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THE VANDERBILT PETEXBATUN REGIONAL ARCHAEOLOGICAL PROJECT 1989–1994

Overview, history, and major results of a multidisciplinary study of the Classic Maya collapse

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Abstract

The background, research design, structure, personnel, and history of investigations of the Vanderbilt Petexbatun Archaeological Project are summarized and critiqued. The major findings of each of the dozen subprojects of this multidisciplinary investigation of Maya civilization in the southwestern Peten region of Guatemala are reviewed. Subproject results include important new evidence on Classic Maya history, warfare, ecology, nutrition, cave ritual, social organization, and trade. These are summarized with particular emphasis on the implications of the Petexbatun findings for theories of the decline of southern lowland Maya civilization at the end of the Classic period.

The Vanderbilt Petexbatun Regional Archeological Project has completed six years of intensive research in the Petexbatun region of the southwestern Pasión River valley area of the Peten rainforest of Guatemala (Figure 1). Many aspects of the project were ambitious, including its scale, its interdisciplinary nature, its complex organizational structure, and its large regional zone of research. The project had a consistent theoretical focus on the issue of the causes and nature of the decline of Classic Maya civilization. Over the next few years, the results of the thousands of excavations and specialized studies across the Petexbatun zone will be published and debated by the field. We believe that the results will change some of our perspectives on the final centuries of Classic Maya society. As detailed below, preliminary reports, papers, and articles have already been published, and a multivolume monograph series is in preparation. Here in this special section of *Ancient Mesoamerica* we hope to present brief syntheses of some salient results of the project, authored by subproject directors of those investigations that have completed field work, lab studies, and initial interpretations. In this article, I summarize the theoretical issues, prior research, history, structure, and some of the general results of the project.

THEORETICAL BACKGROUND

For over a century archaeologists have debated the nature, chronology, and possible causes of the "Classic Maya collapse," i.e., the decline of Classic Maya civilization in the southern lowlands of northern Guatemala, Belize, and adjacent areas of Mexico and Honduras (Cook 1921; Cowgill 1964; Culbert 1973, ed. 1973, 1988; Sharer 1977; Thompson 1966). Popular theories have proposed "prime movers" for the collapse including disease, earthquakes, foreign invasion, peasant revolt, shifts in trade routes, and radical climatic change (Adams 1973; Hamblin and Pitcher 1980; Hodell et al. 1995; Messenger 1990; Rathje et al. 1978; Sabloff and Rathje 1975; Saul 1973; Thompson 1966). Until the late 1960s, collapse theories were based upon subjective impressions or highly selective emphasis on particular items of evidence (e.g., MacKie 1985; Meggers 1954; Thompson 1966). Systematic archaeological research on this question has intensified in the last three decades, and especially in the last 10 years (e.g., Chase and Rice 1985; Demarest 1989, 1996a; Sabloff and Andrews 1986; Webster and Freter 1990).

The Pasión River region of the western Peten, which includes the Petexbatun area (see Figure 1), was the focus of some of the first careful scientific research on the collapse problem. Reconnaissances by Graham and others (e.g., Graham 1967; Greider 1960; Vinson 1960) had demonstrated the presence of militaristic monuments, defensible sites, and even possible fortification walls at sites in the Pasión region, including the Petexbatun zone. Surveys led to the initiation of more systematic major archaeological projects in the region. The Harvard Peabody Museum projects directed by Gordon Willey began the intensive large-scale multidisciplinary investigation of the Pasión region at Altar de Sacrificios and on the edge of the Petexbatun kingdom itself at Seibal. That research included major excavations in the site epicenters, settlement-pattern studies, residential excavations, osteological studies, faunal analyses, recovery and study of monuments and texts, and innovative analyses of ceramic classification, ceramic composition, and trade systems (Adams 1971, 1973; Bishop 1975, 1980; Bishop and Rands 1982; Graham 1972, 1973, 1990; Pohl 1990; Sabloff 1975; Sabloff et al. 1982; Saul 1972; Smith 1972, 1982; Tourtellot 1988, 1990; Tourtellot and Sabloff 1972; Willey 1972, 1973, 1978, 1990; Willey and Smith 1969; Willey et al. 1975).

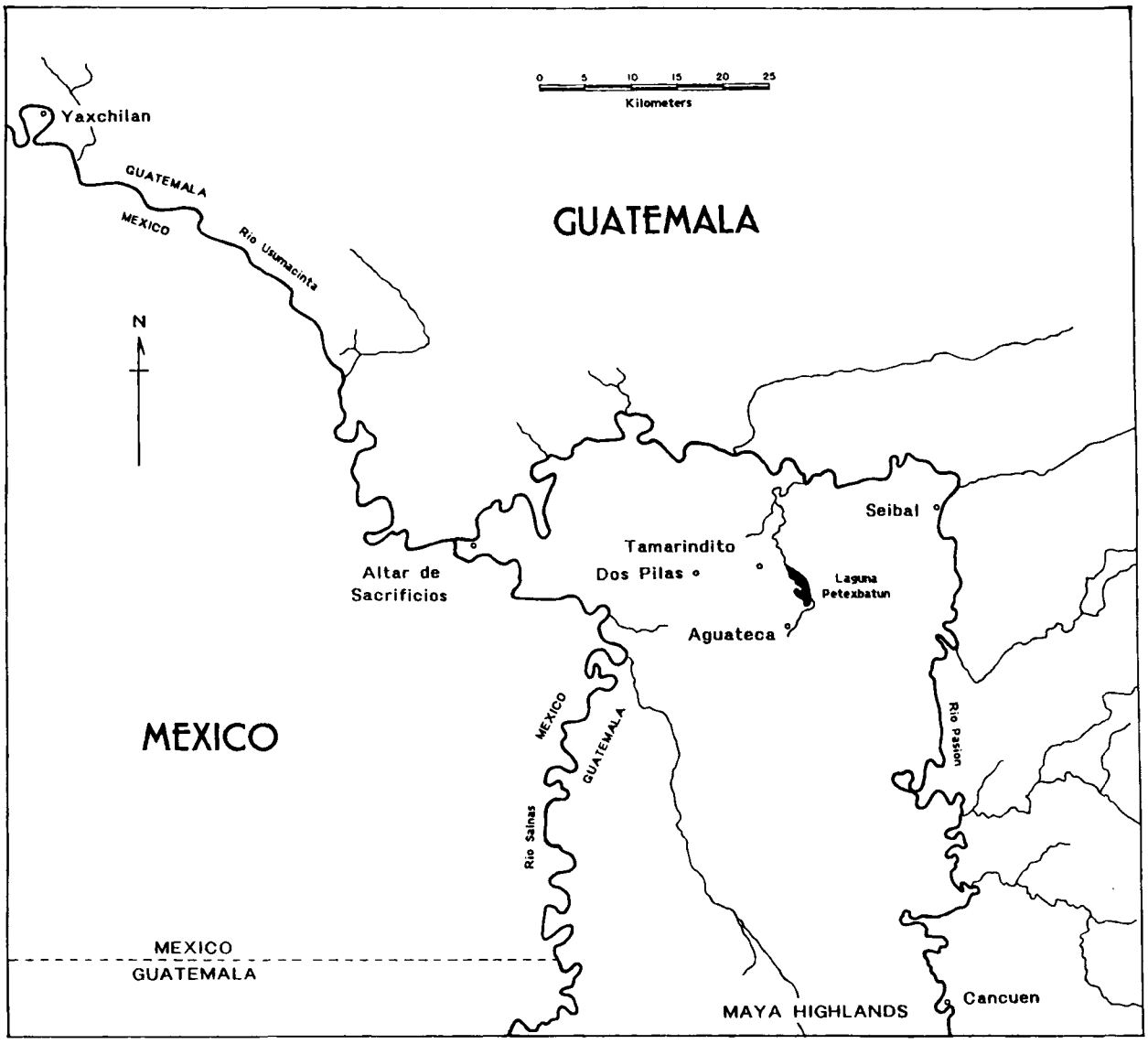

Figure 1. The Pasión River valley region of the Peten.

While there were many important discoveries in this decade of Pasión River research, the most exciting finds related to the last centuries of Classic Maya civilization and the collapse. Ninth-century features of the monuments and on the fineware ceramics of these sites were believed to indicate foreign influences from Mexican or "Mexicanized Maya" groups to the west. The heavily militaristic themes on Late and Terminal Classic Pasión monuments and on Terminal Classic modeled finewares were also believed to reflect Mexican influence. Many argued for a greater intensity of warfare due to some degree to the presence of foreigners, mercenaries, foreign "influence," or interethnic conflict (e.g., Adams 1973, 1983; Cowgill 1979; Demarest 1978; Graham 1973; Sabloff 1973; Sabloff and Willey 1967; Smith 1958; Willey 1973, 1990; Willey and Shimkin 1973).

The Altar and Seibal projects' conclusions on the collapse were far more sophisticated and diverse than they have sometimes been characterized. Throughout the history of those investigations—and afterwards—project members debated the role, degree, and nature of foreign influence or intrusion. Another issue much disputed was whether such foreign influences or intrusions helped to cause the Maya collapse or were merely consequences of internal weakness and disintegration. The Altar and Seibal investigators' studies of the presumably most "foreign" elements (fineware ceramics and ninth-century monuments) gradually shifted to view both as locally evolved styles (cf. Adams 1973; Bishop 1975, 1994; Bishop and Foias 1993; Bishop and Rands 1982; Graham 1972, 1973, 1990; Harbottle and Sayre 1975; Mathews 1979; Mathews and Willey 1991; Sabloff 1973; Sabloff and Willey 1967; Stuart 1993; Willey and Shimkin 1973; also see articles in this special section). In all respects the debates begun by the Altar and Seibal projects have been continued by the Vanderbilt Petexbatun Project researches. We hope we have resolved many of the problems first raised by those investigations—of course, at the same time giving rise to new, more complex questions.

THE VANDERBILT PETEXBATUN REGIONAL ARCHAEOLOGICAL PROJECT

Inspired by the debate on Maya warfare of the 1970s and by the alternative conclusions of the Pasión Valley projects on the Classic Maya collapse, in the mid-1980s I began to seek a subarea to explore issues of warfare and the collapse. The reconnaissances of Ian Graham and the Seibal project results had demonstrated that the Petexbatun region had ample evidence on these issues. The Harvard projects had discovered the presence in the Pasión region of very rich evidence on the final century of Maya civilization, whatever specific interpretation one accepted. Reconnaissance and epigraphic research in the Petexbatun region itself had demonstrated the presence of fortifications (Graham 1967) and of eighth-century monuments and texts dominated by themes of warfare and alliance (Houston 1987; Houston and Mathews 1985; Mathews 1979; Mathews and Willey 1991).

In 1986, I began negotiations with the Ministry of Culture of Guatemala for a regional permit for the entire Petexbatun zone including all major sites and intersite areas. My hope was to launch a large-scale multidisciplinary research project that would address major processual problems—continuing earlier interests in the interaction among warfare, politics, and ideology in the expansion and collapse of civilizations (e.g., Conrad and Demarest 1984; Demarest 1978, 1984; Demarest and Conrad 1983). In addition to these scientific concerns and opportunities, another goal of the project was to launch a new anthropology department and Ph.D. program at Vanderbilt University concentrating on Mesoamerican archaeology and ethnography. We needed a project large and complex enough to provide the funding and discoveries needed for outstanding Ph.D. dissertations.

Initial stages of the project were facilitated by existing preliminary maps of some Petexbatun major site core areas and renderings of many hieroglyphic monuments by Graham (1961), Mathews (1979), and Houston (1987). Furthermore, Mathews and Houston had completed a dynastic sequence for Dos Pilas and had related that sequence to Tikal and to other sites in the region (Houston and Mathews 1985; Mathews 1979). Work began in the first season in 1989 under that season's field director Kevin Johnston at Dos Pilas, the seventh- and eighth-century capital of the Petexbatun kingdom (Demarest et al. 1989). Initial research at this site was facilitated by the previous mapping of the Dos Pilas central areas by Houston, Dixon, and Johnston (Houston 1987; Houston and Mathews 1985). Investigations rapidly expanded to study other sites and intersite transects throughout the region (Figure 2).

The project began with an emphasis on defensive systems and epigraphic interpretation, the two areas of research for which the importance of the region was already demonstrated (e.g., Demarest 1989, 1990; Demarest and Houston 1989, 1990; Houston 1987). By the end of the second season in 1990, however, the project expanded to include a dozen subprojects, each directed by its own team of scholars, exploring every aspect of Petexbatun Maya civilization. By 1991, the project had grown to include over 45 senior scientists and Ph.D. candidates, several hundred workmen, six camps, with a network of runners, boats, and vehicles loosely connecting the watery and unwieldy organizational structure of the project.

The expansion of research, recruitment of specialists and personnel, and the logistical support of administration were fueled by initial discoveries of monuments and tombs with extensive (often inaccurate) press coverage and by aggressive fund raising (see Acknowledgments). By 1991, however, the project began to shift to contemporary concerns in archaeology, especially settlement patterns, ecology, nutrition, trade and exchange systems, and so on. My own fieldwork throughout was primarily on defensive systems (with occasional tomb or palace digressions), while I continued to be general director and administrator of the project and its subprojects. Control and organization were made workable by the semiautonomous nature of the dozen subprojects, their direction by senior experienced personnel, and (from 1991 on) by my general codirector, Dr. Juan Antonio Valdés of the University of San Carlos, Guatemala, who adeptly handled many problems of personnel and politics while directing his own excavations in major architecture.

THE PETEXBATUN SUBPROJECT INVESTIGATIONS

As the project progressed, subproject investigations and teams were added to address major objectives of the original research design or to explore unexpected rich new areas of evidence. I felt that healthy internal dialogue and debate had greatly benefited the Harvard Altar and Seibal projects, as well as the University of Pennsylvania investigations at Chalchuapa (Sharer 1978). An organizational structure was established with directorship of each subproject by a codirector (subproject director) with established expertise in that field and often with a different theoretical orientation from my own. For example, many of the personnel working on aspects of ecology, subsistence, and nutrition had a distinctly cultural materialist (or at least, culture-ecological) orientation in contrast to the emphasis in much of my own previous work on political or ideological factors. While such a structure made the financial and organizational demands of the project even more difficult, it also assured more thorough coverage of most major areas of evidence, much internal debate, and a resulting high degree of confidence in final results and interpretations.

Of equal importance to the structure and integrity of the project was the decision to have all lab analysts and specialists actually participate in the field seasons throughout the project (rather than merely receiving their samples at labs after the end of seasons). Ecological and subsistence subproject directors and specialists like Nicholas Dunning, Timothy Beach, David Lentz, Lori Wright, and their teams were in the field each season. Thus, they were able to advise on proper sampling strategies and research designs to recover ecofacts and subsistence evidence from all other subproject surveys and excavations. Their presence in the field also assured uniform and proper physical recovery of soil samples, phosphate tests, pollen samples, phytoliths, and other ecofacts. Samples were often directly taken by ecological specialists, and other personnel were trained, supervised, and corrected in recovery of ecofacts and excavations of subsistence features.

Similarly, recovery, field sorting, classification, and sampling of ceramics for neutron-activation analysis were directly supervised by Ronald Bishop, Antonia Foias, and their Exchange Systems Subproject team. Bishop trained personnel and supervised field sampling of Petexbatun ceramics. Most importantly, Foias and Bishop's presence in the field allowed them to guide our specific excavations and field-sampling decisions each season toward recovery of the ceramic samples from the specific sites and time periods that were needed to complete our understandings of production and exchange systems. All other subproject directors and/or specialists also were in the field and were able to provide continuous feedback on research design, sampling, and recovery tech-

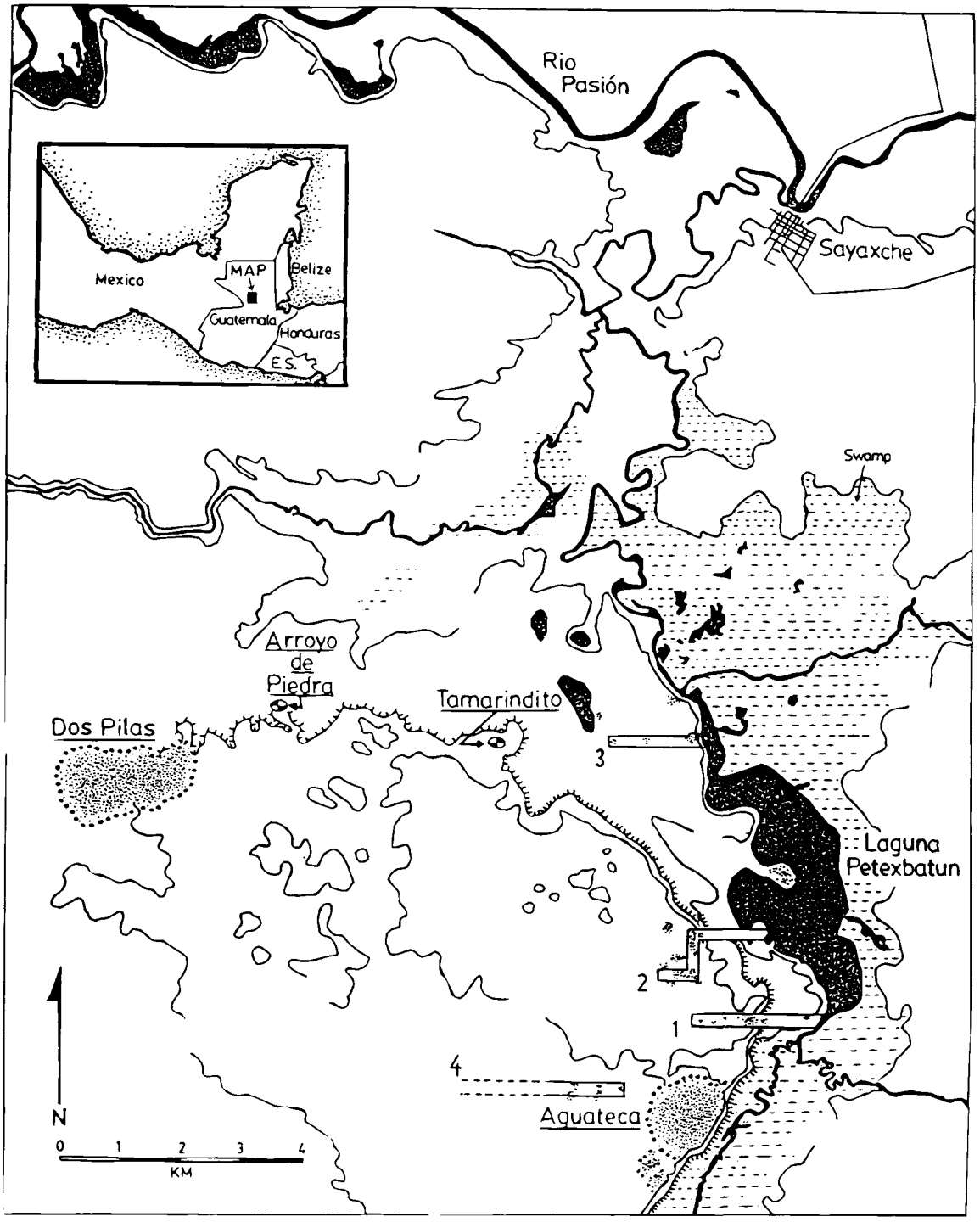

Figure 2. Petexbatun project research area showing major sites and intersite survey transects.

niques including osteology (directed by Lori Wright), flora (directed by David Lentz) and fauna (directed by Katherine Emery), monuments and epigraphy (directed by Stephen Houston, assisted by David Stuart), and cave investigations (directed by James Brady).

The presence in the field of subproject directors and their specialized teams has been responsible for the breadth, importance, and reliability of the results obtained. Confidence in final interpretations was also enhanced by the high degree of intellectual autonomy of subprojects and the input of all scholars into research objectives and methods. The overall project research design was constantly modified based on the advice of experienced scientists with the perspective of other disciplines (especially Bishop, Dunning, and Valdés). I would argue that such a project organizational structure should become standard for large multidisciplin-

ary projects addressing controversial issues in the Mesoamerican field.

Some of the preliminary results of the subprojects of the Petexbatun investigations from 1989 to 1995 are reported in the articles in this special section. Those articles include description of studies of defensive systems (Demarest et al. 1997), production and exchange systems (Foias and Bishop 1997), ecological studies (Dunning et al. 1997), osteology (Wright 1997a), cave investigations (Brady et al. 1997), residential excavations and site studies at Dos Pilas (Palka 1997b) and Aguateca (Inomata 1997), and studies of architecture, monuments, and site excavations at the major centers of Tamarindito (Valdés 1997) and Arroyo de Piedra (Escobedo 1997a). More complete and technical descriptions of results can be found in the many articles, monographs, and dissertations referenced in each of these articles (for brief general summaries also see Demarest [1993, 1996a]; Demarest and Valdés [1995a, 1995b]). A detailed description of subproject investigations and initial lab results has been presented in six massive preliminary reports of the project (Demarest and Houston 1989, 1990; Demarest et al. 1992; Demarest, Inomata, Escobedo, and Palka 1991; Demarest, Valdés, and Escobedo 1995; Valdés et al. 1993). In keeping with formal agreements and general understandings with the Ministry of Culture of Guatemala, the project has published all of its preliminary reports and initial articles in Spanish. The articles in this special section, some others published or in press (Demarest 1993, 1996a; Dunning and Beach 1994; Wright 1997b; Wright and White 1996), and a 20-volume final monograph series now in preparation with Vanderbilt University Press will be presented in English. These will include all final analytical results and interpretations.

PRELIMINARY RESULTS

Elite Architecture, Tombs, Monuments, and Epigraphy

While project investigations were regional in orientation, excavations also included traditional intensive study of ceremonial epicenters and public architecture at Dos Pilas, Tamarindito, Arroyo de Piedra, Aguateca, and Punta de Chimino. Some of those studies are touched upon briefly in the following articles. In general, here we are emphasizing aspects of research that were more regional in nature and more oriented toward broader culture-historical or processual issues. Nonetheless, the excavations of palaces, tombs, monuments, and ballcourts did provide important information on chronology, political structure, warfare, and alliances. For that reason, these elite contexts merit brief summary here, with references to more complete descriptions elsewhere. Elite architecture has been detailed in our six preliminary monographs and has been presented in *National Geographic* films and an article (Demarest 1993), in newspaper reports, and in summary articles (Demarest 1991, 1993, 1996a; Demarest et al. 1989, 1994; Demarest, Escobedo, Valdés, Houston, Wright, and Emery 1991; Demarest, Houston, and Johnston 1991; Valdés and Demarest 1993). In this special section, there is some discussion of architecture, tombs, and epigraphy in the Arroyo de Piedra and Tamarindito epicenters in the articles by Escobedo and Valdés and on elite architecture and artifact distributions near the royal palace at Aguateca (Inomata 1997).

At the capital site of Dos Pilas, a substantial proportion of the elite architecture was excavated. The principal seventh-century palace of the western Plaza Group was excavated by Symonds, Arroyo, Demarest, and Houston. This excavation recovered defensive systems that were erected much later during the siege that preceded the site's depopulation about A.D. 760. We also uncovered an intact hieroglyphic staircase (Figure 3). Also in this western group, large presentation temples, the palace of the "Lady of Cancuen" (the wife of Ruler 3), panels with politically significant hieroglyphic inscriptions, and fragments of other stairways and monuments were recovered (see more complete descriptions in Demarest [1993]; Demarest and Houston [1989, 1990]; and Demarest, Inomata, Escobedo, and Palka [1991]). Later, during the 1994 season—the last season of the project—Escobedo excavated yet another Dos Pilas palace in the Duende Group. In 1994, I directed nearly complete excavation of the largest royal palace at Dos Pilas, the Murcielagos Group (Figure 4), with nearly 800 m^2 of horizontal exposure (see chapters in Demarest, Valdés, and Escobedo [1995] for detailed descriptions). Meanwhile, public architecture, palaces, elite residences, and monuments were also being excavated at the sites of Arroyo de Piedra, Tamarindito, and Aguateca (see Demarest, Inomata, Escobedo, and Palka 1991; Demarest et al. 1992; Valdés et al. 1993). Finally, in 1996, a new, more focused project directed by Héctor Escobedo and myself returned to the site of Punta de Chimino and excavated much of the public and elite architecture at that fortified peninsula center, as well as nonelite residences, agricultural systems, and defenses (Demarest and Escobedo 1997; Demarest and Escobedo, eds. 1997; Escobedo 1997; Quezada et al. 1997). The 1996 Punta de Chimino excavations provided some surprises regarding the final century of Maya civilization in the Petexbatun and the violent transition to the Terminal Classic period.

All of these investigations of elite contexts recovered important data for the architecture, epigraphy, trade and exchange, and osteology subprojects. The monuments and polychrome vases with texts formed a historical database that completed our understanding of the epigraphic history of the region. In initial preliminary interpretations of the culture history of the region we relied heavily upon the epigraphic record (e.g., see Demarest 1990, 1993; Demarest and Houston 1990). This combined archaeological and epigraphic approach was facilitated in the 1990 season by the fact that epigrapher Stephen Houston was project codirector and epigrapher David Stuart was also in the field aiding interpretations of new monuments (Houston 1993; Houston and Stuart 1990). Epigraphic details allowed us to plot the waxing fortunes of individual centers, dynasties, and rulers (see Escobedo 1997a). Furthermore, the data from the monuments provide a general perspective on the types of interactions, conflicts, and shifting power structures that were characteristic of the intensifying elite competition in Petexbatun politics before the total breakdown of the system in the late eighth century.

An important lesson of the project has been that the epigraphic record must be used with great caution to inform us about the *general* nature of Classic Maya elite culture, beliefs, and political events. It may be premature to posit a network of specific Peten histories linked to archaeological culture history until we have resolved disagreements about specific critical readings and more general concerns about the significance of different forms of epigraphically recorded alliances. In retrospect, some of our earlier interpretations of elite iconography and history and our association of this evidence with the archaeological record seems somewhat simplistic. The history of Dos Pilas expansionism was presented as a sequence of conflicts and alliances directed by the ambitions of the four major rulers of Dos Pilas—initially to battle their relatives at Tikal for the claim to that throne and later to ex-

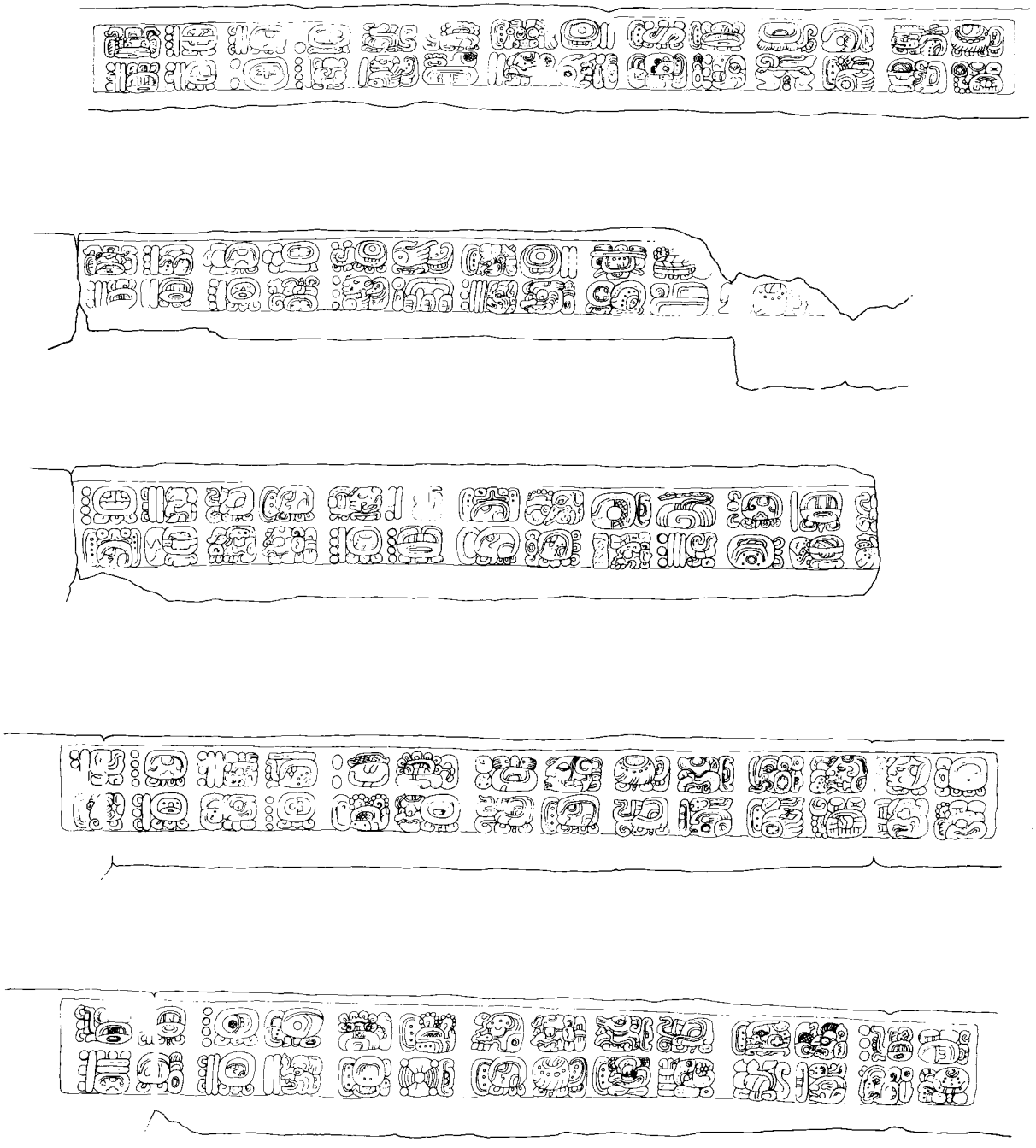

Figure 3. Dos Pilas Hieroglyphic Stairway 4 discovered by the Vanderbilt Petexbatun Project in 1990 (from Demarest and Houston 1990:Figure 15.12; drawn by S. Houston and D. Stuart, courtesy Vanderbilt University Press).

pand to conquer local neighbors (e.g., see Demarest 1990, 1993; Houston and Stuart 1990; Houston et al. 1992).

While the broad outlines of such epigraphic interpretations remain correct, we have reduced our reliance on them to interpret *specific* archaeological contexts and culture history for several reasons. Speculation about the motives and nature of specific wars or alliances must be modified in the light of recent evidence that conflicts in the seventh and early eighth century were also influenced from outside the region, beyond the direct ambitions of Petexbatun rulers (e.g., see Martin 1994; Martin and Grube 1994, 1995). Furthermore, ongoing advances and debates over specific readings have led our own epigraphers themselves to reinterpret specific glyphs and to shift their readings. Some examples are given in the article in this issue by Escobedo (1997a) in which he considers changes in epigraphic interpretations regarding the precise political affiliation of Arroyo de Piedra with the larger center of Tamarindito and the nature and outcome of Tamarindito's wars. Another series of epigraphic shifts concerns whether Ruler 4 of Dos Pilas was captured by Tamarindito in A.D. 761 (Houston 1987), whether he was driven into exile (Schele, personal communica-

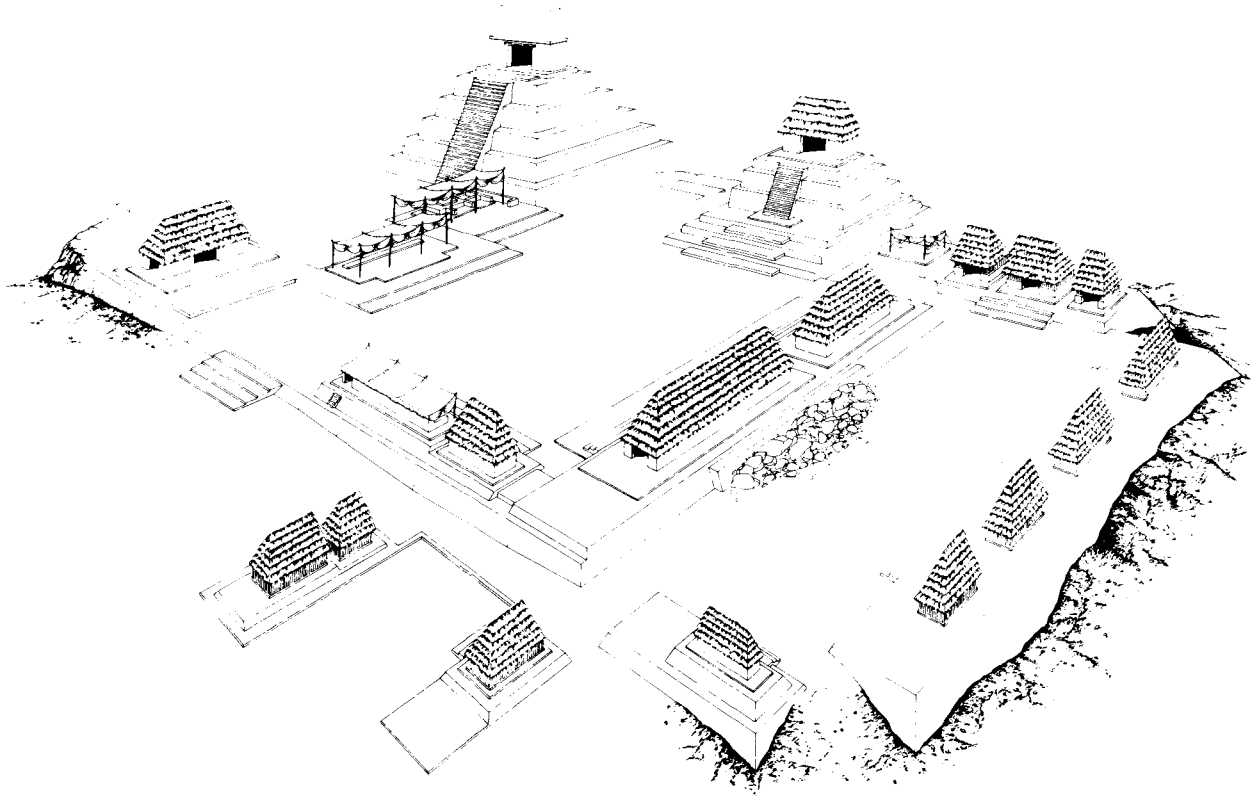

Figure 4. The Murcielagos Group palace of Dos Pilas excavated in 1994 (drawn by L. F. Luin, courtesy Vanderbilt University Press).

tions 1994, 1995), or even whether the identity of the antagonistic centers in this particular conflict needs to be reconsidered (e.g., Escobedo 1997a). Another epigraphic issue is whether a Dos Pilas ruler preceded the ruler that the epigraphers had designated "Ruler 1" (Houston 1993; Houston and Mathews 1985).

Fortunately, while the debate on such epigraphic details of Petexbatun history continues, the meaningful outlines of culture history remain the same: expansion of Petexbatun hegemony until about A.D. 760, the destruction and dramatic depopulation of Dos Pilas at that time, and the disintegration of the region into endemic warfare from about A.D. 760 to approximately A.D. 820–830 (the time of the appearance of Fine Orange). This regional chronology (detailed further below) highlights the pattern of intensifying dynastic rivalries and interelite competition in the seventh and eighth centuries. In the Petexbatun region this competition led to the destructive warfare of the late eighth century between local powers—not foreign invaders.

Hundreds of excavations in palaces, tombs, and public architecture have confirmed this culture history and have refined our understanding of elite life and the formal contexts and means of intercenter rivalry and alliance. The palaces at Dos Pilas (e.g., see Figure 4) have many specific features that confirm the reality of representations in monuments and ceramic art. Presentation palaces, throne rooms, elite residences of various types, and increasingly controlled accesses show how these areas were designed as active stages for politically significant rituals involving local and visiting elites (see Demarest, Valdés, and Escobedo 1995). Palace excavations also demonstrated the skill with which the Petexbatun elites availed themselves of natural sacred loci by positioning their palaces on hills with caves and springs within them (Brady et al. 1997; Demarest 1995a). Even the details of palace surface architecture were aligned with subsurface corridors to reinforce the role of the "Holy Lords" as the axis uniting all levels of the Maya universe.

Royal and noble tomb excavations by Valdés, Demarest, and Escobedo at Dos Pilas, at its satellite epicenters, at Tamarindito, and at Punta de Chimino recovered additional information on chronology, osteology, trade, and tribute. For example, one royal crypt, the probable tomb of Dos Pilas "Ruler 2," had architectural features (Figure 5) confirming the Tikal ancestry of the dynasty and grave goods that included a spectacular vessel from the so-called Ik site, frequently mentioned in other texts in wars and interactions with the Petexbatun lords (Demarest, Escobedo, Valdés, Houston, Wright, and Emery 1991). This center was clearly important in Late Classic politics given its prominence in many texts, yet it has never been securely identified archaeologically. A tomb at Tamarindito also contained a pot from this enigmatic site of "Ik." Other offerings and an external stairway text at Tamarindito confirmed its role as the major Petexbatun regional power both before and after the late seventh to mid-eighth century apogee of the upstart dynasty of Dos Pilas (Valdés 1995, 1997). Changing political affiliations can also be proposed from the contents of some tombs found at sites without monumental texts, such as the funerary temples and tombs excavated by Escobedo (1997b) in the epicenter of the unique fortified peninsular center of Punta de Chimino (Figure 6). Excavations of the ballcourt and elite residences at that site defined the last phase of Petexbatun history when Pasión elites,

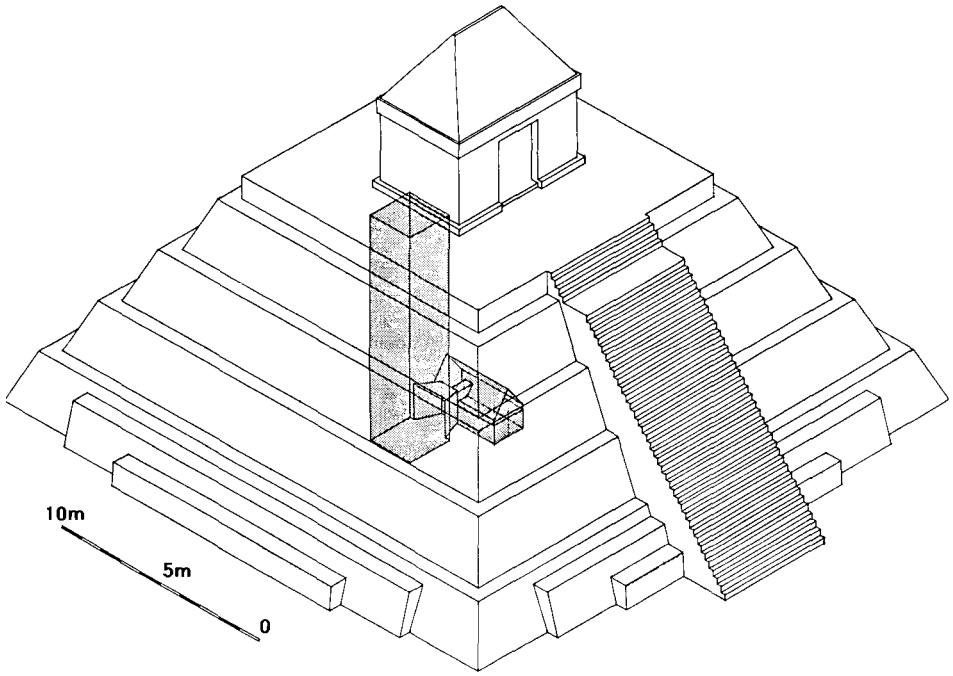

Figure 5. Dos Pilas Structure L5-1 funerary temple showing original structure form and interior excavation to tomb (drawn by R. Song, courtesy Vanderbilt University Press).

perhaps from Seibal, may have occupied this site as the only remaining major Petexbatun stronghold in the ninth century (Demarest and Escobedo 1997; Quezada et al. 1997).

Taken together, the results of the research on elite culture provided critical information for initial chronology, refinement of the epigraphic history, and our understanding of elite culture itself. Perhaps of greatest importance, excavation of elite contexts provided very securely dateable samples for other subprojects studying ecology, osteology, trade and exchange, nutrition, and so on. Finally, the elite architecture and monuments, together with an excellent ceramic chronology, gave the secure dating for the fortifications and palisade base walls that were constructed in the late eighth century, often running over such well-dated architecture (see Demarest et al. 1997).

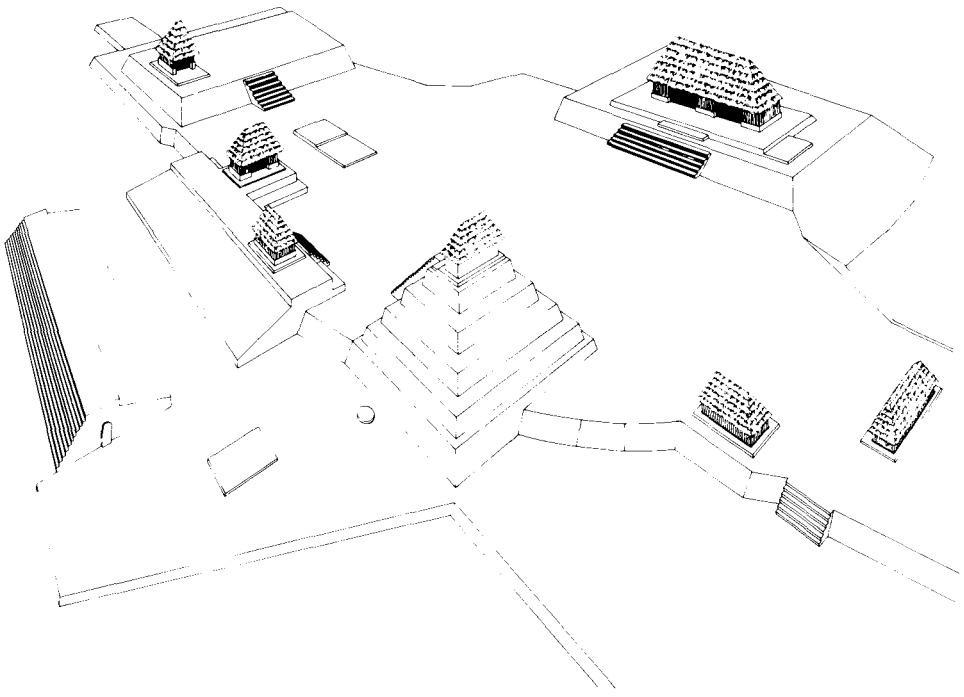

Figure 6. View of a portion of the epicenter of Punta de Chimino showing Funerary Structure 7 and ballcourt (drawn by L. F. Luin, courtesy Vanderbilt University Press).

Ecology, Osteology, Nutrition, Trade and Exchange, Caves, Defensive Systems, and Settlement Pattern Subprojects

Our traditional studies in 1990 and early 1991 of Classic Maya elite culture made many spectacular discoveries of tombs, monuments, and architecture that aided the launching and funding of the project. Yet the results of other research, especially on the defensive systems and ecology, have provided unique evidence of the greatest general significance to understanding Maya civilization and its collapse. The preliminary results of most of these regional subprojects, as well as some site-specific studies, are summarized by subproject directors in the articles in this special section. Here, some salient common patterns and conclusions merit specific note.

Most of the subprojects incorporated results of studies from across the entire region—major centers, minor centers, caves, villages, and field systems. Together, they revealed a pattern of decentralized, but well-adapted, cultural and agricultural systems linked loosely to local centers. From the late seventh to mid-eighth century, all of these centers fell beneath the hegemony of an intrusive dynasty from Tikal centered at Dos Pilas. Findings on ecology and nutrition indicate that the subsistence regime was well adapted to the ecological microzones of each area and that Maya subsistence systems were locally controlled with elite involvement only in some strategic loci (see Dunning et al. 1997). This evidence is consistent with the view that most Maya states were segmentary, or at least poorly centralized, with limited direct economic functions (e.g., Dunning et al. 1997, also see Ball and Taschek 1991; Demarest 1992, 1996b; Dunham 1990; Fox and Cook 1996; Fox et al. 1996; Hammond 1991; cf. Chase and Chase 1996).

Another implication of the results of these subprojects is that radical ecological, nutritional, or climatological changes *cannot* be blamed for the disastrous cycle of violence and decline that engulfed the region in the mid-eighth century. Subsistence systems were well adapted, and we have found no evidence of climatic change in the preceding sixth and seventh centuries (Dunning et al. 1997). Osteological studies reveal no significant shift in health or nutrition such as would be expected from any degradation (be it anthropogenic or climatological) of the environment and subsistence systems (Foias 1996; Wright 1994, 1997a, 1997b; Wright and White 1996). Furthermore, one of the most extensive studies ever completed of ceramic composition and exchange has concluded that changes in the economic system followed, rather than preceded, the intensive warfare of the late eighth century (Foias 1996; Foias and Bishop 1997). Results of all of these subprojects, independently directed from differing databases, are consistent with the view that increasing political rivalry, competition, and warfare spiraled out of control by the middle of the eighth century, disrupting cultural, economic, and ecological systems and leading to rapid depopulation and sociopolitical devolution (Demarest 1991, 1993, 1996a; Demarest and Valdés 1995a, 1995b; Demarest et al. 1997; Valdés and Demarest 1993).

Of course, the results of all subprojects can only be superficially glimpsed in these summary articles. A few subprojects are not represented here because of limitations of space and incompleteness of results. Floral and faunal studies (directed by David Lentz and Katherine Emery, respectively), lithic production and exchange studies (directed by Claudia Wolley), and the project's extensive settlement-pattern research are not separately represented here because they are still in progress, and analyses are at a preliminary stage. Nonetheless, some of the preliminary results of each of these subprojects, especially settlement patterns, are incorporated into discussion in this special section. As ongoing extensive laboratory analyses are completed, the final results of this research will be presented in dissertations, articles, and the monographs of the Vanderbilt Petexbatun series (see also Emery 1991, 1995; Lentz and Emery 1991; Stiver 1994; Wolley 1997).

The Intersite Settlement Pattern Project was especially important to all aspects of interpretation of regional patterns in the Petexbatun. The settlement-survey transect teams were closely followed by specialists from the ecological, paleobotanical, faunal, and osteological subprojects. No separate summary article on settlement patterns is provided in this special section because these investigations are still in progress, and the vast quantity of data already recovered is under study. In 1991, the Petexbatun Regional Settlement Survey was initiated at my invitation by Tom Killion now at the Smithsonian Institute. Several transects 200 m wide and 2–3 km long (see Figure 2) were surveyed running west from Lake Petexbatun across the low lakeside terrain, up the steep escarpments, and across the escarpment's edge zone (Killion et al. 1991). Employment at the Smithsonian lured Killion away from his role as settlement-survey director after the first season, and in 1992 and 1993 Dirk van Tuerenhout and others continued Killion's research design in completing two and a half of the originally planned transects of the project.

By 1994 it was clear that the original research design was incomplete. The transects ran across variable ecological zones from the Lake Petexbatun beaches, up the (approximately 150 m high) escarpments, and over the escarpment edge. We were testing differing ecozones, but these zones were all prime areas in terms of soil quality, defensibility, or both. Also, each transect was redundant in its coverage. To understand subsistence, ecology, and demography accurately it became obvious that we needed to test areas farther inland from the escarpment edge. Areas away from the escarpment had surfaces that had slumped from internal drainage, and soils were thinner and more leached. We also realized that we still needed larger excavated samples and more burials from the previous three transects. To correct these problems we designed a new strategy for the settlement survey in 1994, placing a fourth transect farther west of the escarpment edge (see Figure 2) (Demarest, O'Mansky, Hinson, Suasnávar, Rasmussen 1995; O'Mansky, Hinson, Wheat, and Demarest 1995). We also extended the earlier transects and increased their excavation sample (O'Mansky and Wheat 1997; O'Mansky, Hinson, Wheat, and Sunahara 1995). By the end of 1994, Matt O'Mansky took over these operations, and he is continuing the settlement survey to the present.

In the later seasons of settlement survey our transect team plotted and excavated a number of hilltop fortresses near the escarpment and also farther west on an eroded landscape broken by "karst tower" formations (Demarest, O'Mansky, Hinson, Suasnávar, Rasmussen 1995). These fortresses are discussed in our article in this issue on fortifications (Demarest et al. 1997). A consistent and clear pattern can be seen in the results from the fourth transect, our studies of hilltop fortresses, earlier settlement results, and the continuing Punta de Chimino Project: after the mid-eighth century, if not somewhat earlier, *defensibility* became the dominant factor in determining site placement. As noted by ecology project personnel (Dunning et al. 1997), many sites were placed strategically along the escarpment edge where they had defensible locations and also access to good soils nearby. Later, however, as

Transect 4 revealed, highly defensible locations, even those far from good subsistence sources, became prime fortified real estate.

While the settlement survey and other subprojects were scrutinizing every aspect of ancient Petexbatun culture on the surface, another unique subproject was surveying its subterranean universe. This Petexbatun Regional Cave Survey is described by its director James Brady (1997) in this issue. In 1989 and 1990, project members stumbled upon many caves, most of them unlooted and filled with intact artifacts. Initially, project members including Dunning, Houston, Johnston, and I tried valiantly to conduct at least some preliminary studies of these caves. It quickly became apparent that issues of safety, as well as concern for proper recording of evidence, required a team of specialists to explore the seemingly limitless system of caves that underlay the Petexbatun escarpment. Late in 1990 we called upon experienced cave archaeologist, James Brady. He quickly organized a team of archaeologists and skilled spelunkers who commenced the dangerous and demanding job of exploration, mapping, plotting, and excavating the many kilometers of cave passages that were the *principal* focus of ritual activity in the Petexbatun region. As Brady et al. (1997) describe in the article on cave studies in this issue, their research proved that Petexbatun surface architecture and site placement were closely linked to subterranean geography. Moreover, it seems that exotic items and tribute from the Dos Pilas predatory state usually ended up, not in tombs or caches, but in ritual deposits in the caves. The vast economic investment in such deposits further confirms the central role of ideology in elite functions and power (Brady and Rodas 1994; Brady et al. 1997; cf. Demarest 1992).

REGIONAL CHRONOLOGY AND GENERAL CONCLUSIONS

It would be impossible to summarize even superficially the results of the past seven years of research by the many different projects that were part of the Vanderbilt Petexbatun Regional Archaeological Project. Our preliminary reports and the articles in this section provide an introduction to some of the salient subproject findings and a prelude to the many specific articles and comprehensive monographs in preparation. Here I provide a brief broad summary of the regional chronology and some highlights of the culture history of the area.

Regional Culture History: Preclassic to Late Classic

Interpretations of culture history prior to the seventh century were not among the major theoretical objectives of the project. Nevertheless, excavations and survey recovered ample evidence on these periods. The occupations, political dynamics, and other aspects of material culture for these periods are interesting, but did not recover theoretically or historically surprising events or patterns.

Initial occupation in the Petexbatun is first evidenced by Mamom or possibly Xe ceramic materials. These were found in both primary middens and in later construction fill, principally at sites near the lake and river system and in some cave deposits. Substantial occupations, some with public architecture, were found dating to the Late Preclassic with domestic occupations at several sites and in intersite areas, again primarily near Lake Petexbatun and along water courses. Late Preclassic ceremonial constructions have been identified at Punta de Chimino, Aguateca, Tamarindito, and other sites. The Acropolis, Temple 7, and other major structures at Punta de Chimino (see Figure 6) had their first construction phases in Chicanel times indicating an important early role for that strategic port site (Demarest and Escobedo 1997; Demarest et al. 1997; Escobedo 1997b). The surveys, caves, and analyses by the ecology subproject show extensive agricultural activity and associated erosion during the Late Preclassic (Dunning and Beach 1994; Dunning et al. 1991, 1997).

Protoclassic and Early Classic remains are found at several sites, most notably Tamarindito, Punta de Chimino, and a minor center with major cave deposits at Los Quetzales (Brady 1997; Brady and Rodas 1994; Brady et al. 1997). In the fifth, sixth, and early seventh centuries it seems probable that Tamarindito was the dominant power in the region, with substantial ceremonial architecture constructed during that time period (Valdés 1995, 1997; Valdés et al. 1995). It appears to have controlled other sites in the region, most notably Arroyo de Piedra. Precise political relations are still difficult to plot, however, because of ambiguities in the interpretation of the epigraphic record (see Escobedo 1997a). Nonetheless, there is no question that in Tepeu 1 times, Tamarindito and Arroyo de Piedra were major centers with fine architecture with good solid construction fills, plaster floors, and monuments of normal Pasión style. At Punta de Chimino Tepeu 1 ceremonial construction and artifacts suggest that Tamarindito controlled Lake Petexbatun (e.g., a Tepeu 1 cache there includes Tamarindito white-on-red vessels with a main-sign glyph). Valdés and Escobedo in the following articles describe the evidence on the regional dynasties at Tamarindito and Arroyo and the variable interpretations of their specific histories. The ceramics recovered from the Late Preclassic, Protoclassic, Early Classic, and Tepeu 1 times are of typical Peten types. In all respects—ceramics, architecture, monuments, and political activities—Petexbatun culture prior to the mid-seventh century can be seen as a respectable, but in no way exceptional, regional variant of southern lowland Maya civilization.

The Petexbatun Kingdom: Seventh to Mid-Eighth Century

The culture history of the Petexbatun becomes of greater general interest after the seventh-century arrival in the region of a royal lineage from Tikal. The reasons for their arrival and the exact political relationship of this dynasty to Tikal and to lowland geopolitics are still debated, as is the size of the group that may have accompanied them. These Tikal elites established a dynastic capital at Dos Pilas and raised monuments displaying a variant of the Tikal emblem glyph. The palaces, temples, and especially the tombs of Dos Pilas have features confirming that they were rapidly constructed, but with some traits reflecting the Tikal origins and pretensions of the dynasty. "Ruler 1" was involved in several wars with Tikal, and these were celebrated in propagandistic monuments, especially hieroglyphic stairways (e.g., see Figure 3).

In initial articles and reports, we interpreted these Tikal wars and other conflicts in terms of the strategies and ambitions of the local cadet lineage (Demarest and Houston 1989, 1990; Houston 1987, 1993; Houston and Stuart 1990). As discussed above, it appears that the wars with Tikal and other events might have been (at least to some extent) related to broader conflicts between regional alliances centered on Tikal and Calakmul (Martin and Grube 1994, 1995). Several monuments at Dos Pilas have texts or imagery suggesting the Calakmul ties of its rulers (Figures 3 and 7). (See Houston [1987, 1993]; Houston and Mathews [1985]; Marcus [1993]; Martin and Grube [1994, 1995] and Mathews and Willey [1991] for various interpretations of the details of elite in-

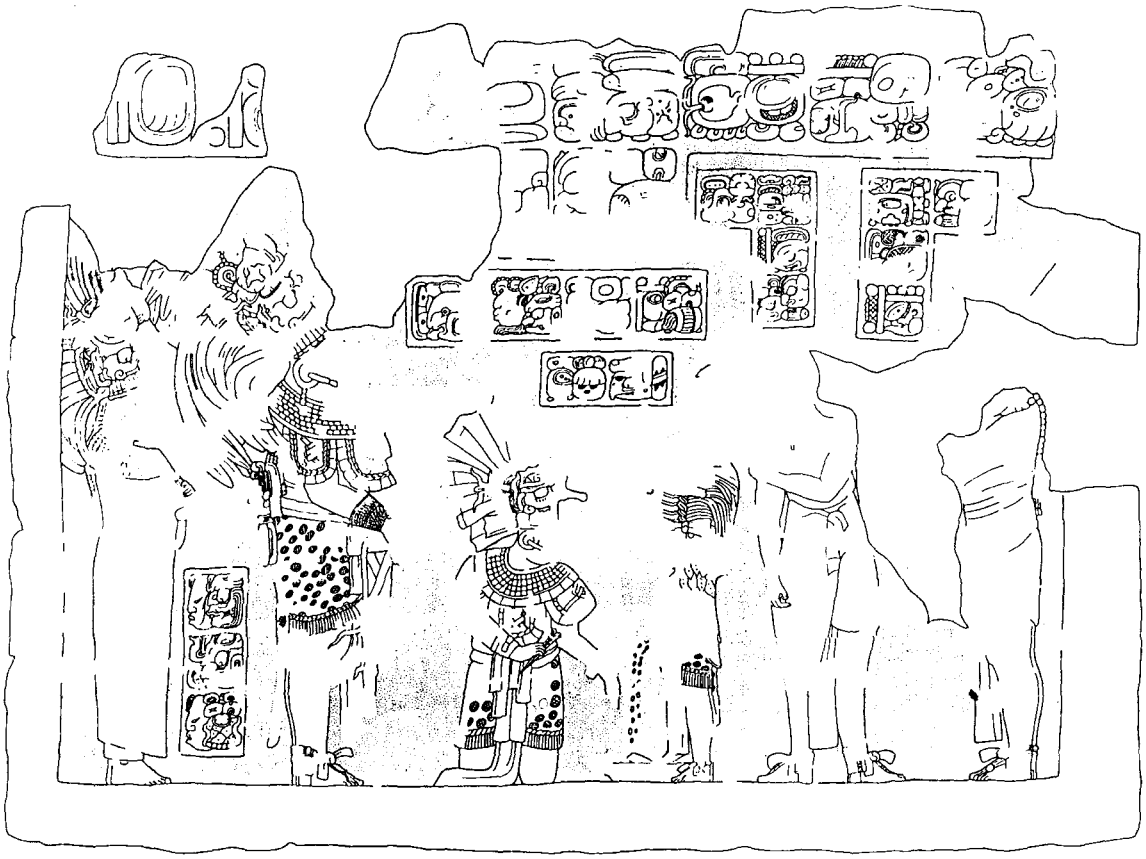

Figure 7. Panel 19 discovered by the Vanderbilt Excavations in 1990 showing a probable initiation bloodletting witnessed by the Dos Pilas ruler, the "Lady of Cancuen," and a lord from Colakmul (from Demarest and Houston 1990:Figure 8.3; drawn by D. Stuart and S. Houston, courtesy Vanderbilt University Press).

teraction in this Tepeu 2 period.) In any case, the political events and monumental art of this period (corresponding to Tepeu 2 in ceramic terms) fall within the norm of regional political dynamics elsewhere. Canons of warfare, alliance, and ritual are not dissimilar to those described at other major Peten centers, although monumental art seems more militaristic in its themes. Settlement patterns are typical for the Peten, and no fortifications can be dated to before A.D. 760.

Archaeological and epigraphic evidence suggests that during this period Arroyo de Piedra, Tamarindito, Punta de Chimino, Seibal, and other Pasión region sites fell under the sway of the Dos Pilas dynasty. Ceramics throughout the region are nearly identical to the Tepeu 2 Tepejilote complex of Seibal (Sabloff 1975). These Nacimiento-phase ceramics (early facet) have been described by Foias and Bishop, who have also used a wide range of analytical studies to document intraregional and interregional exchange systems in this period and during the rapid cultural decline that followed it (e.g., Foias 1996; Foias and Bishop 1994, 1997). Control by the Petexbatun power structure of much of the Pasión River system suggests that competition over long-distance exchange in exotics might have been one of several motives involved in the wars and alliances of the period.

The Nacimiento phase also witnessed population growth, settlement expansion, intensification of agricultural systems, and other features characteristic of the Late Classic climax of Maya culture elsewhere in the Peten. Yet the evidence from ecological studies and from settlement pattern research to date shows populations still well adapted to local microenvironments through application of diverse, locally controlled, intensive and extensive agricultural systems (see Dunning 1996; Dunning and Beach 1994; Dunning et al. 1991, 1995, 1997). Nutrition shows no decline in this period, and neither subsistence stress nor climatic change can be seen as the cause of the endemic violence of the subsequent period (see Wright 1997a). At about A.D. 760, changes in some ceramic types and modes correspond with the beginning of a new period characterized by the construction of fortification walls and moat systems throughout the region.

The Epoch of Endemic Warfare: A.D. 760–830

While the precise causes of the acceleration of warfare in the Petexbatun remains a subject for speculation, debate, and research (see below), the nature of that collapse is very clear. In the mid-eighth century a cycle of endemic destructive warfare began in the Petexbatun with fortifications, sieges, and the devastation of the region's centers. During the course of this late facet of the Nacimiento phase (A.D. 760–830), the great centers of the region fell into ruin one by one, public architecture ceased, and population (as identified from mound counts, settlement area, ceramics,

artifacts) fell to less than 10% of previous levels. As the period progressed, wall and palisade systems were constructed around major centers, and later a shift even occurred in the rural population to fortified defensible locations such as hilltop fortresses and the artificial island of Punta de Chimino.

Here, in the Petexbatun region, the story of the Maya collapse is clear and therefore important, in several respects: (1) its early occurrence (A.D. 760–830); (2) its clear definition, even within this period, by a specific sequence of events, ceramic markers, and contexts; (3) its rapid and dramatic progress in demographic terms; and (4) clear evidence of specific forms of defensive systems throughout the Petexbatun that have been identified only occasionally earlier or in other regions (e.g., at Becan and El Mirador) (Chambers 1982; Webster 1976). In the Petexbatun, defensive systems characterize sites of all sizes and even some intersite fields, watersources, and strategic loci. Indeed, only a few naturally defensible sites that also have deep soils (that could support palisades) seem to lack wall systems (e.g., Tamarindito). An increase in ceramic paste variety, a decrease in Peten imported polychromes, and a general poverty of material culture also reflect a society in a state of endemic intersite conflict in this 70-year period. In the Petexbatun after A.D. 760, low walls of rubble or crude masonry 1–3 m high are found around site centers, strategic locations, hilltops, or agricultural features, wherever the soil is thin. We presumed that the base walls were used to support wooden palisades where the soil was too thin to foot and sustain them securely. This hypothesis was consistently confirmed by wall placement, gate form, and fortuitous discoveries of postholes and even palisade impressions in burned clay (Van Tuerenhout 1996; Wolley and Wright 1990). In the article in this special section by Demarest et al., some of these fortification systems are briefly described.

The initiation of this period can be fixed chronologically by many stratigraphic superimpositions over contexts with good dates from ceramics and from architecture with hieroglyphic monuments. To aid *terminus post quem* dating further, the defenders of Nacimiento late-facet sites sometimes reused blocks of nearby architecture and even hieroglyphic stairways to construct their walls (Demarest, Lopez, Chatham, Emery, Palka, Morgan, and Escobedo 1991). Furthermore, this facet has been clearly defined by Foias (1996) based on specific pastes (Chablekal Fine Gray and Dos Pilas Fine Brown), new ceramic modes, as well as changes in type and mode frequencies. The ending date for this violent epoch at about A.D. 830 is even more clearly marked by the introduction of Fine Orange, Fine Gray, many new decorative modes and forms, changes in trade patterns, and the other dramatic shifts that define the Terminal Classic period throughout the Pasión region.

The Aftermath: A.D. 830–1800

By the time of the introduction of Terminal Classic ceramics and artifacts, the great centers of the Petexbatun region were already in a state of ruin. Populations had dropped to a small percentage of their seventh- and early-eighth-century levels. The construction of ceremonial architecture and monuments had ceased. Small, scattered households can be found on the edges of the ruined centers and in a few loci in the countryside. It would appear that the sociopolitical complexity of society in the region, as well as its architectural activity and demographic mass had been radically reduced due to warfare, disruption of economic and subsistence systems, and migration. In the Petexbatun the so-called "Classic Maya collapse" was a phenomenon of the late eighth century, and by A.D. 830 it was all but complete.

There is one glaring—and fascinating—exception: the island fortress site of Punta de Chimino. During the Petexbatun Project (Demarest 1995b; Wolley 1991; Wolley and Wright 1990) and after it (Demarest and Escobedo 1997; Escobedo 1997b; Quezada et al. 1997) extensive research was carried out at this site, which is now the most completely sampled in the region. Excavation and analysis of defensive systems, public architecture, elite residences, nonelite residences, and agricultural systems have been described in detail elsewhere (Demarest and Escobedo 1997; Demarest and Escobedo, eds. 1997; Demarest et al. 1997; Escobedo 1997b; Quezada et al. 1997; Wolley 1993). This site is located at the end of an elongated peninsula that projects into the middle of Lake Petexbatun and dominates one of the natural trade routes (today, for drugs, cattle, and guns) of the lake and of adjacent areas of the lowlands. During the Late Classic, probably the late facet of the Nacimiento phase, a series of concentric massive moat and wall systems were constructed to cut off this island from the mainland and create an island fortress with a sequence of defended fields and gardens (Demarest et al. 1997:Figure 11). The critical factor to note here is that this site's meshed defensive and ecological systems and its strategic location allowed it to thrive throughout all periods from Middle Preclassic to Terminal Classic—with even a small Postclassic occupation. In each period, however, like other great natural portages, the site quickly fell beneath the dominance of inland major powers (first Tamarindito, then Dos Pilas, then perhaps Aguateca, and finally, after A.D. 830, probably Seibal).

The evidence for the latter association—with Seibal—is surprising and still enigmatic. In the Terminal Classic Sepens phase (A.D. 830–950) a huge ballcourt, wide plaster-floored palaces, a corbeled-vaulted shrine, and other public architecture were constructed on the island epicenter of this small site. The Terminal Classic occupation here is best explained in all respects as having been an outpost of Seibal established to exploit the power vacuum in the Petexbatun. We also might speculate that the anomalous Phoenix-like massive fluorescence and demographic boom of ninth-century Seibal may have been based upon forced depopulation of the Petexbatun region and movement of labor to the Seibal area. This very preliminary speculation would explain both the radical ninth-century depopulation of the Petexbatun region and the contemporaneous tenth-cycle architectural and demographic boom at Seibal. In any case, the Punta de Chimino center was the last in the Petexbatun to have public architecture and extensive elite activity and has clear associations with the tenth-cycle phenomenon of Seibal, Altar, and the Pasión Tepeu 3 Complex (Boca/Bayal).

Punta de Chimino survived until the end of the Terminal Classic, probably to about A.D. 950. After that only scattered Postclassic remains turn up at a few loci in the Petexbatun region. By the Late Postclassic, a humble fishing village had been established on the end of the Punta de Chimino peninsula (Morgan and Demarest 1995). Its small population left an extensive midden of fish bones, fauna, and garbage strewn across the ruins of the site's hieroglyphic stairway—an unconscious, but powerful, statement on the precipitous decline in the fortunes of the region. These scattered Postclassic households were followed in the seventeenth to nineteenth centuries by small Lacandon villages whose loci and nature

are now being plotted by Joel Palka (Palka 1997a). Overall, one could securely state that the decline in demography and sociopolitical complexity in the Petexbatun after the eighth century was a radical one, and that in this particular region, at least, one can truly speak of the "collapse" of Classic Maya civilization.

CONCLUDING SPECULATIONS ON THE CLASSIC MAYA COLLAPSE IN THE PETEXBATUN

The seven years of research of the Petexbatun project have yielded important new insights into political dynamics, economy, ecology, nutrition, ritual, and other aspects of Maya civilization, as can be seen even in the small sample of results in the articles in this issue. Above all, however, in the project's concerns and results the controversies surrounding the collapse of the Classic Maya civilization have been, and remain, of paramount interest. The articles in this special section, our preliminary reports, numerous papers and theses, and the upcoming monograph series are filled with debate, hypotheses, tests, and varying interpretations of the implications of the vast corpus of Petexbatun work for the issue of the Classic Maya collapse. The collapse issues are of such great importance here because it is on this topic that the Petexbatun has a unique contribution to make: the region has an extraordinary record on the final century of Classic Maya civilization in terms of the clarity of the evidence and patterns present, as well as the remarkable state of its preservation.

For the Petexbatun region, some conclusions regarding the collapse are already certain. Without doubt we can assert that in the late eighth and early ninth century the Petexbatun kingdoms disintegrated in a state of endemic warfare (see Demarest et al. 1997). As seen in the other articles in this issue and all of our preliminary work we can also assert that this warfare was *not* caused by: (1) foreign invaders; (2) malnutrition or ecological catastrophe; or (3) a radical eighth-century change in the region's economy (see especially Foias and Bishop 1997; Wright 1997a; Dunning et al. 1997). We are still debating and exploring the ultimate causes of the region's A.D. 760–830 siege and fortification warfare, with its disastrous consequences for political integration, ecology, economy, and demography. Even the most recent suggestions (Hodell et al. 1995) that climatic change and desiccation precipitated the Maya decline are useless to explain either the collapse or the eighth-century violence in the Petexbatun region. In the waterlogged Petexbatun, political disintegration is nearly complete before the proposed desiccation even began. And there is no evidence whatsoever in the eighth to ninth centuries of changes in nutrition that would be expected from either climatological or anthropogenic impact on the ecology and subsistence system.

What we do find in the Petexbatun, as elsewhere in the Maya lowland world, is evidence that in the Late Classic period increasing competition occurred between elites and an intensification of elite status-rivalry took place in all respects, including architectural activity, ritual displays, warfare, long-distance trade to acquire exotic status goods, the growth of unwieldy local hegemonies, and involvement in *interregional* alliances and conflicts that further exacerbated local elite competition and intrigues. In each region of the Maya world this intensifying interelite competition manifested itself in somewhat different ways: wasteful architectural extravagance, ecological over-exploitation, balkanization of political authority, and, in some areas, an intensification of regional warfare. While each of these manifestations is different, they each have a basis in elite competition and self-aggrandizement, and all manifestations placed a great burden on local populations, economic systems, and resources. In the Petexbatun the strain broke sooner than in most areas and after A.D. 760 was clearly manifested in the violent breakup of the Petexbatun kingdom into smaller polities engaged in destructive siege warfare. This particular process in the Petexbatun was an unusually rapid version of the Classic Maya collapse, probably because fortified centers and related defensive settlement patterns are contrary to the dispersed settlement strategy and diverse subsistence systems required for successful, sustainable rainforest ecological adaptations. Here in the Petexbatun, a few decades of forms of conflict that violated the economic and ecological rationale of the regional society rapidly shattered the kingdom. Its Pasión River trade network, careful adaptations to local microenvironments, and its sprawling political alliances all quickly fell apart.

Of course, the results and conclusions of our research only raise additional questions. In broader terms we must explore the relationship between Late Classic lowland Maya status rivalry with its disastrous consequences and underlying causal factors. Previously I have argued that the unusually dramatic decline of Classic Maya civilization, including the Petexbatun, might be related to its high degree of dependency on largely ideological bases of power (Demarest 1992). I have also argued that the seventh- and eighth-century intensification of elite competition (manifested differently in each lowland region) may also have had a basis in the proliferation of elites and the proportional growth of these classes due to elite polygamy and marriage alliances (Demarest 1996a). Finally, note that many scholars (Freidel 1986, 1992; Sabloff and Andrews 1986) have argued that the Maya system of personalized charismatic "Holy Lords" and weakly developed market economies was ultimately strained and doomed by competition (direct and indirect) with the developing market-and-tribute-based polities farther west in Mexico. The intensification of lowland Classic Maya interelite competition ultimately reflected both internal contradictions between the aims of leadership and the sustaining infrastructure and outside pressures gradually impinging upon the archaic form of the Classic Maya state. The violent and swift demise of the Petexbatun kingdom is, thus far, the clearest and most completely studied nexus of these underlying internal and external contradictions.

Future research to confirm or refute these theories will need to relate the pattern of the Petexbatun collapse (though not its specifics) to the sudden collapses, gradual declines, short-lived fluorescences, and other forms of termination of Classic Maya civilization in the many ecologically and culturally variable subregions of the lowland Maya world. Furthermore, we will need to explore more completely that strange, baffling era of the ninth century in which each area, and each regional political system, experienced a series of radical changes, innovative responses, and ultimate failures that marked the death throes of this magnificent Native American civilization. Given the great variability of lowland material culture after A.D. 830, dozens of individual projects will be necessary to understand this final epoch of the end of the Classic Maya civilization and the beginning of the Postclassic societies that replaced them in Yucatan, Belize, the Peten, and the southern highlands. In the Petexbatun region itself the landscape after the Terminal Classic period remained a nearly vacant one—a mute witness to the power of the internal and external forces that ended Classic Maya civilization.

RESUMEN

El Proyecto Arqueológico Regional Petexbatun de la Universidad de Vanderbilt completó seis temporadas de investigación bajo la dirección del autor de 1989 a 1994. Posteriormente, el Proyecto Arqueológico Punta de Chimino se llevó a cabo bajo la dirección de Héctor Escobedo y el autor. Estos dos proyectos exploraron casi todos los aspectos de la cultura maya antigua en la región Petexbatun. El descrubrimiento de sistemas de guerra y las investigaciones de ellos abarcaron muchas investigaciones anteriores, notablemente las de Ian Graham y el Proyecto Seibal de la Universidad de Harvard. El Proyecto Seibal de la Universidad de Harvard. El Proyecto Petexbatun comenzó desde el principio a explorar todos los aspectos del ocaso y colapso de la civilización maya en esa región en los siglos VIII and IX. Doce subproyectos investigaron la arquitectura, monumentos e historia, ocupaciones residenciales, guerra y sistemas defensivos, ecología, flora y fauna, osteología y nutrición, la cerámica y sistemas de intercambio, la producción e intercambio de la lítica, patrones de asentamiento regionales, las cuevas y los ritos asociados con ellas, tanto como estudios específicos de cada sitio.

Este proyecto multinacional, codirigido por el Dr. Juan Antonio Valdés de la Universidad de San Carlos, contó con la participación de otros arqueólogos y estudiantes guatemaltecos, ademas de especialistas de los EEUU y muchos otros paises. Por eso, los resultados de las investigaciones fueron presentados primero en español en siete tomos grandes y en muchos artículos publicados en español en Guatemala. Los artículos presentados aquí y una serie de monografías de 20 tomos presentarán los datos e interpretaciones en ingles.

La estructura del proyecto hizó posible la dirrección semiautónoma por especialistas avanzados de cada subproyecto del proyecto general Petexbatun. El debate interno y discusión entre los directores de los subproyectos—de distintas orientaciones teóricas—guió el diseño de las investigaciones y las interpretaciones finales. Se presentan los resultados de los subproyectos en los artículos siguientes escritos por sus directores. Otros resultados de los subproyectos previamente publicados en español sumarizan cómo se descubrieron y decifraron monumentos jeroglíficos, excavaron palacios reales y residencias de la élite y analizaron los patrones de asentamiento. Muchos de estos descrubrimientos se relacionan con los últimos dos siglos de la civilización maya de esta región del Petén suroeste. Los artículos en esta sección especial se enfocan en los resultados de los subproyectos con respecto a los patrones generales de las ocupaciones no élites, la guerra, el comercio y el intercambio, la ecología, la nutrición y las inferencias de estos hallazgos para las teorías del colapso de los mayas del clásico.

Tomados juntos, nuestros hallazgos proporcionan datos conclusivos para demostrar un patrón claro y especifico del colapso de los mayas en la región. La guerra endémica de la región Petexbatun comenzó a mediados del siglo VIII y durante los próximos 40 años los grandes centros mayas de la región fueron fortificados masivamente con muros, fosos y otros rasgos defensivos más complicados. Sin embargo, a principios del siglo IX ya se cesó la construcción de arquitectura pública y se acabó toda actividad élite en todos los centros de la región menos uno y ultimamente se abandonaron. Durante este período hallamos que las poblaciones rurales se trasladaron a aldeas fortificadas encima de los cerros. Hacia 830 d.C., o sea el tiempo generalmente aceptado para la apariencia de la cerámica Anaranjado Fino, la fortaleza isleña de Punta de Chimino era el único centro todavía funcionado en la región. En ese sitio y en Seibal, al norte, la ocupación continuó otro siglo con el florecimieno enigmatico de la época de cerámica Tepeu 3.

Nuestros resultados carecen de evidencias que indicarían un papel de factores como un cambio de clima, deforestación, epidemias, desnutrición, cambios económicos o invasiones extranjeras en el colapso de la civilización maya en el Petexbatun. Todos los subproyectos exploraron estos factores y demostraron sin duda ques éstos no ocurrieron en la región de Petexbatun. El colapso temprano y dramático en la región Petexbatun comenzó temprano en el siglo VIII y la población de la región se redjuó a menos de 5 por ciento de su nivel anterior hacia 830 d.C. Las causas del colapso parecen ser en el ámbito de la explotación por la élite, la política y la guerra. La carga de la clase élite creciente y de sus actividades y luchas políticas a mediados del siglo VIII parece haber conducido a un patrón de guerra de asedio y fortificación mucho más intenso de lo que se había visto antes. A su vez, estos procesos resultaron en la destrucción de los centros principales y el destrozo de los sistemas económicos y de subsistencia y asentamiento. Ultimamente, toda la región se abandonó salvo unas poblaciones pequeñas esparcidas en algunos lugares muy defensibles.

La cuestión de causalidad última en estos proceses queda para los debates del futuro. Tampoco se sabe si el colapso de la cultura maya en la región de Petexbatun fue semejante al de otras regiones en el mundo maya que es tan variable. Lo que sí es muy cierto es que la civilización maya en la región de Petexbatun cayó en un estado de guerra endémica a finales del siglo VIII.

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