Maya area is a clear indicator of pan-

8.7. Middle Preclassic ceramics from Structure 200 in the Cascabel Group at El Mirador (Photo by R.D. Hansen).

Mesoamerican interaction that allowed the spread of ideas and ideologies that were incorporated at local levels.

Within the Mirador Basin, there is evidence for leadership and status distinctions during the Middle Preclassic period (800–400 BCE). The existence of leadership positions is suggested by the control of labor and expenditures for the "public good," as suggested by the construction of monumental platforms, pyramidal structures, reservoirs, canals, raised fields, and causeways, as well as the construction of specialized ritual structures of consistent form and standardized format, such as E-Group complexes. The existence of status distinctions comes from evidence of variations in residence size and architectural sophistication, and the introduction of symbol systems that distinguished groups and differentiated elites from the masses.

8.8. The range of Middle Preclassic figurine fragments from primary deposits at Nakbe (Photo by R.D. Hansen).

Differential status also can be seen in the importation and distribution of exotic goods from the Maya highlands (obsidian, jade, basalt, granite) and coasts (shells, coral, parrot fish), stone monuments, and other indicators of rank and status such as jade- or hematite-inlaid human incisors (Mata Amado and Hansen 1992) and cranial deformation.

By the early Middle Preclassic period, shells were being imported into the Mirador Basin and made into ornaments, including anthropomorphic and zoomorphic forms, as well as circular disks and earspools. Other imports included sea urchins and freshwater clams (Feldman 2001). *Strombus* shells imported from the Caribbean are especially prevalent at Nakbe and other Middle Preclassic lowland sites during this time (Fig. 8.9). The majority of these shells were drilled with a single perforation, leaving the spines and natural protuberances intact. The shells are exclusive to the ca. 1000–600 BCE era, and have not been found in any deposits of subsequent periods throughout the Mirador Basin. Similar shells have been recovered from early Middle Preclassic contexts at Tikal (Laporte and Valdes 1993), Uaxactun (Ricketson and Ricketson 1937), and in Belize at Colha (Dreiss 1994), Blackman Eddy (Garber et al. 2002), Pacbitun (Hohmann and Powis 1996), and Cahal Pech (Awe 1992; Lee and Awe 1995; Cheetham 1999, 2005). At Cahal Pech and Pacbitun, shells in various stages of manufacture were

8.9. Drilled and perforated *Strombus* shells from early Middle Preclassic deposits at Nakbe. These shells have never been recovered from any contexts of the subsequent periods of time in the Mirador Basin, and may have been a form of early currency (Photo by J. Woods).

found in association with awls, drills, and cutting implements, suggesting a workshop industry prior to export to sites of the interior lowlands (Awe 1992; Lee and Awe 1995; Hohman and Powis 1996). Despite their prevalence, they have yet to be identified in Middle Preclassic burial contexts or as jewelry. Retention of the spines suggests that they were not used as body ornaments. The unique presence of *Strombus* shells in early Middle Preclassic ritual and elite deposits indicates an important status or economic indicator or, perhaps, a currency like the Kula rings of the south Pacific where possession and heirloom status of shells was often as important as ornamentation (Malinowski 1961:88–89).

While sharing some imported exotic status markers like jade with other areas of Mesoamerica, there are several items that are unique to specific regions during the Middle Preclassic. For example, *Strombus* shell has not been found in the Gulf coast lowlands at La Venta or San Lorenzo. By the same token, hematite mirrors and ilmenite beads, so common at Olmec centers, are not evident in the Mirador Basin or elsewhere in the Middle Preclassic Maya lowlands. Such disparities suggest that the lowland Maya had developed an autochthonous value and symbol system independent from their Mesoamerican neighbors.

There are other examples that suggest the primacy of localized developmental trajectories in the Maya lowlands, such as obsidian trade and specialized lithic production systems. During the Middle Preclassic, obsidian was imported into the Mirador Basin primarily from San Martin Jilotepeque in the Maya highlands (Kunselman 2000). In contrast, the Olmec centers of San Lorenzo and La Venta relied on a different trade network for their supply, importing obsidian from Orizaba (Guadalupe Victoria), El Chayal, and the Basin of Mexico (Coe and Diehl 1980:391; Cyphers 1996:66). The lowland Maya shifted to depending heavily on the El Chayal obsidian source from San Martin Jilotepeque at about 300 BCE (Nelson 1985:645; Nelson and Howard 1986; Fowler et al. 1989), after the Olmec political and economic system disintegrated.

The archaeological evidence suggests that in the early phases of settlement, obsidian tool production was orchestrated within the Basin rather than imported as finished products.[3] This was a likely strategy by local elites to support local craft specialists and to control skill crafting, production, and distribution of exotic commodities, behavior common to incipient hierarchies throughout the world (Helms 1993:34; see also Fraser and Cole

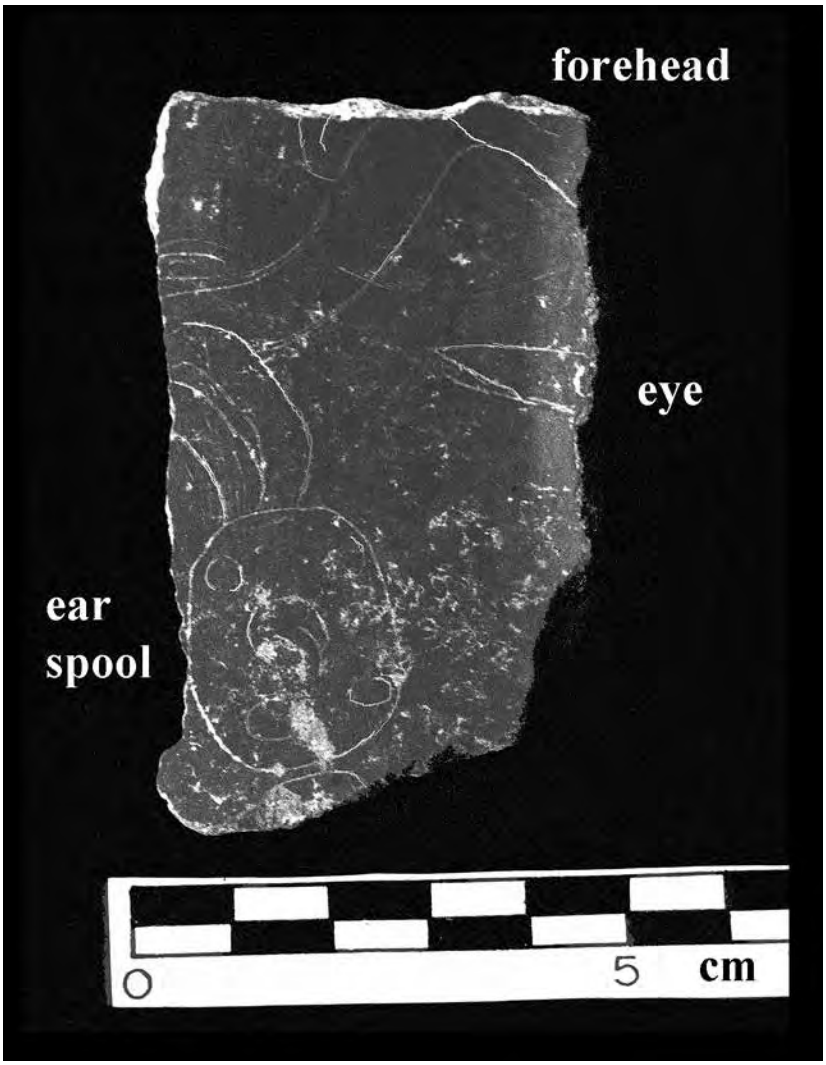
1972). The importation of exotic commodities via trade networks served to demonstrate variations in economic status, establish political legitimacy, allow authoritative benevolence, create demand for skilled crafting, and display long-distance managerial skills (see Helms 1993).

Specialist production of local chert tools was also evident at the small site of La Florida, located in the Mirador Basin south of Tintal. This site had dense deposits of chert debitage, dating to the Middle Preclassic, Late Preclassic, and Late Classic periods, due to a rich source of eroded chert nodules from an adjacent arroyo (Hansen and Suyuc-Ley 2002). Evidence of Middle Preclassic occupation at La Florida was found in residence constructions, chultuns, small platforms, and a standing weathered stela, suggesting that the site was of some importance at this early time.

The appearance of long-distance trade items used for ritual or economic purposes does not always imply a more complex cultural trajectory, since such trade may precede social stratification (Helms 1993:213). But exotic commodities highlight an important contrast between the ordinary masses and those responsible for the political and economic organization of merchant relations, varied ethnic groups, and skilled artisan development and distribution systems (Helms 1993:14; Clark and Blake 1994). Such administrative responsibility demonstrated authority and the implementation and maintenance of prestige that justified and stoked the formation of rank and status differences (Helms 1993:68).

Middle Preclassic long-distance trade and socio-economic contact is consistent with interaction sphere (Freidel 1981) and peer-polity interaction models (Renfrew and Cherry 1986; Renfrew 1986). By this time, if not earlier, there are clear indicators of status and personal wealth in the Maya lowlands. Physical characteristics and personal status indicators such as woven mat symbols, skull deformation (forehead flattening; Fig. 8.10), and dental inlays (hematite disks; Fig. 8.11) appear during this time (Mata Amado and Hansen 1992). Figurines depicting the three-pronged "Jester God" were recovered from early Middle Preclassic deposits at Nakbe (Hansen 2001a:55), suggesting that the iconography of rulership and Maize God symbolism, evident in contemporaneous Olmec societies, was also present in lowland Maya society.

Ritual paraphernalia was an important legitimization strategy. Large slab altars were placed on centerlines of important structures, as with Altar 4 and Stela 1 at Nakbe (Fig. 8.12). A small blue-green jade bead had



8.10. An incised Middle Preclassic Juventud Red sherd from Structure 59 at Nakbe, showing the eye, portions of the ear spool, and the deformed forehead of a person, indicating early status differentiation by cranial deformation (Photo by R.D. Hansen).

been placed on Altar 4, a pan-Mesoamerican practice of associating monuments with offerings, as noted at other Middle Preclassic Maya sites such as Cuello, Belize (Hammond 1977a, 1985a). The woven mat or *pop* motif,

8.11. A Middle Preclassic human incisor from Op. 51 C at Nakbe (ca. 800 BCE) with an inlaid hematite disk in the tooth (Photo by R.D. Hansen).

associated with royalty and deity figures in later times, is found incised on Middle Preclassic ceramics (Fig. 8.13). The presence of monuments, exotic imported offerings, and the woven mat motif all indicate that the symbols of the institution of kingship and hierarchical administrative control coalesced in the Mirador Basin during the earlier phases of the Middle Preclassic period (Hansen 2012a).

8.13. *above* Woven mat motifs (*pop* elements), symbols of Maya regal authority, found incised on Middle Preclassic ceramics from Nakbe (Photo by R.D. Hansen).

8.12. *facing page* Area of Op. 51 at Nakbe at the western base of Structure 51, showing the Middle Preclassic Altar 4 in the center line axis of the plaza, which had been sealed under a Middle Preclassic floor adjacent to an earlier phase of the elongated platform on the east side of the plaza. A Late Classic burial platform was erected on the left side, and a large standing stela, Stela 1, had been extracted from its earlier position in the platform (Photo by C.D. Bieber).

FORMATION OF LOWLAND STATES IN THE LATE MIDDLE PRECLASSIC PERIOD (CA. 600–400 BCE)

By the late Ox and Monos phases at Nakbe and El Mirador (ca. 600–400 BCE), monumental pyramidal structures up to 24 m high and faced with masonry were constructed at Nakbe, Xulnal, El Pesquero (see below), and El Mirador on massive platforms measuring 3 to 8 m high. Excavations suggest that similar large constructions appeared at Wakna, Tintal, and to a lesser height in La Florida. At El Mirador, several areas were known to have monumental architecture by the Middle Preclassic period, including the Cascabel area, Leon Group, the Sacalero Group, the Sacalero Causeway, the Central Acropolis, and the Monos pyramid area.[4] The first of three major phases of a ball court was built at Nakbe during this period, indicating institutionalized involvement in a pan-Mesoamerican cultural tradition (Velásquez 1999; Hansen 1998, 2001a).

Agricultural Intensification

By late Middle Preclassic times, if not earlier, vast quantities of bajo soils were transported throughout the sites of Nakbe and El Mirador (and possibly Xulnal and El Pesquero) and deposited in terrace constructions, containment dams, and specialized fields (Martínez et al. 1999; Bozarth 2000; Hansen et al. 2000; Bozarth and Hansen 2001; Hansen et al. 2002; Hansen 2012b:257, fig. 11.14). Terrace constructions bordered by stone walls and filled with imported muck formed gardens next to elite residence compounds. One of these, Nakbe Group 18, is likely a Middle Preclassic royal palace compound (Martínez and Hansen 1993; Clark and Hansen 2001) (see Fig. 8.4). The large platform of Group 18 had a 20 m x 120 m terrace on its southern flank that supported the cultivation of maize, squash, gourds, and palms (Bozarth 2000; Bozarth and Hansen 2001; Hansen et al. 2002). Additional imported mud fields have been identified throughout the site centers of Nakbe and El Mirador (Hansen et al. 2002:289). Excavations of unusual linear formations in the Bajo Carrizal, located to the southwest and west of El Mirador, by the Mirador Basin Project suggest that these features were most likely Preclassic raised agricultural fields on a massive scale (Schreiner et al. 2008). Pending additional investigations in these bajos, it is likely that a chinampa-style system was in effect in the Middle and Late Preclassic periods, suggested by the extended parallel rows of differential vegetation in the bajos (Fig. 8.14).

8.14. Aerial view of the series of elongated, parallel, elevated features in the Bajo Carrizal, found to the southwest of El Mirador. The features appear to have been an ancient chinampa-like system (Photo by E. Hernandez).

The discovery of fields of imported soil, check dams, and artificial terrace constructions suggests that lowland Maya society in the Mirador Basin was supported by intensive agriculture by at least the late Middle Preclassic period if not earlier. The production capabilities of these agricultural features fueled an unprecedented population increase for the Maya lowlands, and furnished the economic surpluses to propel the "aggrandizing" elite into more powerful positions within an even more complex sociopolitical organization that took shape during the succeeding Late Preclassic period.

Residential and Public Architecture

Excavations in residential areas and civic centers provide a glimpse of the socioeconomic gradations within Nakbe, El Mirador, and El Pesquero societies during the late Middle Preclassic period. Excavations by Beatriz Balcarcel at Nakbe revealed a late Middle Preclassic elite residence platform near a series of imported-mud agricultural terraces (Operation 502). The platform measured 20 x 17 m and was faced by large cut-stone blocks placed end to end in a pattern consistent with this period (see below) (Fig. 8.15). The west face had a single broad stairway that led towards the terraces and fields. The platform had a stucco floor and supported the remains of masonry residential structures on its east side. Postholes indicate several additional perishable residences on the same platform (Balcarcel 1999). The elite character of this Middle Preclassic platform, with its large stone blocks, thick lime plaster floor, and broad stairway, differs markedly from the remains of simple huts or even the single-coursed stone platforms found in other residential areas in the vicinity, and demonstrates the economic and social variations reflected by contemporaneous structures within Nakbe.

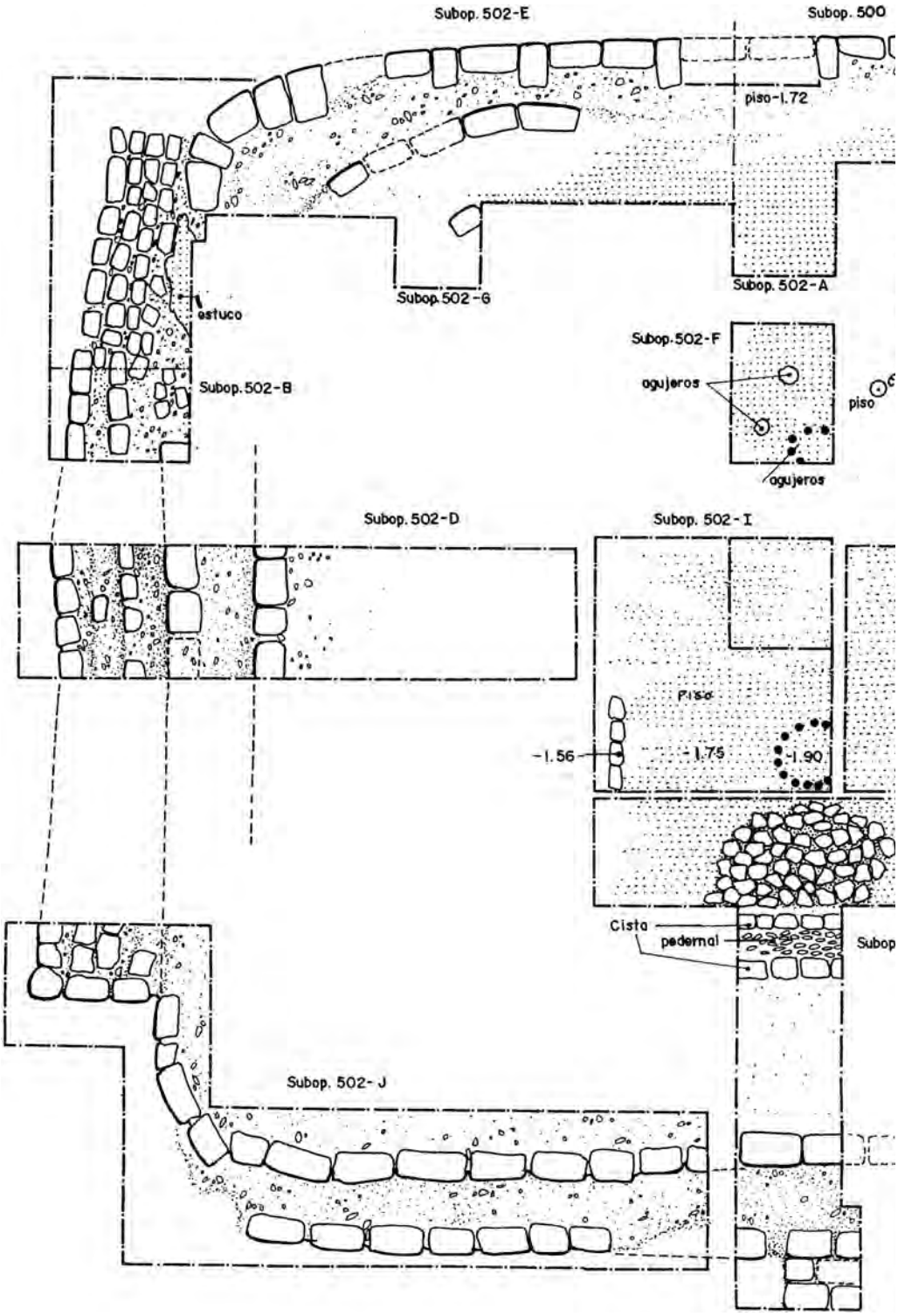
Group 18, the largest of the elite residential complexes at Nakbe, revealed a likely royal palace dating to the late Middle Preclassic period (Martínez and Hansen 1993; Clark and Hansen 2001:16–18). Group 18 was located on the primary platform of the West Group, immediately east of the platform that supports Structure 1, the largest structure at the site (Fig. 8.4). An inset stairway is located on the northern face of the Group 18 platform, oriented towards the more public gathering area near the Kan Causeway. The platform measures 80 m^2 with a height of up to 4 m. Several structures line its perimeter, providing an additional 2 to 3 m in height.

Water collection was of prime importance at Nakbe, El Mirador, Wakna, Tintal, and other large Mirador Basin sites. Entire plazas were designed to

channel and direct water flows into managed reservoirs. This can be observed with Structure 32 of the Nakbe East Group, which was designed to collect and channel water into a specially constructed, rectangular reservoir located adjacent to the ball court to the east of the building. The entire plaza complex to the west of the Leon Group at El Mirador functioned to channel water toward the large reservoirs to the west at the base of the 30 m escarpment.

So-called E-Groups are among the most significant architectural complexes found in the Preclassic Maya lowlands (Hansen 1992a, 1992b, 1992c, 1998:63ff; Chase and Chase 1995; Aveni et al. 2003). This architectural form may represent the mythological *wak chan* of Maya cosmology, the residence of First Father and the site of the planting of the three primordial stones of creation (Hansen 1992a, 1998:68ff; 2000). The architectural form consists of an elongated north-south platform on the east side of a plaza, with a dominant pyramidal structure on the west that frequently, but not always, possessed quadripartite stairways. The final form of Middle Preclassic E-Group constructions at Xulnal and Nakbe correlates with contemporaneous buildings at Tikal (Str. 5C-54 "Lost World") and Uaxactun (Group D; Acevedo, pers. comm. 1996; Laporte and Valdés 1993; Laporte and Fialko 1993a, 1995), as well as those in more distant highland Chiapas, such as Chiapa de Corzo, Mirador-Chiapas, and La Libertad (Mason 1960a; Agrinier 1970; Clark 1988:8). The data from the lowlands suggest a long and consistent evolutionary development, with the best-documented sequence observed in Tikal's Lost World Pyramid (5C-54) by Juan Pedro Laporte and Vilma Fialko (Laporte and Fialko 1993a, 1995:47–51).

The earliest E-Group in the Tikal sequence (Structure 5C-54-1) dates to the Eb ceramic phase, or ca. 800 BCE (Laporte and Fialko 1993a:16–20; Cheetham et al. 2003). Two carbon dates from the Nakbe E Group (Structure 51 Sub 1) indicate it is probably slightly later than this Tikal example, but likely as early as 780 BCE (Hansen 2005:58). A similarly early structure was identified in the E-Group at the site of Cival by Estrada-Belli (2003, 2006; see Estrada-Belli, this volume). The Tikal, Cival, and Nakbe examples are earlier than the E Group at La Venta (Structures D-1 and D-8), which dates to about 500–400 BCE (Rebecca González Lauck, pers. comm. 1998; González Lauck 1996:75). Thus, it seems likely that the E-Group complex is a lowland Maya innovation that was subsequently adopted on the Gulf coast, Pacific coast, and in the Maya highlands.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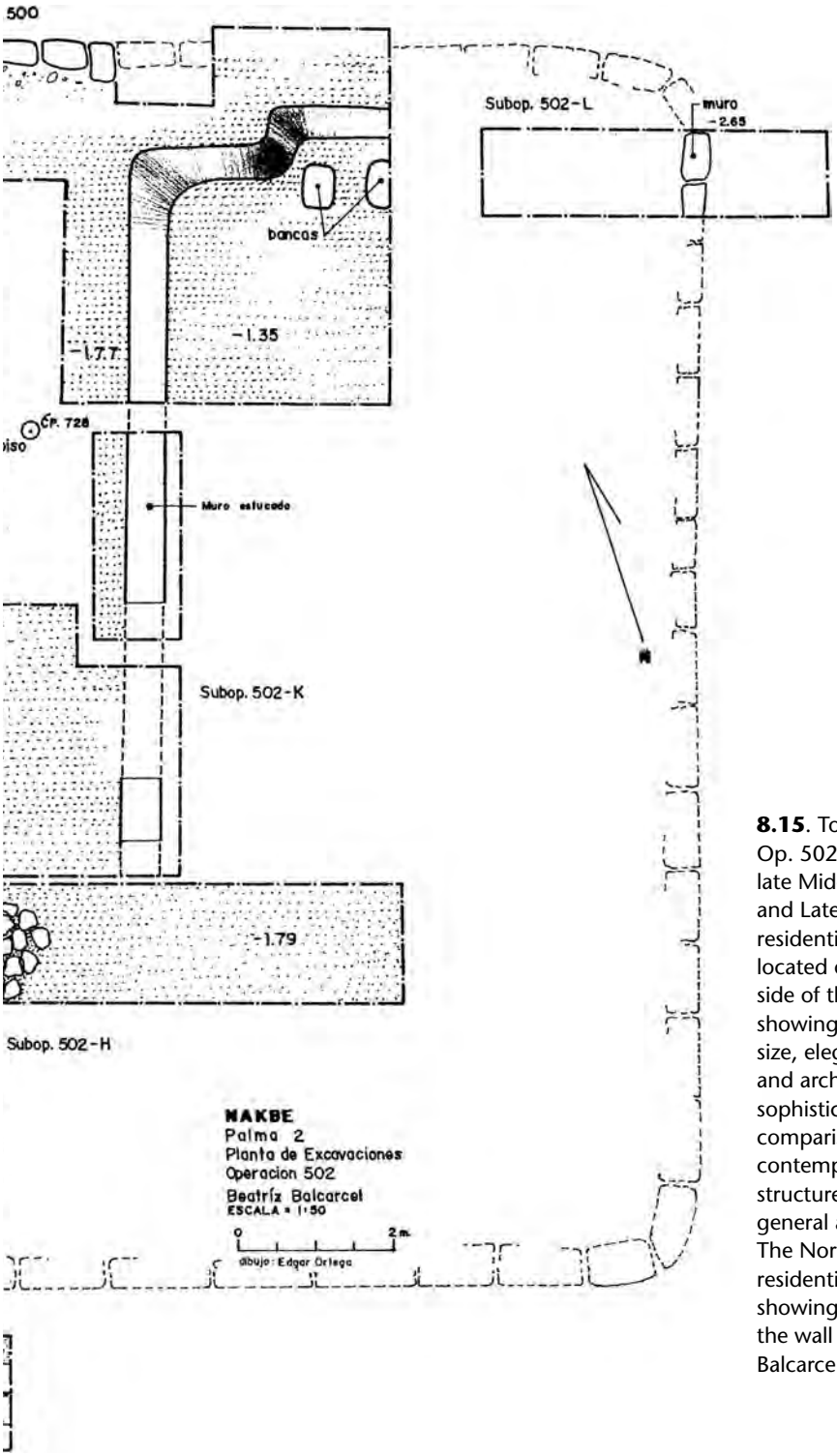


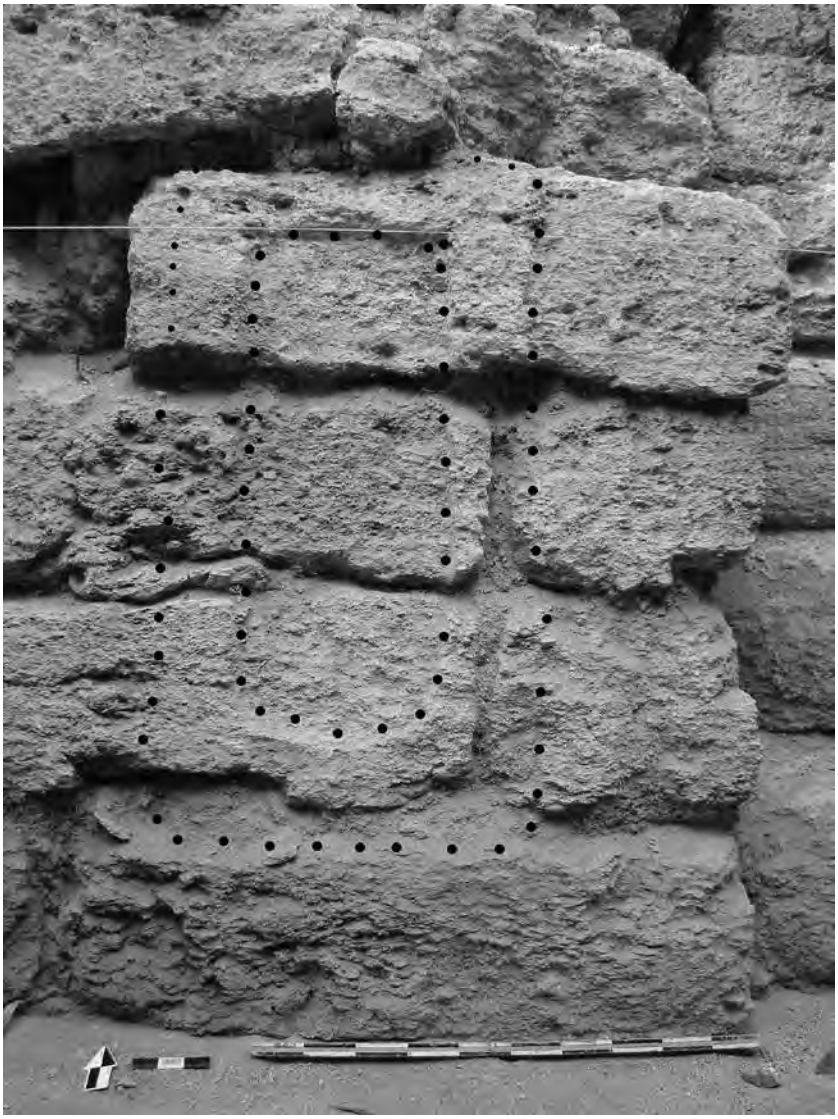
8.15. Top) Nakbe Op. 502 revealed a late Middle Preclassic and Late Preclassic residential platform located on the southern side of the city center, showing considerable size, elegance, and architectural sophistication in comparison to contemporaneous structures in the same general area. Bottom) The North wall of the residential platform, showing large blocks in the wall (Drawing by B. Balcarcel).

Some of the most radical changes during the late Middle Preclassic period occurred in masonry construction patterns (see Hansen 1998). The small, roughly hewn flat stones used to construct vertical walled platforms in earlier periods measured roughly 25 x 28 x 8 cm (Fig. 8.16). By the late Middle Preclassic these had been replaced by massive, finely hewn stone blocks measuring nearly 1 m long by 50 cm high and 50 cm wide (Fig. 8.17). These larger stones were placed in the walls of public structures with the long axis exposed, maximizing the use of stone and indicating a clear specialization in the labor force required to quarry and transport the material (Woods and Titmus 1994a, 1996; Hansen et al. 1997; Hansen 1998). Experimental data obtained by James Woods and Gene Titmus in quarry excavations at Nakbe indicated there were several levels of craft specializations involved in making the stone tools used to cut and shape megalithic blocks. There were additional quarrying strategies to cut the blocks, as well as varied labor specializations involved in shaping the blocks themselves, each requiring approximately 34 man-hours to produce (Woods and Titmus 1996:484–85). The presence of monumental architecture built from megalithic blocks (600–1000 pounds per block) provides good evidence for a centralized political authority that commissioned and executed the projects (see Helms 1993:78–81). These monumental projects gave rise to architectural innovations, including the apron molding (a sloping projection over sharp inset at the base of a façade), a design that lasted for over a thousand years as a hallmark of Maya buildings.

The use of lime stucco is another defining characteristic of lowland Maya architecture, in addition to monumental masonry. Lime stucco was used in vast quantities. It was applied to the interiors and exteriors of walls of public and private structures, residences, platforms, temples, causeways, and to plaza surfaces. Great amounts of labor were required to quarry and transport the limestone, firewood, and water to make lime plaster, indicating the need for centralized political and economic control over the production, distribution, and utilization of labor and costly resources (Schreiner 2001, 2002, 2003; E. Hansen 2000; E. Hansen et al. 1995).

All of these construction strategies were utilized in monumental Middle Preclassic architecture at El Mirador, Nakbe, Xulnal, and particularly at El Pesquero. A fortuitous discovery at El Pesquero in 2009 of an intact Middle Preclassic structure buried within a later, Late Preclassic structure has revealed the extraordinary complexity of such early architecture, with roof

8.16. Early Middle Preclassic platform (800–700 BCE) at Nakbe, showing the vertical walls, thin plaster, and small, crudely hewn stones (Photo by R.D. Hansen).



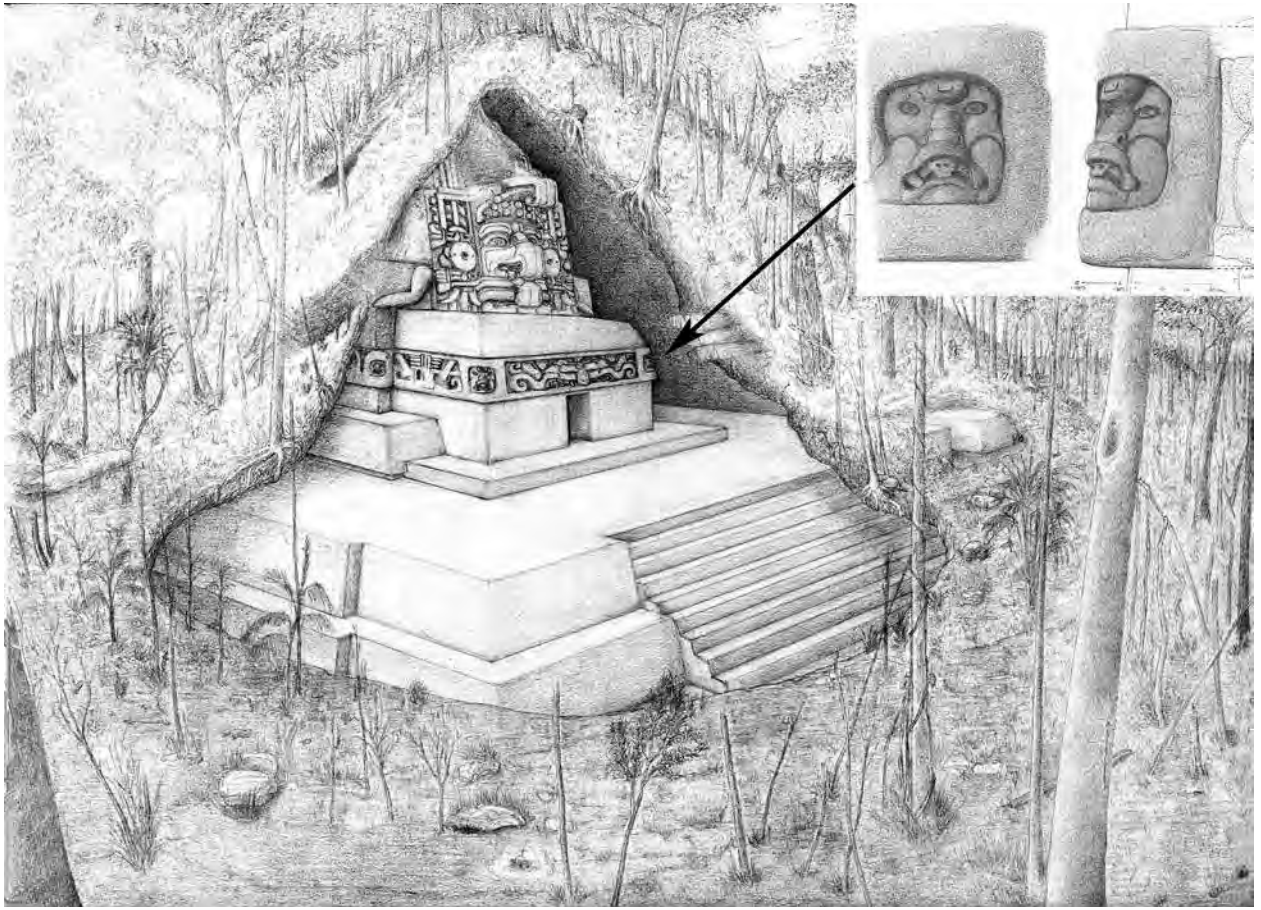
8.17. Massive elongated blocks (measuring 1.4 x .5 x .45 m) in Structure 200 of the Cascabel Group at El Mirador, which appeared at the latter part of the Middle Preclassic period (600–400 BCE). This architectural material signaled the advent of quarry specialists in the Mirador Basin. Note the rectangular earspool indicating architectural art, defined by dots (Photo by R.D. Hansen).

combs, corner masks, and a unique form of vaulted chamber (Mejía et al. 2010) (Figs. 8.18 and 8.19). Recent explorations and excavations at the site of Yaxnocah, located to the north of El Mirador and south of Calakamul in Campeche, have also identified monumental Middle Preclassic architecture (Kathryn Reese-Taylor, pers. comm. 2011).

Another architectural innovation confirmed to date to at least the late Middle Preclassic period is the creation of architectural art, consisting of monumental masks and associated panels, as evident in El Mirador Structure 200 and Structure 34 Sub 1 (Fig. 8.20). One of the most frequent iconographic elements is the presence of the J-scroll-and-bracket motif, a feature also noted on a late Middle Preclassic structure at Rio Azul (Valdez 1995).

Early Causeways

The late Middle Preclassic period was marked by the construction of the Basin's first causeways, known as *sacbeob* or "white roads." Three sacbeob have been identified at Nakbe—the Kan, Palma, and Mirador causeways—and evidence for similar antiquity has been found for the Sacalero, Tintal, and Nakbe casueways at El Mirador. The Kan, Palma, and Sacalero causeways connect early architectural groups within Nakbe and El Mirador, while the Mirador, Nakbe, and Tintal causeways link the sites of Nakbe, El Mirador, and Tintal. The earliest levels of these causeways date to the late Middle Preclassic period (600–400 BCE) (Suasnávar 1994; Suasnávar and Hansen 1997; Hernandez and Schreiner 2006), indicating that organized labor had been marshaled into intra-site and extensive inter-site communication systems within the Basin (see Fig. 8.2). These causeways were elevated, modified, and repaved during the Late Preclassic and additional causeways constructed (e.g., the Danta Causeway) with thick plastered floors, measuring 23 to 50 cm thick (Suasnávar 1994; Suasnávar and Hansen 1997; Suasnávar 1994; Schreiner and Hernandez 2008, 2009; Hernandez et al. 2007; Hernandez 2008). The massive size of these major causeways, some of which extended to more than 24 km in length, and range from 24 to 40 m wide (the Sacalero causeway near the Cascabel Group at El Mirador is 50 m wide) and 2 to 6 m high, incorporated massive amounts of labor and materials in their construction and their periodic maintenance. Excavations by the Mirador Basin Project, under the supervision of Tom Schreiner and Enrique Hernandez, in the Tintal-Mirador causeway have demonstrated the use of 2.88 million m^3 of construction fill in the Tintal causeway alone, with a total of up to



8.18. Isometric drawing of a Middle Preclassic structure buried beneath a Late Preclassic building at El Pesquero, discovered by the Mirador Basin Project in 2008 (Drawing by Hiro Iwamoto, ©FARES 2009).

8.19. Ceramics recovered from the floor and fill of Structure 1-Sub at El Pesquero, Mirador Basin (Photo by R.D. Hansen).

10,000 m^3 of costly lime mixes per kilometer to form the plastered surfaces (Hernandez et al. 2008). The organizational skills required for the labor and construction of such massive features, plus the quantities of fill and processed lime resources required both centralized control and the political, economic, and social cohesion between nearly every major Preclassic center of the Basin. The causeways increased the productive potential of both managerial elites and agricultural labor by allowing quicker and easier transport of products and commodities (Chase and Chase 2001). They also served as water management systems, religious procession ways, and perhaps even

8.20. Late Middle Preclassic mask on the façade of El Mirador Structure 34 Sub 1 (Drawing by G. Valenzuela, ©FARES 2009).

as boundary markers (Suasnávar and Hansen 1994; Shaw 2001; Hernandez and Schreiner 2006). These massive constructions consolidated a large work force laboring for the "common good of society," allowed increased social and economic interactions between neighboring polities, and contributed to the overall organic solidarity of the population, all factors crucial to avoiding fissioning or rebellion against an emerging power structure (Bandy 2004).[5]

The architectural development and public works projects established during the late Middle Preclassic period suggest an increasingly centralized hierarchical power structure was emerging or had emerged in the major centers of the Mirador Basin. As Sharer and Traxler propose (Chapter 1, this volume), the evidence for the existence of the institution of sacred kingship by the Late Preclassic era at San Bartolo and elsewhere in the Maya lowlands (Chapters 11 and 12, this volume) makes it reasonable to propose that early versions of Maya kings were ruling at the larger Middle Preclassic centers in the lowlands, such as Nakbe, Xulnal, Tintal, El Pesquero and El Mirador in the Mirador Basin. Part of this developmental process involved legitimization through the erection and portrayal of human figures on massive stelae, large subsistence and economic projects (raised field and terrace agriculture systems, causeways, reservoirs, dams, canals, and quarries), and

the construction of impressive structures and platforms of ideological and social importance.

The presence of the Middle Preclassic causeways is perhaps the strongest evidence for the beginnings of a state-level society in the Mirador Basin, because it implies a cohesion of the major sites into a single, centralized organization with relatively easier access of products and services. This is suggested, in part, by the uniformity of ceramics, lithics, architecture, and trade commodities. While it is likely that the rulers of the Middle Preclassic centers of the Mirador Basin operated in concert, as Sharer and Traxler suggest (Chapter 1, this volume), centralized control would have been facilitated if greater authority was vested in one ruler, perhaps a ruler of Nakbe or El Mirador, who like later Classic Maya kings may have exercised the power to "oversee" inaugurations of subordinate rulers and other events in the Basin's capitals (see Martin and Grube 2000).

Early Stone Monuments

In a variety of societies in ancient Mesoamerica, manifestations of power are perhaps most easily observed in stelae and other stone monuments erected at sites where the political and economic authority could commission such works. During the Classic Maya period, hundreds of these monuments, termed *lakamtun* or "banner stones" (Stuart 1996), were placed in important plazas or in front of temples, palaces, and/or public buildings commemorating historical and other chronologically significant events. Such displays of political and religious authority were presided over by the *K'uhul Ajaw* or "sacred king" (Martin and Grube 2000). The antiquity of the stela cult extends far into the Middle Preclassic period, to at least ca. 1000–800 BCE on the Gulf coast, at Chalcatzingo in the central Mexican highlands, and in the Valley of Oaxaca (see Chapters 3 and 4, this volume), if not earlier (Cyphers 1997b, 2004a). Cyphers has proposed that the majority of the sculpture dates to the "apogee" of San Lorenzo between 1200 and 800 BCE (1996; see also Chapter 4, this volume). Yet these monuments cannot be accurately dated due to disturbances by later occupants of the site and the fact that "the overwhelming majority of San Lorenzo sculptures have no stratigraphic associations whatsoever…" (Coe and Diehl 1980:294; see also Graham 1989, 1991; Hansen 2005:53).

The early rulers of Chalcatzingo and polities in both the Maya and Oaxacan regions probably became acutely aware of the social and political

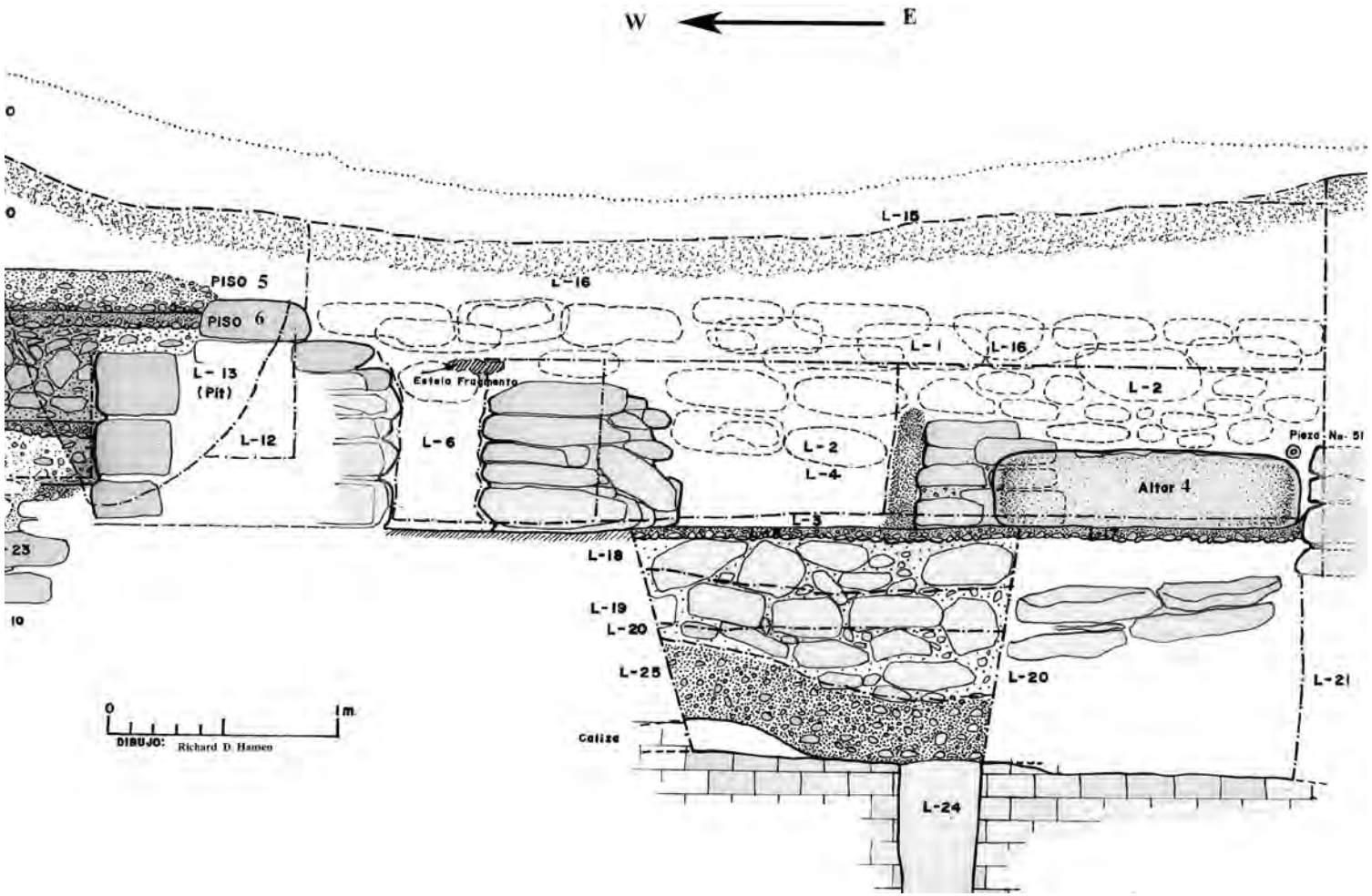
advantages of monument carvings and dedications, but the Olmec clearly exploited sculptural manifestations of personified power and associated ideologies most successfully. Interestingly, early Olmec rulers apparently relied on in-the-round portraiture (colossal heads and full figures of tabletop altars), while the early rulers of Chalcatzingo, and those in the Maya area, favored stelae with low-relief portraits (Grove, Chapter 3, this volume).

In the Mirador Basin, extensive research has revealed carved monuments that correspond to much of the established chronological sequences of the area.[6] Examination of Preclassic monuments in their original context has been limited, however, because the majority of Preclassic stelae, altars, and carved fragments were re-erected or moved by the Late Classic occupants of the Mirador Basin.[7] In spite of the lack of original context for many monuments, their stylistic format and surrounding archaeological context permit a rough chronological seriation.

The presence of carved monuments in the Mirador Basin is less common than one would surmise due to activities of later societies. At present, the earliest-known carved monument in the Mirador Basin is thought to be Stela 1 at the site of La Isla, located on a patch of elevated terrain in the bajo between Nakbe and El Mirador (Fig. 8.21). This standing stela was discovered with a thin altar (Altar 2) of uncertain age on the west side of a 5 m high structure. Excavations by the Mirador Basin Project, supervised by James Woods, indicated that the monument was likely reset by later occupants. Stela 1 measures 1.67 m high, and is a slightly contorted, unshaped boulder with an incised, upward-peering crocodilian creature bearing a bifurcated flame eyebrow, an elevated nose assemblage, and shark-like maxillary teeth. The form of the sculpture, the unmodified nature of the stone, and the early iconography suggest a Middle Preclassic date. The monument's association with the vast bajo between Nakbe and El Mirador is significant, as this is an area of initial settlement exploiting the rich wetland marshes of the region.

The most securely dated monuments in the Mirador Basin are Nakbe Altar 4 and La Florida Stela 1. Nakbe Altar 4 was discovered *in situ* on a sascab floor at the base of a Middle Preclassic platform that formed the site's eastern E-Group structure (Fig. 8.22). It was sealed by Middle Preclassic fill (Lot 16) and two damaged Middle Preclassic floors (Floors 5 and 6). The monument was placed precisely on the centerline of the eastern E-Group structure, indicating a consistency with Mesoamerican patterns of

8.21. Middle Preclassic Isla Stela 1 (Photo by R.D. Hansen).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DIBUJO: Richard D. Hansen

8.22. *facing page* Profile drawing of Nakbe Op. 51 C, 51 I, 51 H, showing Middle Preclassic Altar 4 directly on a Middle Preclassic floor and sealed by Middle Preclassic fill (Lot 16) and what remained of two Middle Preclassic floors (Floor 5, 6) (Drawing by R.D. Hansen).

ritual placement of monuments. A single, small blue-green stone bead was found several centimeters above the center of the stone. The monument had been buried by a later Middle Preclassic platform faced by large, poorly mortared stones. On the basis of both ceramic and C-14 analyses, the monument dates to around 800–600 BCE (uncalibrated) (Beta 31755, Beta 31756, UCLA 2830, UCLA 2833; see Hansen 2005).

La Florida Stela 1 is an uncarved (or perhaps severely eroded) monument, and also dates to the Middle Preclassic era. It is a little more than a meter high in its current deteriorated state, and had been erected and later buried in a Middle Preclassic platform (Fig. 8.23). Associated Mamom ceramics suggest a date between 600 and 400 BCE.

Nakbe Monument 8 (Fig. 8.24) is a less securely dated Preclassic carved monument. A large, semi-circular monument, measuring 1.65 m wide, 1.5 m high, and roughly 0.70 m thick, it was discovered upside down near a large Middle and Late Preclassic palace construction on the southern side of the massive Structure 59 in Nakbe's East Group. This location is near a concentration of quarries and approximately 200 m southeast of the East Group ball court. It's possible the monument was associated with the ball court (dating to the late Middle Preclassic and early Late Preclassic periods; Velásquez 1999; Hansen 2001a:55), perhaps as a marker. However, there is also evidence that it was a throne, possibly dating to the time of the Middle Preclassic Nakbe East Group.

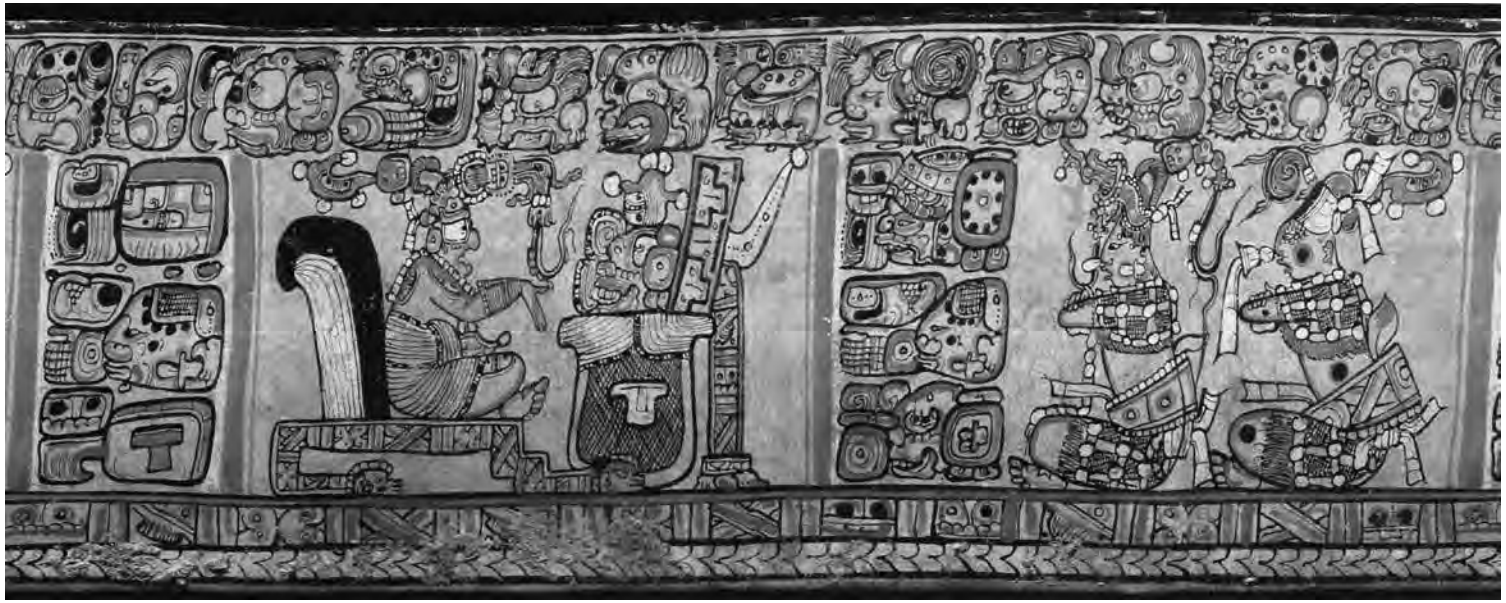
The principal scene on Nakbe Monument 8 shows two downward-peering saurian heads, one on each side, emanating from large rectangular ear flares with four bosses. Both heads have J-scroll and bracket elements appended to the end of the snout. The heads are joined by a band consisting of a series of scrolls that curve away from each other and the centerline of the monument. This band represents an ancestral sky band element found in later Maya art. The dual-headed serpent bar forms the serpent wing motif of the celestial bird, or Principal Bird Deity, on numerous early monuments associated with royal power in the southern Maya area, such as Takalik Abaj Altars 12 and 13, Izapa Stelae 18 and 23, and Kaminaljuyu Altar 9 (Kappelman 1997; Guernsey

8.23. La Florida Stela 1, a monument which had been sealed in Middle Preclassic fill (Photo by R.D. Hansen).

8.24. Nakbe Monument 8, a possible throne stone, believed to date to the late Middle Preclassic (Drawing by R.D. Hansen).

2006). The dual-headed saurian image has been depicted as a supernatural throne for the gods (see Kerr 1138 with Itzamnaah seated on a dual-headed serpent throne), forming a metaphor for a ruler posturing as a divine mediator (Fig. 8.25).

At a later time, a cross-shaped element, or *k'an* cross, was pecked near the upper center of the stone, along with a curious series of pecked basins placed along the lower edge of the stone. The *k'an* cross appears to have been intrusively pecked, perhaps as a semi-homophonous reference to the original name of the ancient polity, the Kan Kingdom, which controlled the Mirador Basin in the Preclassic period (see discussion below). There is, however, a phonetic distinction between *ka'an* or *chaan* (meaning "sky")



8.25. A rollout photo of a looted vessel (Kerr 1138) showing the Hero Twins before Itzamná, who is seated on a dual headed serpent throne (Photo © Justin Kerr, Vol. 1, 1998, No. 1138).

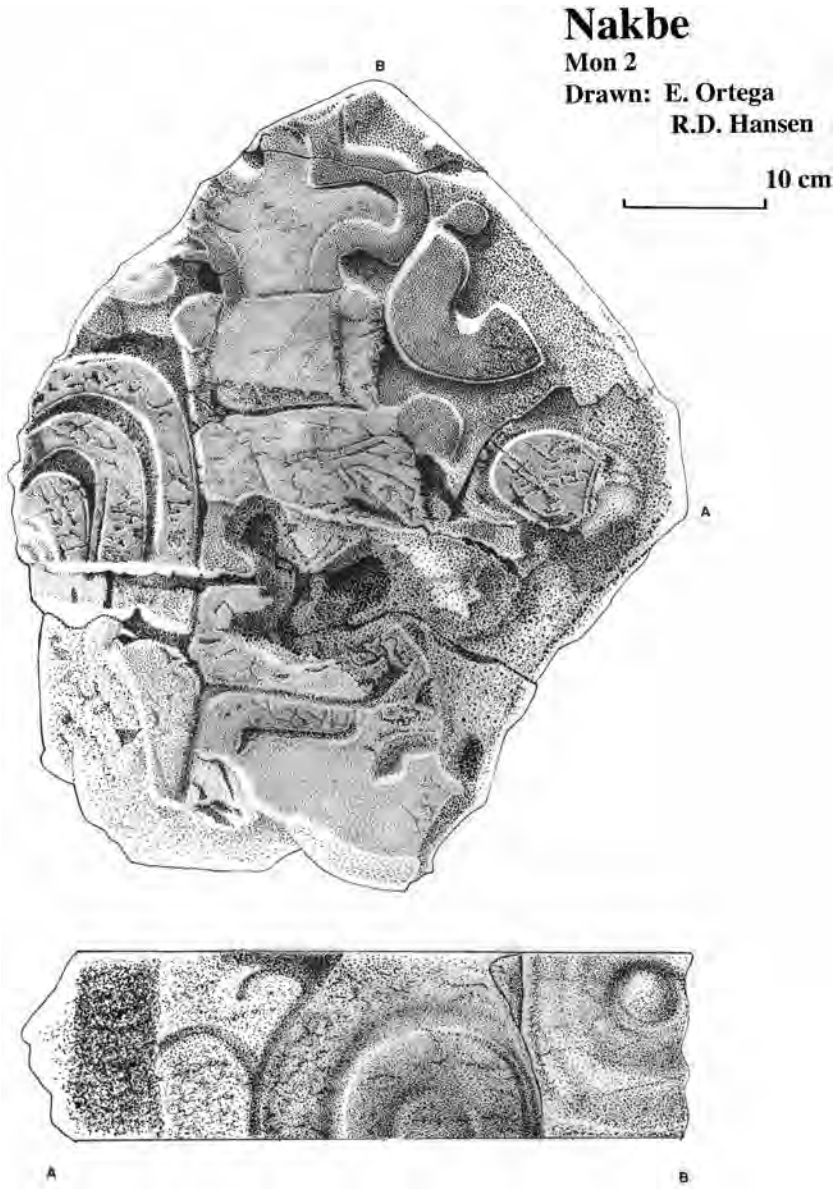
and *kan* or *chan* ("serpent"), perhaps indicating that if the *k'an* cross on Nakbe Monument 8 were a homophone or phonetic reference, it was done by someone who was basically illiterate.

The emphasis on deity portraits is a pan-Mesoamerican theme, suggesting that the emerging elite may have been promoting a religious ideology to justify growing differences in wealth, rank, or power, a strategy commonly employed by emergent state societies throughout the world (see R. Hansen 2000). It appears that human portraits appeared slightly later than those of deities in the Mirador Basin, as is evidenced by Nakbe Monument 2, Nakbe Stela 1, and Tintal Stela 1. Early Maya and Zapotec sculptures often depict deities in contrast to the predominance of human portraits among the Olmec and at Chalcatzingo in the Mexican highlands (Grove, Chapter 3, and Cyphers, Chapter 4, this volume), variations that illustrate important synchronic cultural differences.

Nakbe Monument 2 (Fig. 8.26) was placed on a floor within a room on Structure 52, a 1 m high Late Classic platform placed on the centerline axis in front of Middle Preclassic Structure 51 in Nakbe's East Group. Monuments 2 and 3 were placed secondarily in fragmented form and were associated with dense quantities of Late Classic ceramics, burned copal, and a few obsidian blades. Monument 2 consists of a limestone slab fragment with lined trefoil elements attached to a square cartouche with four carved dots on the corners, forming a quincunx, similar to elements in Olmec and early Maya art. This motif was apparently attached to a human profile head, with a major portion of the face carefully pecked away in antiquity. The profile face is associated with a "question mark" scroll and an early earflare assemblage, indicating consistency with early pan-Mesoamerican iconography. Along with Nakbe Monument 3, the edges of Monument 2 are carved with a series of concentric semi-circles and lines (Fig. 8.26). While unusual in the Maya lowlands this is consistent with early monuments from the Pacific coastal and piedmont regions, as well as early Zapotec sculpture (e.g., San Jose Mogote Stela 1).[8]

CHANGES AT THE END OF THE MIDDLE PRECLASSIC PERIOD (CA. 500–400 BCE)

There were important changes marking increased centralization of authority at Nakbe by the end of Middle Preclassic period, between 500 and 400



8.26. Middle Preclassic Nakbe Monument 2 (Drawing by E. Ortega and R.D. Hansen).

BCE. Large-scale architectural programs were enacted that involved the construction of new monumental terraced pyramids, causeways, ritually significant architectural formats, and radical changes in quantity and quality of construction materials, such as limestone block size, shape, and form. The utilization of artificial agricultural terraces indicates further intensification of food production, and the establishment of causeways to facilitate intersite commerce suggests that the political and administrative hierarchy was moving towards a more complex and centralized system. Specific architectural forms of ritual and ideological importance, such as the Middle Preclassic E-Groups, were constructed to their maximum Preclassic height and volumes not only at Nakbe (and possibly El Mirador, Wakna, and Xulnal), but also at Tikal. These and other ritually significant architectural forms suggest a manipulation of religious ideology (Hansen 1992a, 2000). The impressive size of architecture and the control of a vast labor pool suggest that religious authority was one of the catalysts for political centralization and organic social solidarity, as well as the intensification of socio-political and economic power of an emerging ruling elite (Hansen 1990, 1992a, 2000; Demarest and Conrad 1992; see also Kolb 1994).

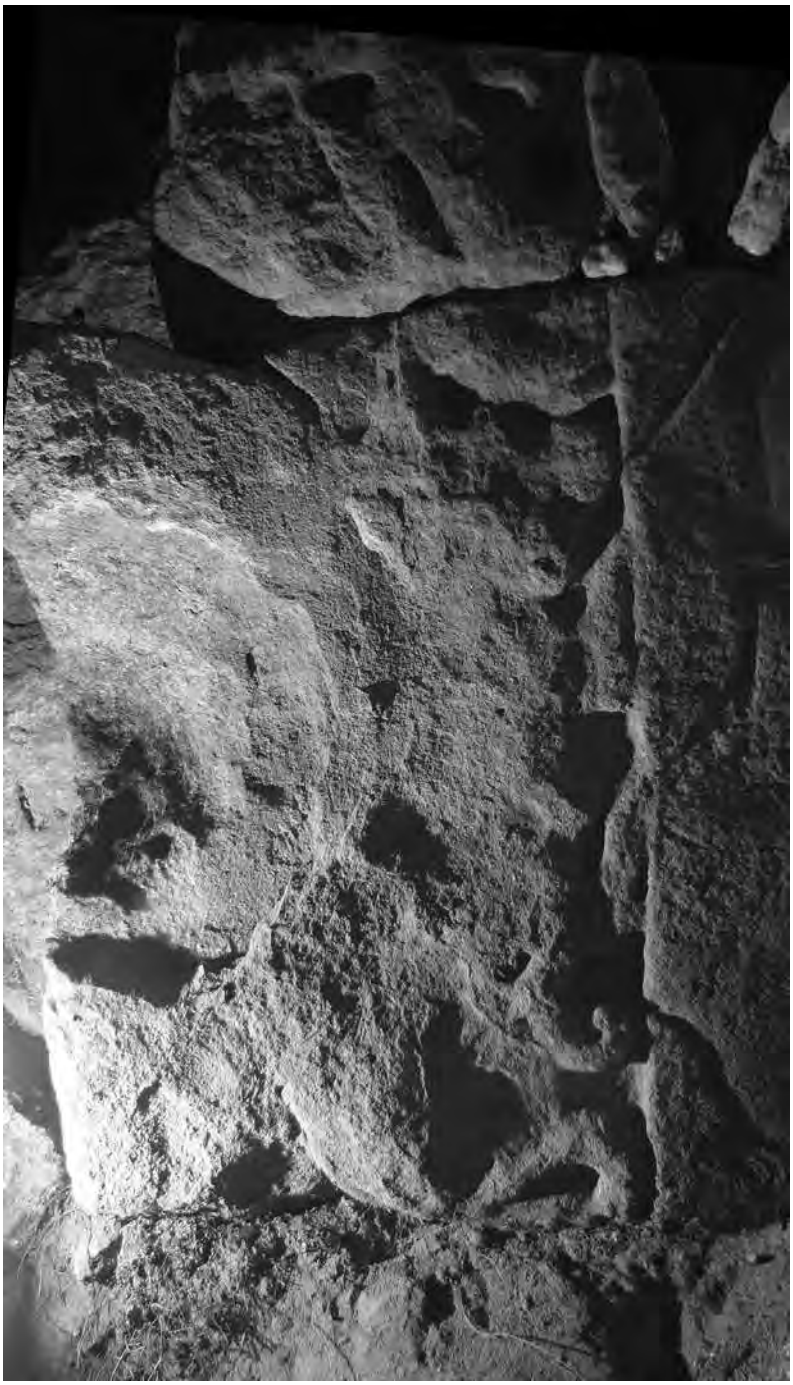
By the end of the Middle Preclassic period, or perhaps by the beginning of the Late Preclassic (ca. 400–300 BCE), stelae in the Mirador Basin assumed their largest size and format of any subsequent or previous period (Hansen 1992a, 1992b, 1992c, 1995, 2001a). These monuments depict Preclassic kings, portraits of anthropomorphic deities, or a combination of the two, together with all of the trappings of royal power. Carved monuments such as Tintal Stela 1, Nakbe Stela 1, and perhaps fragmented Pedernal Monument 2 average about 4 to 5 m in height and approximately 2 m wide. In contrast to earlier sculptures in the Mirador Basin, several of these monuments were carefully carved on both sides with standing human figures, either as royal portraits or as deity impersonators. Similar carved human portraits dating to this time have been found at Cival, Peten (Estrada-Belli, Grube et al. 2003; Estrada-Belli et al. 2006), and Actuncan, Belize (Grube and McGovern 1995; Grube and Martin 2001).

In contrast to subsequent or previous monuments in the Mirador Basin, these monuments were carved from exotic stones. In the case of Nakbe Stela 1, the stone was of an extremely hard, non-local crystalline limestone. Tintal Stela 1 was carved from red sandstone imported from the distant Altar de Sacrificios area (Schreiner n.d.).[9] At contemporaneous La Venta,

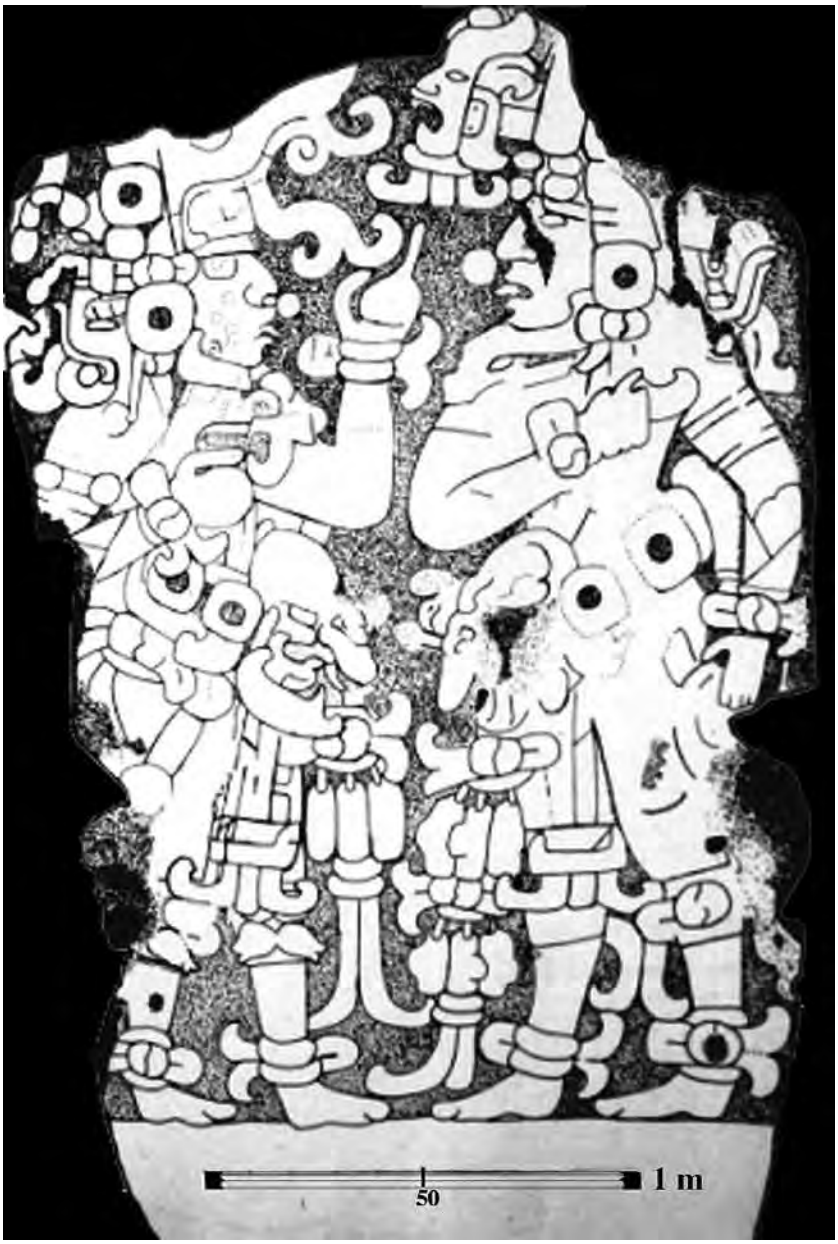
the Olmec also utilized a variety of exotic stones, including schist, serpentine, and gneiss (as opposed to the more common basalt), for the monuments placed around Pyramid C-1 (González Lauck 1994:98; see also Clark, Chapter 5, this volume).

Tintal Stela 1 (Fig. 8.27) was first found by Ian Graham and a preliminary drawing was published by Justeson and Mathews (1983). The sculpture had been reset in the middle of a 3 m high Late Classic vaulted structure exposed by looters. The stela was associated with a round stone altar that may have been contemporaneous with the stela, and, as at Nakbe, Pedernal, and Holmul, had been the scene of extensive ritual behavior, which included the burning and smashing of numerous whole vessels, including drums, bowls, and vessels typically used to hold liquids (Chinja Impressed type). The stone had been intentionally mutilated in antiquity, with deep pecking in the center causing the over 7-ton monument to snap in half, nearly obliterating the iconography. The visible image portrayed what appears to be a single standing human protagonist and a kneeling personage, with only the lower portions of the legs visible with ankle knots and flared tassels, similar to those at San Bartolo, Uaxactun, and Nakbe. The base of the monument has the remnants of a large earlier carving of unusual form, perhaps part of an original boulder sculpture. In addition, extensive Preclassic "graffiti" was carved on the base, which survived because of its burial below floor levels. An important Early Classic burial and associated funerary offerings were discovered at the base of this monument (Hansen et al. 2006), suggesting that the monument had been re-erected and placed in its present position during Early Classic times.

Nakbe Stela 1 was found in 45 fragments and had been intentionally smashed in antiquity (see Hansen and Guenter 2005; Fig. 8.28). The sculpture depicts two standing, barefoot individuals dressed in royal regalia with elaborate headdresses, belt heads with plaques, and large inset earflare-like spools, consistent with other known early examples such as the Loltun cave carving (Freidel and Schele 1988a, 1988b). The figure on the left is indicating upwards with his left hand, index finger extended, toward a profile head appended to the headdress of the individual on the right. There is a strong iconographic relationship between the appended headdress figure and God E, the Maize God, in Olmec and Maya cosmology (Taube 1996a, 2004; Fields 1989, 1991; Freidel 1990; Hansen 1992a). The identity of this individual as the Maize God is also confirmed in the San Bartolo murals (O'Neill 2002; Kaufmann 2003; Saturno, Taube et al. 2005a).



8.27. A portion of Tintal Stela 1, showing the lower feet of a standing individual and a kneeling figure to the right. The massive sandstone monument is 2.17 m wide at the base line of the sculpture (Photo by C.D. Bieber).



8.28. Nakbe Stela 1, reassembled from 45 fragments (Drawing by R.D. Hansen and J.L Hansen).

While there is no doubt that the portrayed individuals on Stela 1 are dressed in royal regalia, the question is, Who were they? My original assessment was that they were either a representation, or a personification, of the Hero Twins of the *Popol Vuh* (Hansen 1992a, 2000). However, many known dual figures on other early monuments (e.g., Polol Altar 1, Kaminaljuyu Altar 1, Takalik Abaj Stela 5, El Baul Stela 1, and later monuments, such as Palenque Tablet of the Sun, Copan Altar Q, Altar L, and Motmot Marker) appear to commemorate transfers of power, as in showing an incoming ruler with a predecessor or founding father (Sharer 1994:106). It is possible then that Nakbe Stela 1 depicts a Maya ruler acknowledging a predecessor, one with considerable status, as the figure on the right has at least six appended plaques (versus three on the lefthand figure). Furthermore, the plaques on the figure on the right have an unusual projection, not unlike the form of a chest plaque found in Comitan, Chiapas (Lowe 1989b, 1994:125). While some have suggested that Olmec rulers actually intruded into the Maya lowlands, as possibly commemorated on Nakbe Stela 1 (Clark et al. 2000:494–95), this author contends that the monument represents a later ruler acknowledging a right to reign through a link to the founding ruler of the dynasty, shown in an ideologically acceptable format, such as the "Hero Twin" myth. The intrusive appearance of the Olmec in the Pacific coastal regions is striking, as noted by marked changes in ceramics and figurines (e.g., Lesure 2000, 2004), a phenomenon not evident in the Mirador Basin sites. Nevertheless, the possibility exists that the monument could portray the arrival of a foreign ruler in somewhat the same speculative manner as La Venta Stela 3 or the "Alvarado Stela" in the National Museum in Mexico are occasionally interpreted as representing the intrusion of a Maya ruler into the Gulf coast lowlands.[10]

It is suggested here that the similarities between the sizes and forms of the La Venta monuments and the great sculptures in the Mirador Basin are not coincidental, but are the product of a vigorous ideological competitiveness (see Lowe 1977, 1981, 1989a). The massive size, celtiform shape, and use of exotic stone in the Mirador Basin appear to match a similar trajectory of stelae manufacture in the Olmec heartland areas at about the same time (see Porter 1992). Monuments such as La Venta Stela 1, Stela 2, Stela 3, Monument 25, and Monument 26 provide strong comparisons in the similar changes in size, form (celtiform), the importation of exotic (non-local) stone, and rich iconographic themes. The La Venta monuments, along with

Nakbe Stela 1, also correlate with the emphasis on legitimacy during political centralization, a process known in numerous emergent complex societies (see Kolb 1994). The parallel development during this era in both the Gulf coast and Maya lowlands may be quite adequately explained by Renfrew's Peer Polity Interaction model (Renfrew 1986; see also Hansen 2005).

The discovery by William Saturno of the murals at San Bartolo, Guatemala, can perhaps refine the dating of the iconography of Nakbe Stela 1 and Tintal Stela 1. The similarities of the knot bundles on the ankles, the Maize God head, and the dress of the protagonists on Nakbe Stela 1 to the scenes in the San Bartolo murals are striking. Further iconographic connections are found on El Mirador Stela 4, which has two kneeling female figures with beaded ankles and breechcloths similar to the San Bartolo figures. Recent C-14 dating of the murals places them around 100 BCE (Saturno et al. 2005b), which is more compatible, stylistically, with the later El Mirador Stela 4, which dates to the Late Preclassic period.[11]

It is suggested here, however, that Nakbe Stela 1 and Tintal Stela 1 are earlier than the San Bartolo murals and El Mirador Stela 4 and most likely date to the late Middle Preclassic–early Late Preclassic period. This conclusion is based on: (a) Middle Preclassic archaeological contexts for monuments at Nakbe; (b) the diminutive size and the presence of early glyph panels on known Late Preclassic monuments in the Basin; (c) the use of exotic stone and the large size of the monuments that appears to coincide with the size and composition of monuments in the Olmec heartland; and (d) the thematic elements of the sculpture, which appear to be earlier than the Late Preclassic.

In summary, the Middle Preclassic period witnessed the introduction of sculptured stone monuments, demographic increases, agricultural intensification, and major architectural development, including causeways, reservoirs and agricultural systems, which created the demand for procurement and transport of architectural fill, limestone quarry specialization, lime production, and stucco utilization. There were major transformations in the size and form of limestone blocks used in architectural constructions. The cultural innovations were fueled by a differential access to wealth, organized exploitation of natural resources, implementation of systematic agriculture methods, and an increasing focus on labor intensification and specialist production systems. The result of these transformations served to consolidate the economic and political power of an emerging administra-

tive elite. The evidence indicates that by the end of the Middle Preclassic period monuments depicting individual rulers began to appear at Nakbe and other sites in the Basin. These monuments significantly contributed to a powerful display of legitimization and would have impacted elite control over commoner subjects.

APOGEE OF LOWLAND STATES IN THE LATE PRECLASSIC PERIOD (CA. 400 BCE–150 CE)

The brief period between the Middle Preclassic and the Late Preclassic period (ca. 400–300 BC) does not appear to have been a simple transition. Pollen data from core samples obtained by the Mirador Basin Project from three lakes in the western Mirador Basin indicate that native forest had returned to the area during this particular narrow span of time, suggesting a temporary disruption of occupation (Wahl 2005; Wahl et al. 2005, 2006; Wahl, Byrne et al. 2007; Wahl, Schreiner et al. 2007). This observation has limited archaeological corroboration, suggested by the decomposition and weathering on Mirador Str. 34 Sub 1 prior to its burial by the Late Preclassic Str. 34. This "hiatus" was short-lived, however, based on associated archaeological and pollen data. Excavations indicate that within a short time, rulers in the Mirador Basin commissioned new monumental architecture of unprecedented size by the beginning of the Late Preclassic period (ca. 300 BCE). Structures between 40 and 72 m in height and measuring up to 600 x 300 m at the base were constructed throughout the Mirador Basin during this time, especially evident at large sites such as El Mirador, Nakbe, Wakna, Tintal, Xulnal, Lechugal, Paixban, Tazumal, and numerous smaller sites with radically new architecture (Hansen 1990:171–72; 1998, 2000).

In addition to an emphasis on monumentality, the manipulations by the emergent political, religious, and economic elite further consolidated the demand for and control of extensive labor systems in the early Late Preclassic period through the incorporation of both new and old ideological content in architectural formats. This included the establishment of the Triadic Architectural Pattern, one of the most consistent formats at the major sites in the Mirador Basin (Fig. 8.29). Triadic architecture became ubiquitous in the Late Preclassic Maya lowlands, and the form was adopted over a wide geographical area. El Mirador, itself, has at least 24 major triadic groups within the civic center, with more being discovered as the mapping extends

8.29. Tigre Complex at El Mirador (modified from drawing by Studio C, Guatemala; Courtesy of Fernando Paiz).

to the peripheral regions. The triadic arrangement is most likely related to the concept of the "Celestial Hearth" and the reference to Creation (see Hansen 1990, 1992a, 1998:77–81). Its use in subsequent periods, such as the Cross Group at Palenque, Caana Pyramid at Caracol, and the Early Classic Structures 5D-22, -23, and -24 at Tikal, was a conscious reference to the past and its ideological meaning.

The placement of structures was planned with considerable precision, perhaps to conform to celestial and solar cosmograms. Archaeologist Carlos Morales detected a series of strategic alignments of buildings, forming parallel and perpendicular alignments, and isosceles triangle associations (Morales-Aguilar and Hansen 2005; Sprajc et al. 2009). Structure placements appear to have allowed shadows of tall buildings to fall on specific buildings on important days of the calender year, particularly the equinoxes (Hansen n.d.). Structures were also placed with specific alignments that correlate to solar movements and patterns (Sprajc et al. 2009).

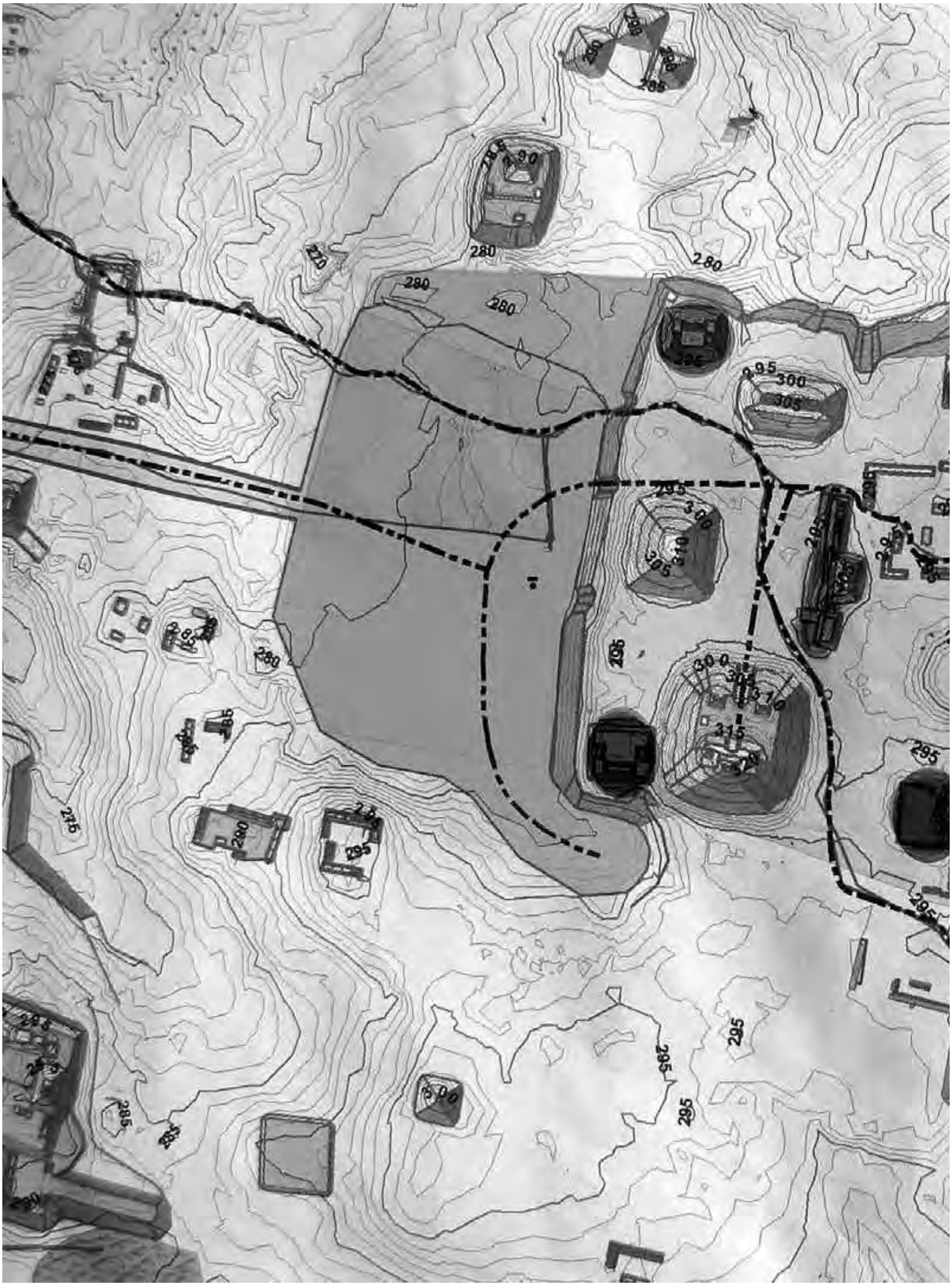
The Late Preclassic Maya at El Mirador also utilized a form of atavism, a reversion to the ideology and thinking of former times. This is particularly evident on the first platform of Danta Pyramid (Fig. 8.30), where four smaller triadic structures form a square at each corner of the basal platform, with a fifth point represented by the eastern bar-like structure of the E-Group constructed on the platform, all forming a "quincunx" design

consistent with Olmec and early Mesoamerican ideologies (Reilly 1994a 1994b, 1995a, 1995b; Taube 2004:13). In Mesoamerican art the antiquity of the quincunx, with a symbolic *axis mundi* in the center, extends well into the Middle Preclassic periods in the Olmec, Zapotec, and Maya areas, forming one of the ideological staples of early Mesoamerican cosmology (see Reilly 1994a, 1994b; Bauer 2005a, 2005b; Estrada-Belli 2006a). The incorporation of such ancient ideological content in architectural formats indicates that the administrative elite adhered to a vibrant religious ideological system, one capable of invoking and controlling vast amounts of labor, tribute, and economic and political power.

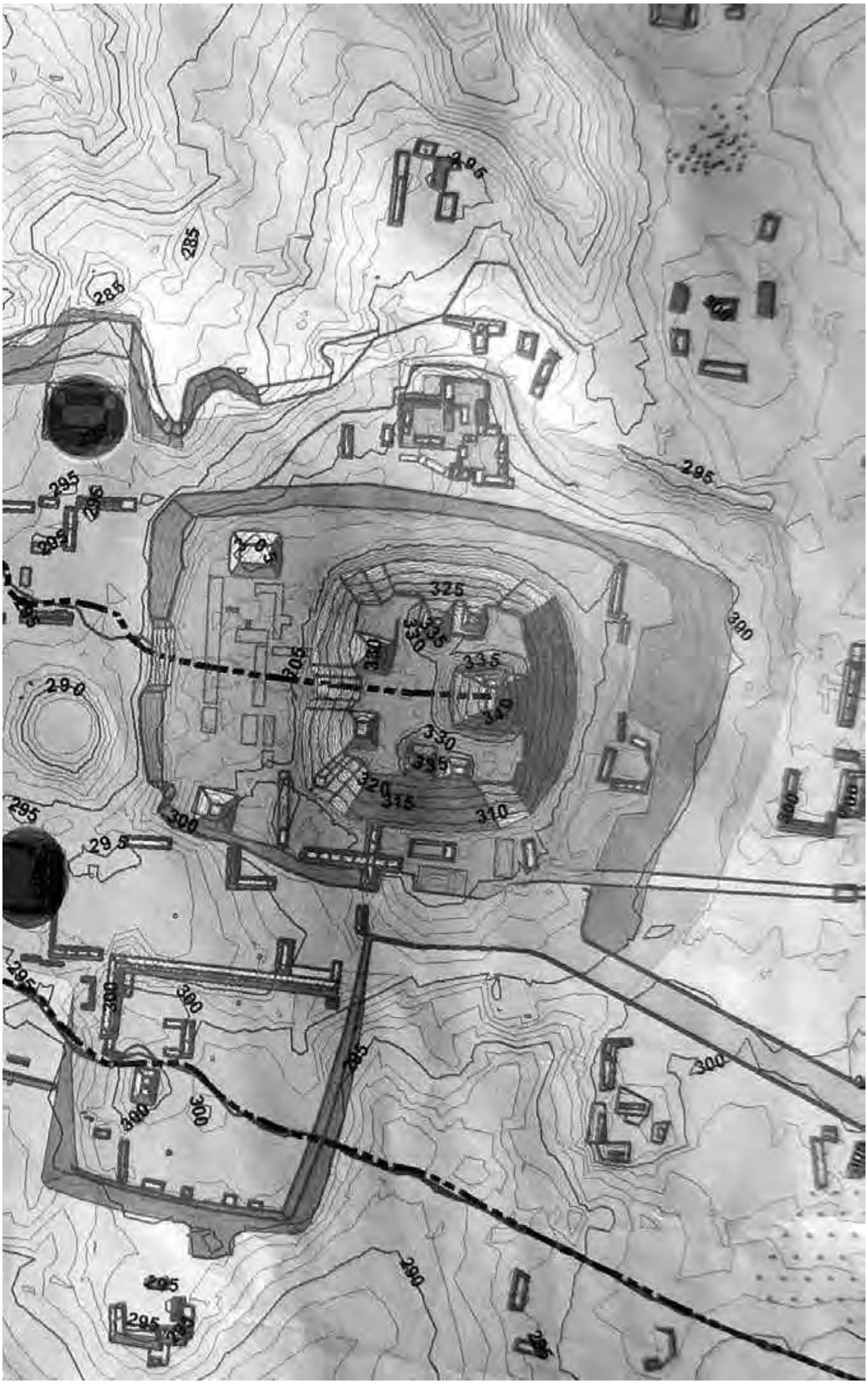
In addition, architectural sculptures rendered in deep relief consisting of deity portraits continued to be placed on facades flanking structure stairways. Monumental sculpture on building facades from the Middle Preclassic and early Late Preclassic periods were carved in minute detail in stone prior to applications of stucco (Nakbe Structure 1, Nakbe Structure 27, El Mirador Structure 200, El Mirador Structure 34 Sub1). Late Preclassic architectural sculpture, such as that on El Mirador Structure 34, Danta Pyramid, and La Pava Acropolis at El Mirador, utilized thick molded stucco placed over large stone armatures with only minimal prior stone carving.

As monumental architecture increased in size, the size of stone stelae appears to have decreased dramatically, supporting the notion that the architecture became a literal and figurative extension of the stela (Hansen 2007). The decrease in stone sculpture from heights of 4 to 5 m to monuments less than 1 m in height was a dramatic shift in social and political emphasis that is not well understood. One possibility is that this decrease in size may reflect a change in the means used to commemorate kingship. The size decrease is further accentuated by the fact that no monuments have been located in their original locations in front of major Late Preclassic structures in the Mirador Basin—locations where the Classic Maya would have placed monuments in great abundance. The possible exceptions are the mutilated Monument 21 located in a secondary context at the base of the triadic Cutz Complex in the Grand Plaza at El Mirador (Fig. 8.31) and a stela and altar at the western base of Danta Pyramid, although the dates of the placement of these monuments are uncertain.

The reduced size of the monuments also correlates with the introduction of hieroglyphic texts that were carefully incised in fine lines on the monuments and other portable objects during the Late Preclassic and Ter-



8.30. Map of the Danta Pyramid Complex at El Mirador, indicating the Quincunx pattern identified by R. Hansen on the first platform of the building (Map by DEPIC; Josephine Thompson, © FARES 2009).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8.31. A fragment of the badly mutilated El Mirador Monument 21, located at the base of the triadic Cutz Complex in the Grand Plaza at the site (drawing by G. Valenzuela).

minal Preclassic periods (ca. 100 BCE–250 CE). El Mirador Stela 2 has one of the earliest incised hieroglyphic texts yet known from the Mirador Basin (Hansen 1991, 1995, 2001a). This consists of a band of incised glyphs with several phonetic elements still visible in the badly weathered and perhaps intentionally mutilated glyphs. Stela 1 from El Chiquero was, in its intact form, less than 90 cm in height, but a text panel, which had been carefully scraped off in antiquity, is located on the lower half of the monument (Fig. 8.32a, b). The badly weathered Monument 3 at Pedernal, located southeast of El Mirador, has two standing figures in elaborate royal dress, on each side of a glyph panel (Fig. 8.32c). This composition is similar to early sculptures in the southern Maya area, such as Takalik Abaj Stela 5, and the southern Peten on Polol Altar 1. The text had been almost entirely removed by the Maya, with the exception of a single glyph that was nestled in a slight cavity of the stone.

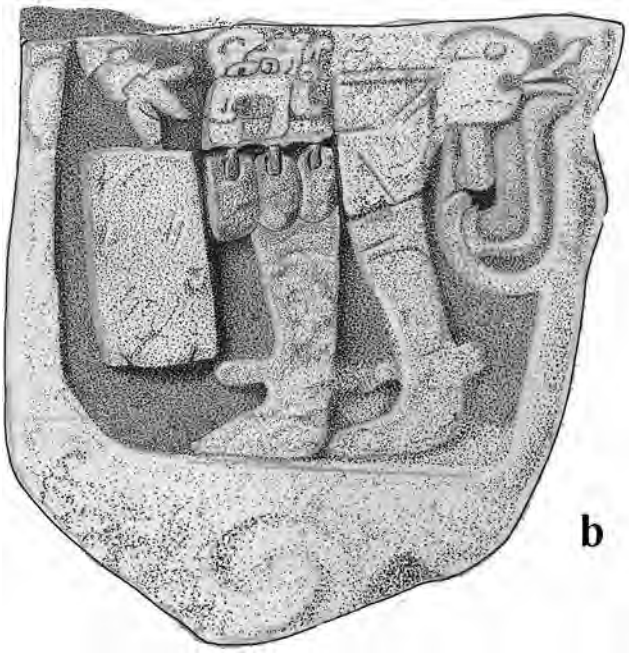
Small Terminal Preclassic (ca. 150–250 CE) monuments have been discovered by Nikolai Grube east of Naachtun at the site of La Toronja (Grube and Martin 2001:II–43) and in the Bajo de la Juventud near Tikal. The Hauberg Stela (Schele 1985; Guenter 2002) is of similar form and format and is believed to date as early as ca. 199 CE (Schele 1985) or slightly later in the Early Classic period (Guenter, pers. comm. 2004).

A hierarchal pattern in human burials is evident in the Mirador Basin during the Late Preclassic period. The small number of earlier burials is probably the result of archaeological sampling. Formal Middle Preclassic burials have been identified throughout the Maya lowlands, as at Cuello (Hammond 1977a, 1985a; Robin 1989) and in the Maya highlands, as at Los Mangales (Sharer and Sedat 1987:147). Middle Preclassic burials have also been recovered at Nakbe (Op. 32, Op. 52), but formal tomb constructions are still undetected. The Late Preclassic elite tombs recovered in the North Acropolis at Tikal (Coe and McGinn 1963; W. Coe 1965a, 1965b) are believed to represent early royalty. In the Mirador Basin, elaborate Late Preclassic tombs such as those in Wakna Structure 3 (Fig. 8.33) were placed in a triadic pattern, replicating the triadic format of the architecture (Hansen 1998:90–95).[12] An informant (the actual looter of the major tombs at Wakna) showed this author three burial chambers in Structure 3 with Late Preclassic pottery (Fig. 8.34) still *in situ*. According to the informant, a total of 23 pounds of jade (sold by the pound) had been extracted from the principal chamber in the central structure of the triadic platform (Hansen 1998:90–91).

The massive scale of Late Preclassic architecture found within the Mirador Basin leaves little doubt that political and economic power was highly centralized. The presence of carved monuments with portraits and texts, and the existence of large tombs within major structures, all point to the consolidation of power under the authority of individual rulers (Hansen 2012a; see also Martin, Chapter 12, this volume). Given the explicit depiction of a royal inauguration on the San Bartolo murals, it is clear that the Late Preclassic rulers of that site, together with those in the Mirador Basin and elsewhere, were ancestral versions of the Classic period sacred kings who held power at a series of capitals across the Maya lowlands.

The Late Preclassic kings of the El Mirador Basin oversaw the mobilization of labor in unprecedented numbers to construct and maintain a variety of public works designed to serve both the practical and esoteric needs

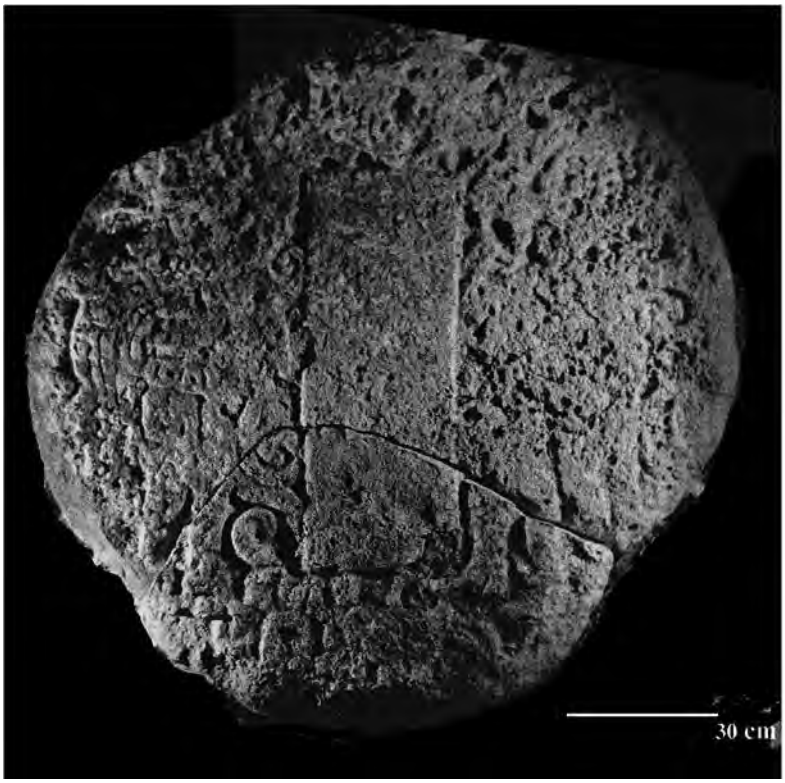
a



b

10 20cm

El Chiquero Stela 1
Drawn: E. Ortega, R. Hansen



8.32. a, b) *facing page* El Chiquero Stela 1 from the Late Preclassic; c) *above* Pedernal Monument 3 from the Late Preclassic (Photo by C.Sherriff).

of their subjects. Calculations of the energetics of construction programs based on extensive experiments conducted by the Mirador Basin Project have determined that as many as five million man-days of labor were needed to construct the Tigre Complex (Hansen 1990), and ten to twelve million man-days of labor were needed to construct the massive Danta Pyramid (both at El Mirador), depending on quarry locations.[13]

Plazas, like that immediately west of the Leon Pyramid (the massive E-Group building in El Mirador's Central Group), were designed as catchment systems for water collection and management in artificial reservoirs at the site. A system of reservoirs in the Grand Central Acropolis at El Mirador was constructed to collect water from adjacent plastered buildings. The sophisticated sluice and pool systems of these reservoirs were enhanced with finely modeled stucco decorations just above the water line. Depicting

8.33. Tomb 1 of Wakna, which had been looted prior to 1990, when an informant took the author to see the site. Preclassic ceramics were still in the chamber when it was found, but, according to the informant, the jade artifacts had been removed and sold. Note the structural similarities of the vault construction to a Cimi phase tomb in Structure 5D-86 at Tikal and a tunnel in Structure J at Monte Alban (Hansen 1998: 95) (Photo by H.Mejia).

8.34. Arranging ceramics fit for a king, Guatemalan archaeologist Beatriz Balcarcel prepares the vessels that were recovered from the looted Late Preclassic tombs at Wakna for photography (Photo by R.D. Hansen).

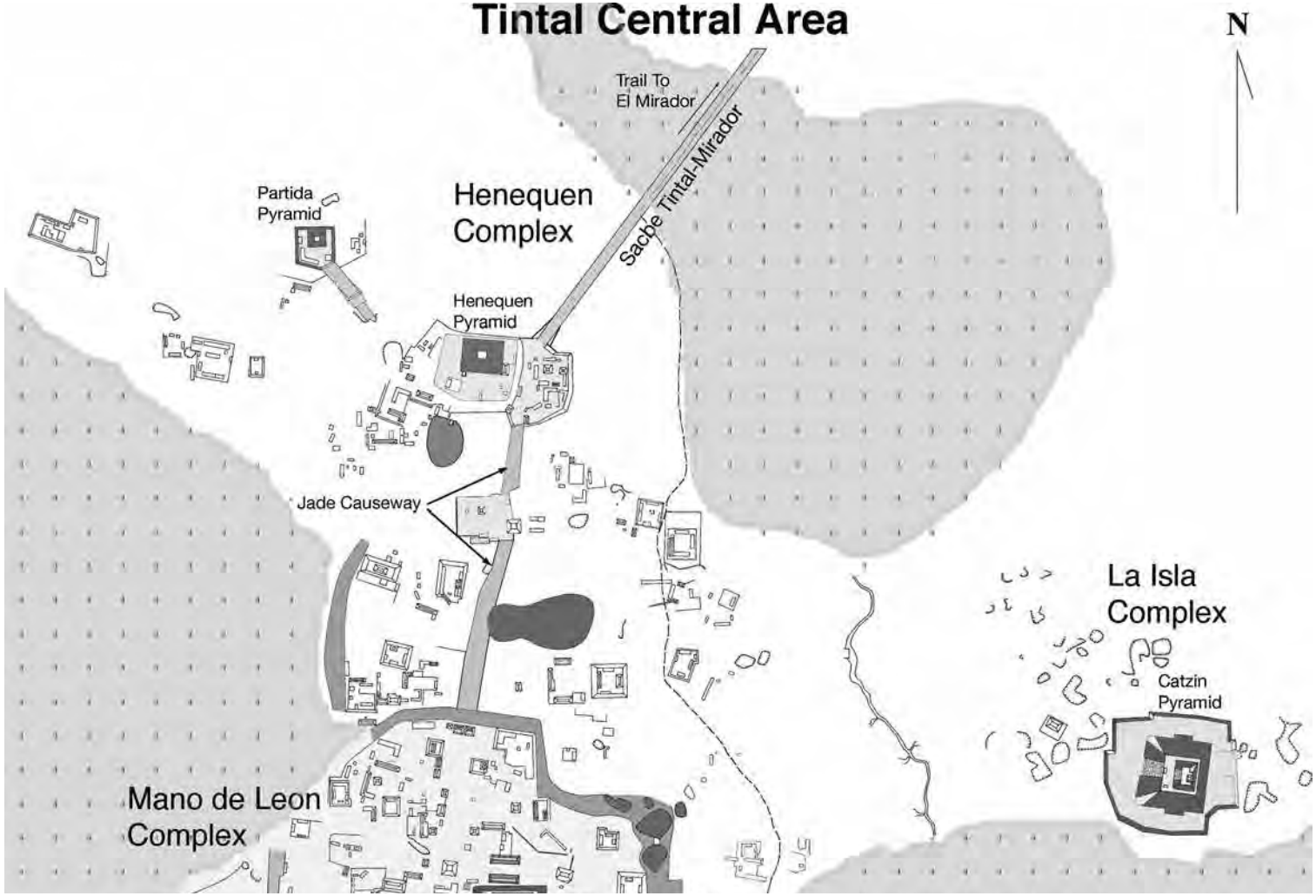
nearly the entire pantheon of Maya cosmology, these decorations include several variant images of Itzamná in avian form, an undulating feathered serpent with aquatic references, aquatic elements, repeated images of the rain deity Chak, and what appears to be the Hero Twins of the Popol Vuh, with one transporting a decapitated head. Such rich iconographic details, lining Preclassic sunken plazas and reservoirs, are a testament to an overarching sophistication governed by (and governing) a broad ideological base (Fig. 8.35; Argyle 2010; Argyle and Hansen 2010; Argyle and Hansen n.d.; Hansen n.d.).

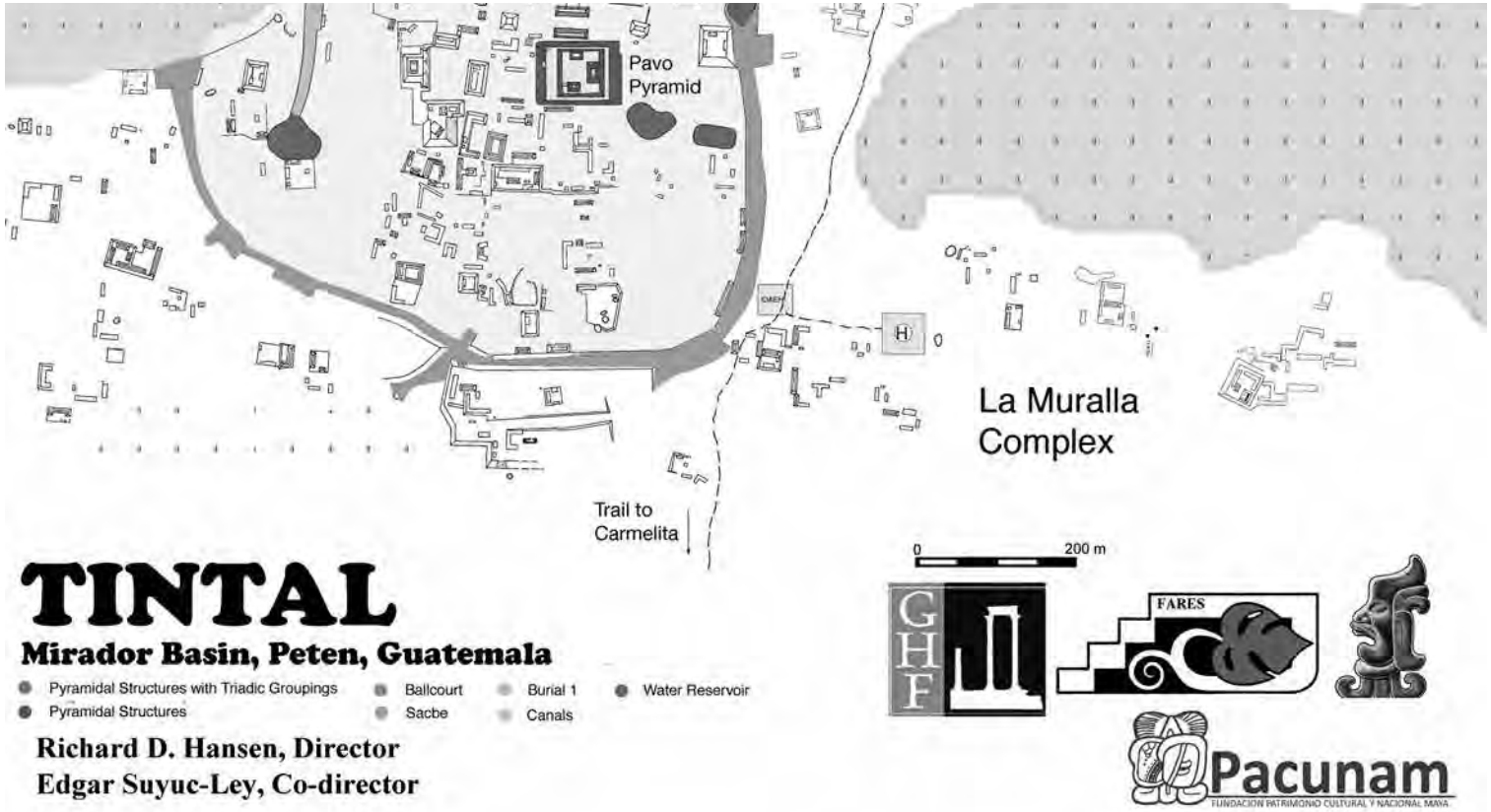
A massive defensive wall, now about 8 m high in its ruined state, was erected along three sides of the central area of El Mirador, with the fourth side framed by a 30 m escarpment (Medina 2012; see Fig. 8.6). A defensive 15 m deep moat system recently has been discovered to the east of Danta Pyramid at El Mirador. In addition, a major moat system has been discovered at Tintal surrounding a large portion of the civic center of the site (Fig. 8.36). These wall and moat systems suggest the need for restricted areas, most likely defensive constructions, to protect the cities and their occupants from an external but undetermined threat.

While first constructed in the Middle Preclassic, the extensive causeways linking the major sites within the Basin were renewed and expanded during the Late Preclassic period. Satellite cities such as La Ceibita, located to the south of Tintal, were connected by causeways to the larger centers, and even smaller peripheral communities were connected by causeways to the satellite cities. This network is a testament to inter-site and intra-site interaction that enabled commerce, trade, tribute, food distribution, military support, and communication to flourish during the Late Preclassic period. Reflecting this interaction, neutron activation analyses of Preclassic and Classic ceramics from numerous sites within the Basin by Ron Bishop and Dorie Reents-Budet are beginning to show intense interaction and ceramic exchange within the Basin (Bishop, pers. comm. 2011; Reents-Budet et al. 2011).

The evidence for Late Preclassic complexity and centralization of authority, apparent from long-term archaeological research in the Mirador Basin, is replicated, albeit on a smaller scale, at a number of other sites in the Maya lowlands. This evidence forms the backdrop for, and is symptomatic of, what has been previously dubbed the "Chicanel State" (Hansen 1982, 1984, 1990), referring to the widespread, uniform ceramic sphere that extended throughout the lowlands during the Late Preclassic period (see

8.35. Frieze decorating what was originally a sunken plaza and subsequently renovated as a series of pools and water collection reservoirs with rich iconographic images, depicting important elements of Maya cosmology (Photo by R.D. Hansen, ©FARES 2010).


Tintal Central Area
N
Trail To
El Mirador
Sacbe Tintal-Mirador
Partida
Pyramid
Henequen
Complex
Henequen
Pyramid
Jade Causeway
La Isla
Complex
Catzin
Pyramid
Mano de Leon
Complex



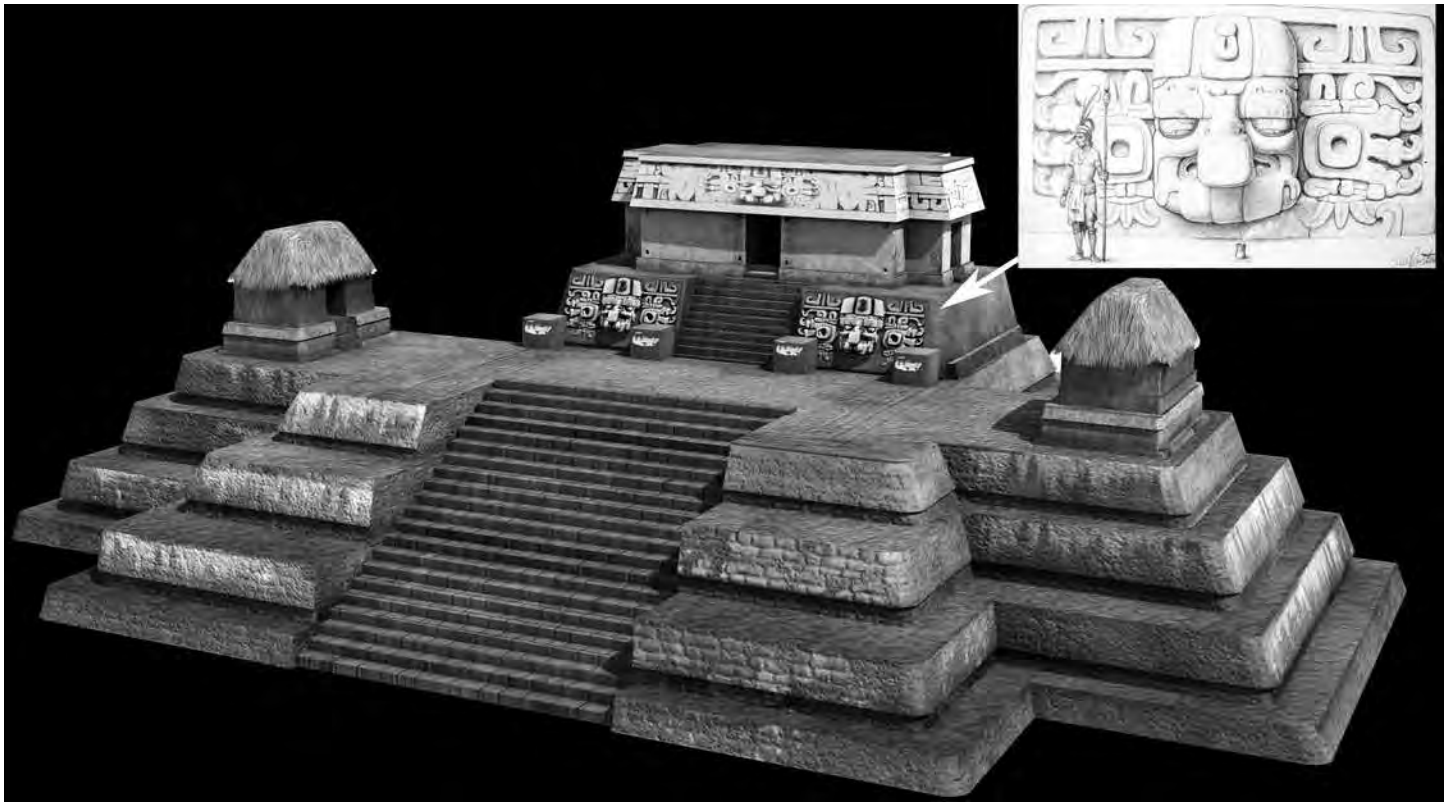
8.36. Map of a portion of the civic center of Tintal, Mirador Basin (Map by H. Mejia, E. Hernandez, J. Thompson, ©FARES 2011).

Forsyth 1989, 1992,1993a, 1993b). The uniformity of the Late Preclassic Chicanel Ceramic Sphere was never matched in any previous or subsequent periods of Maya history, and the implications are that a state mechanism provided the impetus and social, political, and economic vehicles in ceramic exchange extending over the entire Maya area from the tip of the Yucatan Peninsula to Honduras.

Preclassic Sacred Kings

As already mentioned, the evidence also points to the presence of kingship as the ultimate authority within this sophisticated Middle and Late Preclassic socio-political development (R. Hansen 2000, 2001a, 2012a). But the identification of the specific protagonists behind this system has been more elusive than the infrastructure they created. Perhaps one of the most promising avenues has been the insightful research by Simon Martin (1997; Grube and Martin 2001) and Stanley Guenter (2004, 2007, n.d.) on the 17 known codex-style vases painted in the Late Classic period between ca. 670 and 740 CE. These vessels, now in private collections, present what appears to be a retrospective dynastic history (Martin 1997:862; Guenter 2004, 2007) of a series of rulers of the Kan or "Snake" Kingdom. While some of the 17 vessels present only portions of the dynastic sequence, each documents a consistent series of rulers' names and dates of accession, even though recorded by different scribes. There are no known Classic period rulers that correlate with the sequential listings and the *tzolkin* and *haab* dates recorded on the codex-style vases (Martin 1997:862). The range of recorded dynastic accessions of kingship proposed by Guenter is compatible with the archaeological evidence, with dynastic accessions occurring between about 400 BCE and 20 CE (Guenter 2004, 2007, n.d.), precisely corresponding to the apogee of the proposed state within the Mirador Basin. Current research also suggests possible correlations with rulers on the codex-style vases. For example, Ruler 13 of the accession sequence, identified as Yuknoom Yich'ak'kak, who acceded to the throne on 8 Kaban 5 Xul, may be represented on the jaguar paw stucco panels on Structure 34 at El Mirador (Fig. 8.37). Guenter's proposed dates for this Late Preclassic ruler are consistent with both the ceramic and C-14 data (Beta 1965) of Structure 34 (see Hansen 1984, 1990).

Assuming the codex-style vessels record retrospective history, 2 of the 19 recorded dynastic protagonists were afforded the Kaloom'te title (Ruler 2



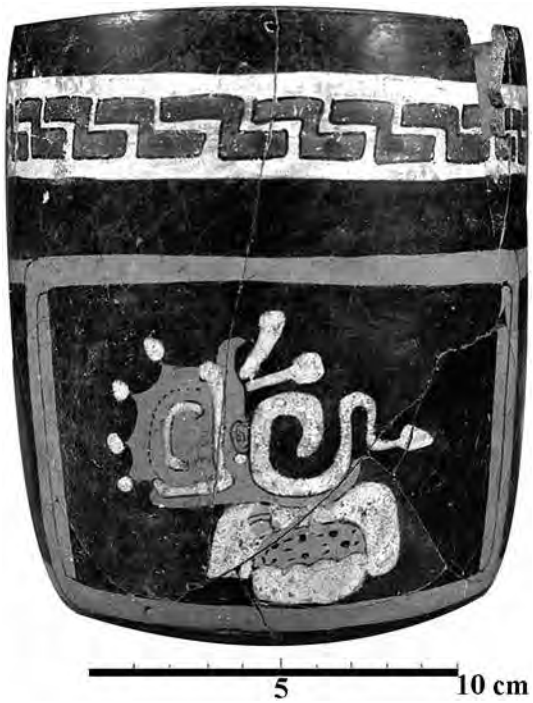
8.37. Reconstruction drawing of El Mirador Structure 34, also known as the Jaguar Paw Temple (Drawing by Studio C, Guatemala; Courtesy of Fernando Paiz and T.W. Rutledge).

and Ruler 19, see Kerr #K6751; Martin 1997:846; Guenter n.d.), the highest title afforded any Maya king (Martin and Grube 2000:17). The Kaloom'te title appears to have been reserved for paramount kings or "conquerors," and the juxtaposition of the accession of these individuals with evidence of social upheavals at La Venta and the Gulf coast region may be more than coincidence. The last recorded king of the dynastic sequence appears to have been depicted on El Mirador Monument 18 as a downward peering ancestor figure (Guenter n.d., 2004; Chambers and Hansen 1996). He is also possibly retrospectively depicted on a Late Classic vase found in a burial under the summit floor of Structure 104 in the Codex Group at Nakbe (Hansen 2001b; Fig. 8.38).

The Mirador Basin and the Kan Polity

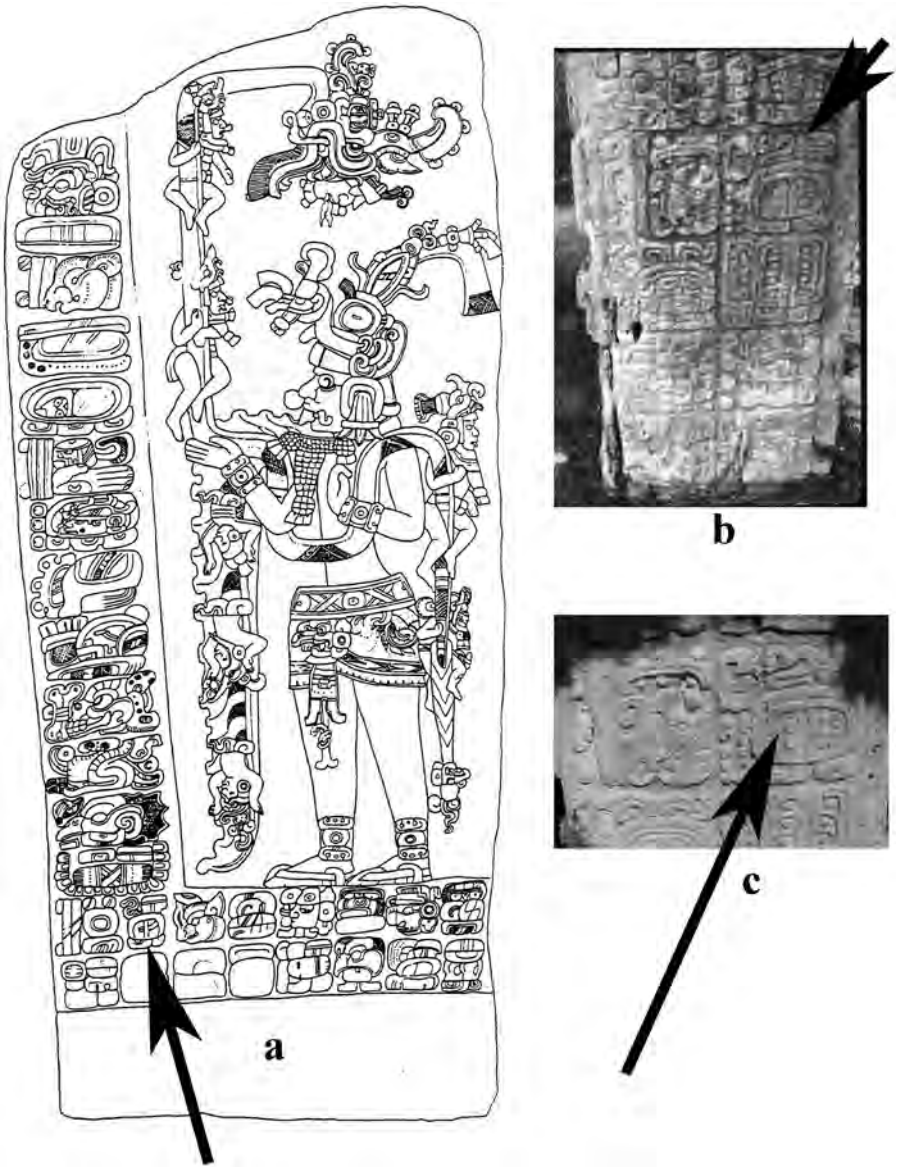
An elite burial located at the base of Tintal Stela 1 (ca. 300–400 CE) contained a mosaic jade mask with the largest fragment consisting of a highly polished trilobed jade, marked with an incised glyph and three U-shaped elements on the upper lobes (Hansen et al. 2006; Fig. 8.39). The incised glyph is an early version of T516, phonetically read as *ajaw*. The small serpent, which can be read as *kan*, located on the upper prefix of the glyph has been noted by Guenter, Grube, and Martin to be on the Hauberg Stela (glyph B-2; Fig. 8.40a), and on Tikal Stela 5 as a regal title for the mother of the great Yik'in Chan K'awiil (glyph D-9; Fig. 8.40b), suggesting that the Late Classic ruler of Tikal, Jasaw Chan K'awiil, took a wife from a site within the ancestral Snake (Kan or Kaan) Kingdom (Hansen, Howell et al. 2008).

An indication that the Mirador Basin was indeed the ancient site of the great Kan state was found in 2003 on 6 x 5 m bedrock carving excavated by project co-director Edgar Suyuc-Ley at La Muerta, a southern suburb of El Mirador. Suyuc-Ley's discovery revealed a medium relief sculpture of a series of superimposed profile deity heads carved in the bedrock (Fig. 8.41). In addition to extensive natural weathering, it appears that some of the carving had been intentionally mutilated long ago. The carved profile deity heads are oriented to the north, towards the center of El Mirador and towards a series of six glyphs in a vertical column. The glyphs are badly weathered, but sufficient details remain to allow tentative identification. The first glyph is part of a *tzolkin* date, with the number severely eroded. Photos and analyses with various lighting angles suggest that the glyph is most likely a *chicchan* day name, followed by two additional glyphs that

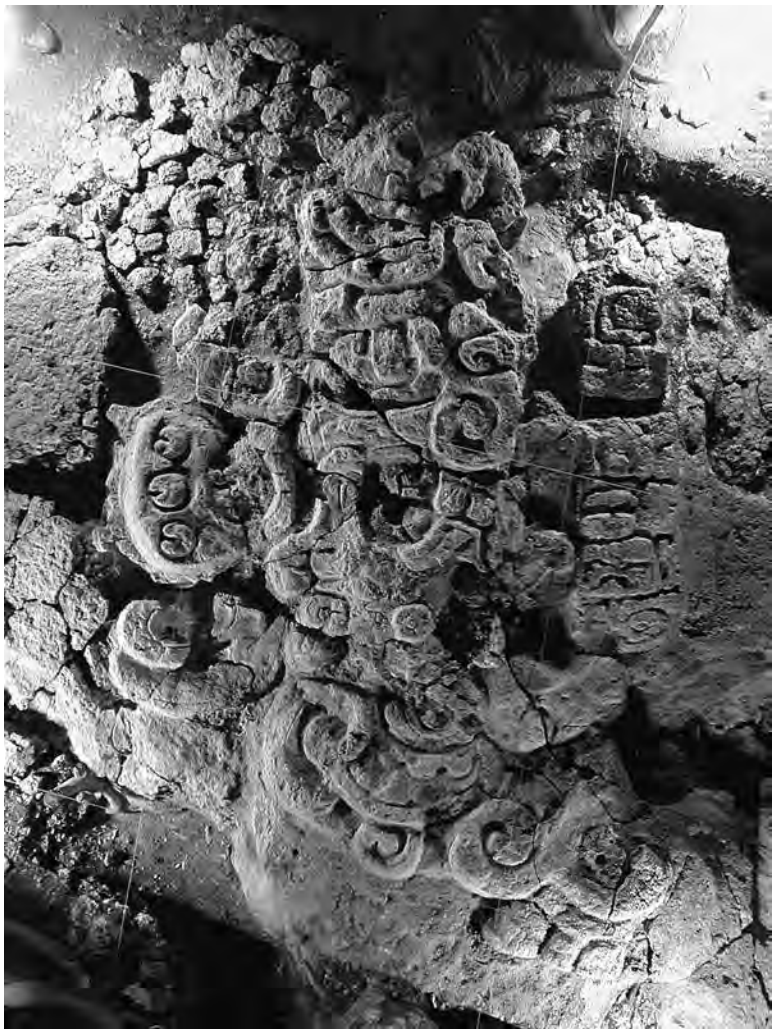


8.38. Vase recovered from a burial in the summit of Structure 104 in the Codex Group at Nakbe. The image, an open-mouth serpent on a jaguar-skin throne, has similarities to the name of the 19th ruler of the dynastic sequence recorded on codex style vases (Photo by F.R. Hillman).

8.39. Large tri-lobed, polished jade from a burial at the base of Tintal Stela 1, with a T516 *ajaw* glyph incised on the face. Note the serpent figure (*kan*) on the upper left of the glyph block. Width of jade is 6.62 cm (Photo by R.D. Hansen).

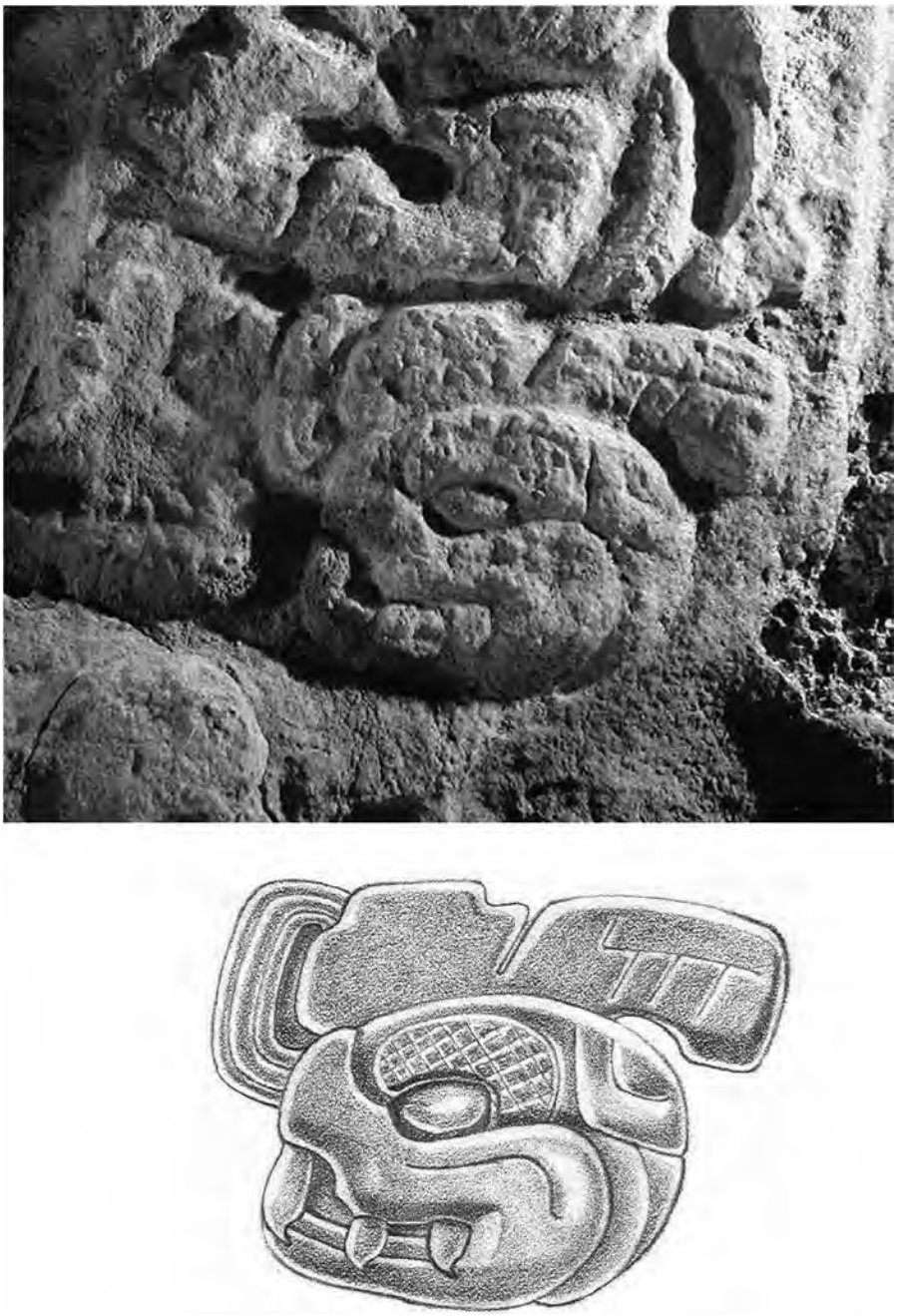


8.40. a) the Hauberg Stela showing the *kan-ajaw* (Snake-Lord) glyph (after drawing by L. Schele (Schele 1985); b,c) East face of Tikal Stela 5, noting that the mother of the Late Classic ruler Yik'in Chan K'awiil of Tikal was a *kan ajaw*, a woman from a site somewhere in the *Kan* polity (*Yokman*) that married Hasaw Chan K'awiil (Photo by R.D. Hansen).



8.41. La Muerta Monument 1, a bedrock carving (6 x 5 m) in a southern suburb of El Mirador, dating to the Terminal Preclassic-Early Classic periods (Photo by R.D. Hansen).

are not understood, but must be a verbal phrase. These are followed by two more glyphs forming what is believed to be a nominal phrase. The final glyph is the distinctive snake or *kan* glyph with the *ajaw* prefix (see Hansen, Suyuc-Ley et al. 2008:58; Fig. 8.42). This evidence, combined with the Tintal jade glyph, suggests that the Mirador Basin was home to the



8.42. Lower glyph on the bedrock panel of La Muerta Monument 1, showing the *k'ujul kan ajaw* title (Photo by R.D. Hansen ©FARES 2003; Drawing by E. Ortega).

original Kan site, birthplace of the Maize God, and perhaps the original Tamoanchan site, the ancestral reference for generations of subsequent Maya societies (Hansen and Guenter 2005; Guenter 2005, 2007; Hansen, Suyuc-Ley et al. 2008:61–62).[14]

The Kan lords had apparently achieved an immortality worthy of being recorded in retrospective histories on Late Classic pots and carved in stone, and leaving, as a testament to their administrative prowess, the jungle-shrouded architecture of the great ancestral cities of the Basin. It was this legacy that encouraged the kings of great Maya cities within the geographical confines of the Basin, such as Calakmul and Dzibanche, to be explicitly identified with the Kan Kingdom. Maya kings of Calakmul even assumed some of the ancestral royal names recorded on the codex-style vessels, a practice also observed at Tikal and Yaxchilan.

CONCLUSION

The Mirador Basin data suggest that Maya kingship was a process closely linked with the economic capabilities of the region, with control of a large and ample labor force, and ideological incentives (religious. political, economic) that persuaded and coerced the masses to accommodate royal institutions and bureaucracy (Hansen 1992a, 2000, 2012a). If our conclusions are correct, by the late Middle Preclassic period the rulers of small state systems emerged in the Mirador Basin and embarked on the formation of perhaps the first expansive state in the Maya lowlands, the Kan Kingdom, with its presumed capital at Nakbe or El Mirador. By the early Late Preclassic period, however, the development of the state saw its apogee and El Mirador emerged as the major polity in terms of size and central position. From their beginnings, the centralized and cohesive nature of the earliest polities was characterized by the construction of causeways, which linked the major and minor cities of the Basin into a common economic and political alliance, with satellite communities joined to both major and minor sites. This precocious formation made possible the construction of the largest platforms, palaces, and pyramidal structures in most of the major sites in the Mirador Basin, and allowed the growth of the cities to be among the largest in the Maya world, centuries before the time of Christ.

The monuments and constructions of the Mirador Basin are the silent witnesses of a unique saga of human history, beginning in the early Middle

Preclassic period and reaching a peak of development until a dramatic, demographic decline occurred at the end of the Late Preclassic period (Hansen 1984, 1990, 1992a, 2001a; Hansen, Howell et al. 2008; Hansen 2012b; Balcarcel et al. 2010). It is now apparent that the Preclassic kings of the Mirador Basin ruled over the first and most powerful states in the Maya lowlands. In the process, they created an architectural environment unrivaled in the Maya lowlands at any period of time.

Although there were likely subsequent rulers at various periods in the Mirador Basin, the entire area appears to have suffered large-scale depopulation by about 150 CE. This finding is corroborated by the pollen data that records the disappearance of maize pollen and agricultural weeds and the return of tropical forest species, also evident in the isotope signatures of the flora (Hansen et al. 2002). These detailed data, which are consistent from several sources along the western edge of the Mirador Basin, suggest the reality of this depopulation event chronologically, biologically, and culturally (Wahl 2005a; Wahl et al. 2005; Wahl et al. 2006, Wahl, Byrne et al. 2007; Hansen 2012b). As the tropical forest returned to cover the great Preclassic structures, a later modest and dispersed population returned in the Late and Terminal Classic periods, particularly in sites in the southern part of the Basin, residing in modest structures among the ruins of the former splendor (Hansen 1996, 2001b). The northern part of the Basin, however, erupted again in a formidable display of power with the emergence of Dzibanche and, ultimately, Calakmul as an expansive state system that dominated much of the political, economic, and social scenarios of the Late Classic Maya lowlands.

After the fall of the Preclassic states throughout the Maya lowlands, it appears that the ruins of the great cities of the Mirador Basin were the object of pilgrimages for centuries thereafter. This is indicated by the presence of Classic era incense burners on the summit of the largest pyramids, as well as several examples of Postclassic ceramics and figurines on structures or in burials (Hansen, Howell et al. 2008). Recent excavations at the site of Naachtun have demonstrated a strong Early Classic and Terminal Classic presence at the site, suggesting that perhaps some of the occupants from the interior of the Basin had migrated to Naachtun (Nondedeo et al. 2012). The floresence at Dzibanche in the Early Classic period and, subsequently, at Calakmul, which became a dominant state during the Late Classic period, is likely reflective of the polity that existed centuries earlier

farther south in the same cultural and environmental system. It is noteworthy, however, that the name of Calakmul was not Kan, but rather *Ox te'tuun* or *Chiik Naab* (Martin and Grube 2000:104). It is likely that the Kan title was a reference to the Preclassic polity that had provided the legacy and legitimacy for the Basin rulers at Calakmul.

Meanwhile, the occupants of many of the abandoned Preclassic sites during the Late Classic period included artists and scribes, living in modest structures, who produced the unique codex-style ceramics (Robicsek and Hales 1981; Hansen et al. 1991; Hansen, Howell et al. 2008; Reents-Budet et al. 2011) that they exported to other sites within the Basin such as Calakmul (Reents-Budet et al. 2011). Neutron activation analysis of these materials and comparison with more than 36,000 other samples show that codex-style ceramics are unique in composition and restricted in manufacture to the Mirador Basin (Reents-Budet et al. 2011). They present detailed supernatural and mythological scenes in finely painted lines on bowls, plates, and vases. But they also record a fascinating sequence of kings believed to be the dynasty of the Preclassic Kan rulers, who once presided over the first state-level polity in the Maya lowlands. This legacy, both of the rulers and the ruled, and the associated cultural and natural dynamics of statehood and kingship formed the primordial foundation for the first Maya states.

ENDNOTES

8.1. A maize pollen (*Zea mays*) grain, recovered from a sealed lake deposit (Puerto Arturo) was associated with sediments between two AMS carbon dates of 3320 and 1279 BCE (calibrated). The sample has an estimated calibrated date of 4650 BP (2700 BCE) according to the fine-grained stratigraphic sequence, suggesting that an early corn-growing occupation may have occurred somewhere in the Basin (Wahl 2005). We lack any additional evidence for such an early agricultural presence other than several carbon dates from later deposits at El Mirador that date to approximately the same period.

8.2. The distribution of early Middle Preclassic settlements may have been severely distorted by subsequent quarrying activity over vast portions of Nakbe, particularly to the south of the East Group and areas between the East and West Groups. I conclude, based on the size and distribution of monumental architecture at Nakbe, and test excavations throughout the peripheral areas, that Middle Preclassic residences and platforms covered the entire site. A similar situation probably occurred in the Cascabel and Sacalero areas of El Mirador, now known to date to the Middle Preclassic periods. Fur-

ther sampling at more distant locations from the site center should resolve this issue.

8.3. The presence of cortex on recovered obsidian waste flakes and core shatter indicates that some San Martin Jilotepeque obsidian was transported into Nakbe and El Mirador in raw nodule form, and there is ample evidence of early-stage reduction debitage. Other possible cortex sources may have been on the distal ends of cores and possibly large imported flakes, but evidence suggests that obsidian was transported with cortex and initially worked at the sites into prismatic blades. Chemical analyses by Ray Kunselman of 85 samples of Middle Preclassic obsidian blades and flakes from sealed contexts show a strong concentration (66%) of Middle Preclassic obsidian from San Martin Jilotepeque, with 32% from El Chayal, and 1% from Ixtepeque (Kunselman 2000). Percentages may change with the pending analyses of more obsidian fragments from Middle Preclassic contexts at Nakbe and El Mirador, but comparisons with other sites suggest that SMJ percentages are likely to increase.

8.4. At Nakbe, El Mirador, El Pesquero, Xulnal, and other sites in the Mirador Basin, the late Middle Preclassic period is characterized by large bowls with extremely wide everted rims (up to 10 cm wide) and waxy monochrome slips. In addition, slightly inverted-rim bowls with incised exteriors suggest a standardization of vessel forms, slips, and manufacturing modes. Woven mat motifs continue to be incised on vessel exteriors, indicating an enduring presence of the symbols of royalty.

8.5. Similar economic and social parallels can be observed in U.S. history. When the transcontinental railroad was completed in 1869, it served as a major stimulus in the economic and social integration of the country. Today, the rail system and the interstate freeway systems allow for social and economic interaction across the entire country.

8.6. The greatest percentage of monuments identified in the Basin are uncarved stones that appear to have been relocated from their original settings by Late Classic populations and reset, often near elite residences as a form of stela cult. Many of the stones are in a deteriorated state, without detectable carved or incised designs, since they frequently are still standing and exposed to the elements. It is also possible that many were originally covered with a lime plaster. These monuments are found along causeways (Nakbe Stela 12), near residential constructions (Nakbe Mons. 5, 6, 7, Stelae 10, 11), near major architecture (Nakbe Mon. 8, Stela 9; El Mirador Stela 19, Altar 20, Mon. 21), and even incorporated into architecture (El Mirador Mons. 5–11; La Florida Stela 1). They are also placed directly on platforms of buildings (Pedernal Stela 1, Altar 6). In some cases, stelae were placed without architectural associations (La Muerta Stela 2). Fragments of carved monuments are often found in rubble or along collapsed walls (El Mirador Stela 12), or were recovered from looters' camps (Zacatal Mon. 2).

8.7. Monuments at Pedernal, Tintal, and Nakbe were associated with smashed Late Classic

ceramics consisting of drums, plates, bowls, and restricted orifice, liquid storage vessels (Chinja Impressed). Tintal Stela 1 was associated with incensarios and evidence of incense burning. Nakbe Monuments 2 and 3 were set inside Structure 52 where copal incense was found and bloodletting appears to have occurred (Hansen 1992a).

8.8. A series of Preclassic sculptures from coastal Chiapas had edges carved with both realistic and abstract figures (see Lee 1990). In like manner, San Jose Mogote Monument 3 had carving that extended over the side of the stone (Marcus and Flannery 1996:129).

8.9. Chemical and compositional analyses and subsequent comparisons with other red sandstone sources in the Maya area revealed that the stone for Tintal Stela 1 came from the lower Pasión and upper Usumacinta areas (Schreiner 1992). It appears that the sandstone slab weighing over 6.42 metric tons (Sidrys 1978:174), for which additional fragments have now been identified, came from the Altar de Sacrificios region, approximately 110 km away, 150 km by riverine routes. Its date of transport is uncertain, but it was most likely moved into the Mirador Basin during the Middle Preclassic and subsequently discovered, venerated, and ultimately mutilated during the Late Classic. The monument was recarved from an earlier sculpture, a practice known in Middle Preclassic times throughout Mesoamerica (e.g., Cyphers 1994).

8.10. The appearance of Olmec-style artifacts has been noted at a variety of sites, although evidence that these artifacts originated in the Olmec heartland is becoming increasingly evident (Blomster et al. 2005). At Mazatán, Chiapas, Clark noted the abrupt change in human figurine forms from the Ocos local style to the deformed crania of "Olmec" figurines (Clark 1990:51). Similarly, Richard Lesure found that the Soconusco region of Chiapas and Guatemala had a rapid decline in realistic ceramic animal effigies, thought to be associated with local traditions about 1000 BCE, while representations of stylized mythical creatures and symbols became common on incised vessels associated with the Olmec art (Lesure 2000, 2004). Changes in ceramics (from red serving wares to black or white wares) in Pacific coast societies have been correlated with emulation and/or contact with the Gulf coast Olmec (Clark and Pye 2000b:234). Architecturally, structural patterns and spatial organization of sites potentially accessible to direct Olmec occupation follow the north-south axis orientation of Olmec sites, as evident for examples at Finca Acapulco (Lowe 1977:285), San Isidro (Lowe 1989b), La Libertad (Lowe 1989b:382), and La Venta (see González Lauck 1996:74). These transformations may corroborate arguments that Olmec influence pervaded the Soconusco sometime around 1000 BCE, and coincided with shifts in social, political, and economic organizations.

A second visible shift is ostensibly between 900 and 600 BCE in which an Olmec presence is suggested by the appearance by small portable objects such as figurines,

plaques, and jade celts. The viable trade and transportation routes along the Pacific coast made participation easier for the coastal societies in the broader interactions with the Olmec (Clark and Pye 2000b), yet the widespread availability of such objects from trade complicates their significance as evidence for Olmec influence or presence.

8.11. The result of examination of the San Bartolo ceramics by Donald Forsyth and this author concurs with Saturno's dating of the murals. The fill that covered the murals cannot be much earlier than 100 BCE or later than about the time of Christ. This suggests either that Nakbe Stela 1 is later than the late Middle Preclassic–early Late Preclassic period, or Preclassic iconographic depictions of figures like those in the murals remained fairly constant over several hundred years, as attested by studies of Olmec Maize God images on celts and other portable objects (Taube 1996a). I prefer the latter position because of the radical architectural, demographic, and iconographic changes in the Maya lowlands during the latter part of the Late Preclassic period. For example, text panels are not found on large late Middle Preclassic–early Late Preclassic stelae in the lowlands. Texts appear later, but only on monuments of extremely reduced size, characteristic of Terminal Preclassic sculpture.

8.12. Extensive excavations on Nakbe Structure 13, similar in size and shape to Wakna Structure 3, failed to locate burials in the same locations as those found at Wakna. Patterns of Late Preclassic royal burials are still enigmatic.

8.13. Recent mapping of the Danta Complex provided the first accurate map of the massive structure. Calculations of volumetric comparisons were based on the extensive experimental programs enacted by the Mirador Basin-RAINPEG project.

8.14. The Mirador Basin is also a candidate for being the legendary Tamoanchan place (Hansen, Howell et al. 2008). Tamoanchan was the mythological birthplace of political dynasties throughout all of Mesoamerica. "Tamoanchan" is not a Nahuatl or Mixe-Zoque word, but a Maya word meaning "Land of Rain or Mist" (Thompson 1950:115). The Tamoanchan place is associated with "primeros pobladores" (Sahagun 1955 (I):14) or the "house of descent, place of birth…where gods and men originated" (Seler 1904:220). Sahagun further explains that the Tamoanchan place was in the province of Guatemala (1955 (I):307), and associated with the land of mists, rain, and water. The long-abandoned Mirador Basin is a viable candidate for the mythical place of origin because of its swampy marshland landscape.