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# How Maya Archaeologists Discovered the 99% Through the Study of Settlement Patterns

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## Abstract

This article presents an autobiographical perspective on the changing nature of Maya archaeology, focusing on the role of settlement pattern studies in illuminating the lives of commoners as well as on the traditional emphasis on the ruling elite. Advances in understanding the nature of nonelite peoples in ancient Maya society are discussed, as are the many current gaps in scholarly understandings of pre-Columbian Maya civilization, especially with regard to the diversity of ancient “commoners” and the difficulty in analyzing them as a single group.

[C]ommoners have received relatively little attention in spite of frequent suggestions that we should study Maya economies “from the bottom up,” building from the household to the palace, from the commoner to the king.

—Joyce Marcus (2004, p. 255)

Far too little is known about the “silent people of prehistory,” the commoners who did the basic, everyday work to support the elites by supplying them with labor, food, and other goods. We know little about their daily lives, their houses, their artifacts, their activity areas, and other details. Our knowledge of the Maya is “top-heavy,” and we need to know more about the vast majority of the populations, the commoners.

—Payson Sheets (2006, p. xvii)

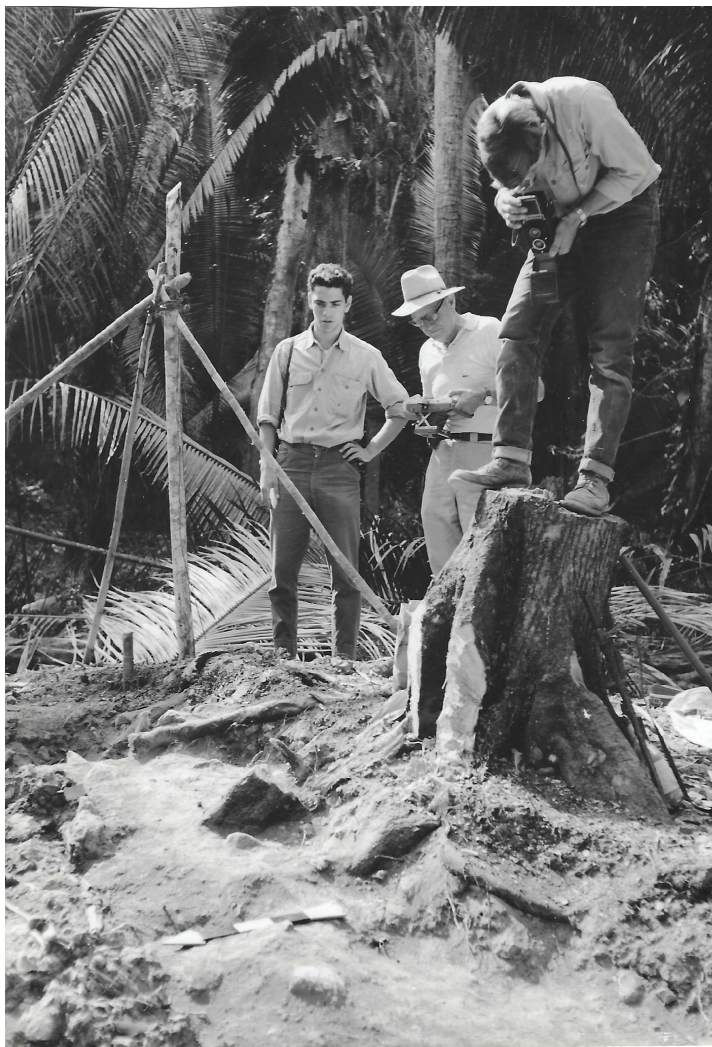
## BACKGROUND

I was exceedingly fortunate to enter the field of Maya archaeology, in particular, and anthropological archaeology, in general, in the mid-1960s when these fields were in the midst of theoretical, methodological, and substantive revolutions. I thus had an opportunity to make contributions to these changing fields at a relatively young age. How I arrived at that fortuitous point was surprising to me and certainly was filled with a number of serendipitous moments.

It is probably best to start this story at the beginning of my sophomore year at the University of Pennsylvania in the fall of 1961. An advisor asked me what I was going to major in, and I responded, “I don’t know.” He then queried me about what I was interested in, and I replied that I liked history and maps, among other things. He recommended that I go down to the University of Pennsylvania Museum of Archaeology and Anthropology and take some archaeology and anthropology courses. Wisely, I listened to his advice, and I was smitten by the subject matter. In particular, an introductory archaeology course, taught by Froehlich Rainey (the director of the Museum at that time) and Loren Eiseley, captured my imagination. Many of the Museum curators gave guest lectures, and from these I learned about archaeology on a global basis from a group of experts. I was especially intrigued by the intellectual challenge of piecing together understandings of ancient societies and their adaptations to varied environmental settings from fragmentary and diverse data. To this day, I remain much more excited about improving and strengthening such understandings than I am by the artifactual materials that archaeologists uncover.

I had become interested in Pacific archaeology through a course given by Ward Goodenough; thus, I thought that in graduate school I might pursue that field, which in the early 1960s was emerging as an exciting area of study. During my senior year, I was exceedingly fortunate to have had Anthony F.C. Wallace as the supervisor of my senior thesis. Wallace recommended that I go to Harvard University for my PhD (I had already received a multiyear National Science Foundation graduate fellowship), and, after a summer of archaeological fieldwork with Bernard Wailes in Cornwall, England (a great learning experience), I headed off to Harvard in the fall of 1964.

Here, again, serendipity struck. That fall, Harvard’s major Pacific scholar, Douglas Oliver, was on sabbatical, so I took Gordon Willey’s seminar on South American archaeology. He was widely recognized as the leading American archaeologist of the second half of the twentieth century and an authoritative but nevertheless approachable scholar. I must have written a good seminar paper because at the end of the semester, Professor Willey said that he was about to launch a new field project at the ancient Maya city of Seibal (now spelled Ceibal) in Guatemala and asked if I would be interested in joining the project. Although I had never taken a course in Maya archaeology and spoke no Spanish (having previously studied French and German), of course I enthusiastically said “yes.” And my career-long adventures in Maya studies began (**Figure 1**). I ended up spending



**Figure 1**

At Seibal in 1965 with Jeremy Sabloff (*left*), Ledyard Smith (*center*), and E.W. Andrews V (*right*). Photo courtesy of the Seibal Archaeological Project.

four field seasons at Seibal, and, a quarter of a million potsherds later, I wrote my doctoral dissertation on the ceramics from the site. I subsequently published a monograph on this subject (J.A. Sabloff 1975), which I am very pleased to see is still widely cited in the Maya literature. I also promised myself that I was through with ceramic analyses!

The Peabody Museum at Harvard in the mid- to late 1960s was a great place to study the ancient Maya; some of the Mayanists who had worked for the many Carnegie Institution of Washington projects from the 1920s through the 1950s either had offices in the Museum or were frequent visitors. I was fortunate to have had opportunities to regularly interact with A. Ledyard Smith, from whom I learned a great deal about excavation at Seibal, as he was the field director of the project. He also taught me important life lessons, such as that vodka does not produce hangovers or

stomachaches like gin does. Robert E. Smith, A. Ledyard Smith's brother, shared his wide knowledge of Maya ceramics with me. Harry Pollock and Tatiana Proskouriakoff also contributed to my Maya education. The Maya archaeologist William Bullard was also at the Peabody at this time, as was Ian Graham, who was a true Renaissance scholar. Moreover, the cultural anthropologist Evon Vogt was in the Department of Anthropology. The latter was greatly interested in Maya archaeology and especially the possible continuities from the ancient to the modern Maya peoples. In the most important stroke of serendipity in my life, I met my future wife Paula, an undergraduate at Vassar College, who had a summer job in the Peabody Museum Library. Our partnership has lasted more than 50 years, and her intellectual stimulation has been a key part of my success over the years (she was also a huge help in improving my writing style).

I was immensely lucky to have Gordon Willey as a mentor and later as a colleague (see Sabloff 2004a, Sabloff & Fash 2007). I received much good advice and learned many lessons from him. Four of the most consequential lessons were, first, the necessity of good communication with fellow archaeologists as well as with broader audiences. Second, he impressed on me the significance of comparative analysis at a variety of scales. Third, he stressed the importance of looking at cultures holistically. And fourth, he taught me the utility of studying settlement patterns as a key methodological tool in archaeological examinations of whole cultures.

## **A BRIEF HISTORY OF SETTLEMENT PATTERN STUDIES IN THE MAYA AREA**

It is the latter lesson on which I concentrate in this article, with particular attention to the pre-Columbian Maya peoples of the Southern and Northern Maya Lowlands of modern-day Belize, Guatemala, and Mexico. Settlement pattern studies have played a major role in revolutionizing the understandings of the complex societies that the Maya built over two millennia before the arrival of the Spanish in the sixteenth century CE. I briefly discuss how much scholars have learned about pre-Columbian nonelite or commoner Maya peoples in the past half-century, as well as the many significant gaps in our knowledge that still exist (for reasons of space, I do not cover the Maya Highlands of El Salvador, Guatemala, and Honduras in this review, with one small exception).

I use the popular term "99%" in the title of this article to denote the nonelite population of the ancient Maya, although the exact percentages of elite and commoner peoples are far from clear and most certainly changed through time. Marcus (2004, p. 255), for example, has suggested that the figure for nonelite may have been about 90%. It is quite possible that the ancient Maya also had slaves (perhaps drawn from war captives), but there is no definitive evidence to date to support this claim (see Sabloff 2004b).

Up to the mid-twentieth century, the bulk of archaeological research in the Maya area was centered both on the Classic period (250–800 CE), especially in the tropical rainforest of the Southern Maya Lowlands at the base of the Yucatan Peninsula, and on the ancient Maya elite and the remains of their activities: temples, palaces, monuments, great plazas, beautiful polychrome vases, and elaborate tombs (see Sharer & Traxler 2006). The underlying reasons for these emphases have been much discussed (see Sabloff 1990, 2015). The key reasons included the search for museum-quality artifacts, as well as hieroglyphic inscriptions, and the elite background of many Maya scholars prior to World War II and sociopolitical trends of the times (see also Patterson 1986).

Over time, the focus on the Classic period and its elite led to the development of a model of the nature of ancient Maya civilization and how it developed through time. This model, which some years ago I termed the traditional model, was reflected in many key publications of the first half of the twentieth century, particularly the important and widely read syntheses by Sylvanus Morley (1946) and J. Eric S. Thompson (1954). This Classic/elite focus was the basis for the

popular conception of the pre-Columbian Maya world, including (a) an emphasis on the isolation of the Classic Maya from neighboring areas, (b) cultural homogeneity across the Lowlands, (c) the supposed lack of cities, (d) the peaceful coexistence among the centers, (e) populations supported by slash-and-burn (or swidden) agriculture with a focus on maize, and (f) hieroglyphic writing that was solely esoteric and nonhistorical. For seemingly mysterious reasons, Classic Maya civilization was posited to have collapsed in the ninth century CE, and, it was argued, the Postclassic Maya (1000 CE to the early sixteenth century CE) never again reached their Classic cultural heights (see, for example, Proskouriakoff 1955, Pollock et al. 1962).

The Postclassic came to an end with the Spanish conquest in the sixteenth century. Rapid depopulation occurred, owing in large part to the introduction of European diseases. On the positive side, Maya peoples and culture continued after the conquest, and today there are well more than 12 million people in Mexico and Central America who speak Maya languages.

The traditional model came under strong attack in the 1940s by the cultural anthropologist Clyde Kluckhohn and his student, archaeologist Walter Taylor. Kluckhohn's (1940) article "The Conceptual Structure in Middle American Studies" and Taylor's (1948) highly influential monograph *A Study of Archaeology* attacked both the emphasis on elite remains in the Maya area and Mayanists' lack of broader anthropological and theoretical concerns. As Taylor (1948, p. 57) famously noted in reference to the work of the Carnegie Institution of Washington, "Carnegie has sought and found the hierarchical, the grandiose. It has neglected the common, the everyday" (although see Ricketson & Ricketson 1937 and Wauchope 1934 for two exceptions).

Gordon Willey's pioneering settlement pattern fieldwork in the Virú Valley of Peru was influenced by Taylor's critique (Willey 1953; see also Sabloff 1990; Willey & Sabloff 1993, p. 209; Sabloff 2004b). When Willey turned his attention to the ancient Maya in the 1950s, he built on his earlier Peruvian research to answer some of the key questions raised by Kluckhohn and Taylor. In particular, the innovative research by Willey and his colleagues at the site of Barton Ramie in Belize (then British Honduras) helped broaden the focus of pre-Columbian Maya studies (Willey 1956a,b; Willey et al. 1965; Ashmore 1981).

Willey's emphasis on the total settlement of a Maya site—both the elite and nonelite remains, and the landscape on which they were situated—had a significant, immediate impact on Maya studies. As Wendy Ashmore and I have noted (Sabloff & Ashmore 2001, p. 14): "If...one were asked what has been the single most critical theoretical or methodological innovation in archaeology since World War II, a strong argument could be made for *settlement pattern studies*" (see also Billman & Feinman 1999, emphasis in original).

Soon after the field research at Barton Ramie, two large-scale mapping and excavation projects adopted Willey's methodology. Shook and Coe directed the Tikal Project in the Southern Lowlands of Guatemala (see Jones et al. 1981; see also Carr & Hazard 1961; Haviland 1966, 1968, 1985; Fry 1969; Puleston 1973, among the voluminous publications on the Tikal research; see Sabloff 2003 for a more recent overview); and E.W. Andrews IV directed the Dzibilchaltun Project (see Andrews & Andrews 1980; Andrews 1981; Kurjack 1974, among others) in the Northern Lowlands of Mexico (**Figure 2**). These two projects, along with Willey's Seibal Project, whose settlement survey was directed by Tourtellot (1988), and a host of other projects in the 1960s and 1970s, helped change scholarly understanding of the ancient Maya (see Haviland 1966, Ashmore & Willey 1981, Sabloff 1983 for historical perspectives).

The maps of greater Tikal and Dzibilchaltun immediately called into question a key underpinning of the traditional model, as they contained a large number of modest mounds that excavations showed were the remains of wood and thatch houses. These findings clearly indicated that the sites were not vacant ceremonial centers but were urban centers with significant populations in the Classic period, if not earlier. Moreover, surveys between sites also indicated that





**Figure 2**

Map showing some of the principal archaeological sites in the Maya Lowlands.

these zones had significant populations (see Bullard 1960). The mapping of the Late Postclassic (mid-thirteenth to mid-fifteenth centuries CE) site of Mayapan in the Northern Lowlands by the Carnegie Institution of Washington also showed the urban nature of this walled city (Pollock et al. 1962; see also Masson & Peraza Lope 2014).

The new evidence for Maya cities produced estimated population numbers that challenged the traditional model's assumption that the sites were supported solely by extensive slash-and-burn agriculture. This challenge led scholars such as Peter Harrison and Billie Lee Turner, among others, to search for evidence of more intensive forms of agriculture, such as the reclamation of swamplands at the site of Pulltrouser Swamp in Belize (Harrison & Turner 1978).

In retrospect, until the field research of the 1950s and early 1960s, scholars had, in effect, made a key sampling error by concentrating on the remains of the elite and, by and large, not paying much attention to those of commoners. Settlement pattern studies helped rectify this error.

The settlement mapping at Tikal also uncovered earthworks north of the city center. The earthworks were seen as a possible boundary marker and a defensive construction to protect Tikal from northern neighbors such as Uaxactun (Puleston & Callender 1967). Although the latter hypothesis is largely discounted today (see Webster et al. 2007), at the time it helped stimulate archaeologists to challenge the "peaceful Maya" tenet of the traditional model. With new understandings from the decipherment of written texts, it became clear that Maya cities were frequently

raiding one another. Scholars soon realized that the ancient Maya were a series of complex societies comparable to other premodern states, such as those in central Mexico, the Andes, Mesopotamia, Egypt, Southeast Asia, and China.

A major shift in the study of ancient Maya settlement occurred in the 1980s and 1990s (although it certainly had earlier roots) when archaeologists moved beyond mapping mounds that were presumed to be the remains of houses and excavating relatively small test pits in order to find domestic remains and place them within chronological periods. In addition to such activities, they began to undertake horizontal exposures of the remains of perishable houses (see Webster & Gonlin 1988, Killion et al. 1989). This key change in field methodology was accompanied by a conceptual change from “houses” to “households” and from description to examination of the functional nature of residential units and their socioeconomic changes through time. Valuable discussions of these scholarly advances can be found in the edited volume *Ancient Maya Commoners* (Lohse & Valdez 2004) and key publications such as those by Manzanilla & Barba (1990), Carmean (1991), Gonlin (1993, 1994), Wilk & Ashmore (1988), Johnston & Gonlin (1998), Rice et al. (1998), Tourtellot et al. (1993), Hendon (1996), Canuto & Yaeger (2000), Yaeger (2000), Robin (2001, 2003, 2013), Douglass (2002), Iannone & Connell (2003), Ashmore et al. (2004), Gonlin & Lohse (2007), Douglass & Gonlin (2012), Foias & Emery (2012), Lucero et al. (2014), and Hoggarth & Awe (2015). These are just a few examples of the many important settlement pattern reports from the past couple of decades that one could cite (see also Blanton 1994 for a more general consideration). In addition, an important refinement of this new emphasis on households was the attention to communities (a social level above that of households) and a concern with the nature of interactions among households (Canuto & Yeager 2000).

## MY FIELD RESEARCH IN THE 1970s AND 1980s

Following research at Seibal, my new fieldwork continued the challenges to traditional views of the ancient Maya that settlement pattern studies had helped initiate. The research project on Cozumel Island in the early 1970s (pre-Cancun!), which I codirected with William Rathje (see Sabloff & Rathje 1975a, Sabloff 1977, Freidel & Sabloff 1984, Sabloff 2007, among others), challenged some of the assumptions at the time about the role and importance of long-distance trade. We argued that such trade played a significant role in Postclassic times. We also challenged assumptions about the nature of Postclassic culture just prior to the Spanish conquest. Some scholars had held that this was a time of “decadence” (see, for example, the chapters in Pollock et al. 1962), in which many of the achievements of the Classic period disappeared. Rathje and I argued that although the Late Postclassic Maya did not invest in elaborate ceremonial architecture, carved monuments, or beautiful painted pottery, it was a time of growing political and economic complexity (Sabloff & Rathje 1975b, among others).

Although the Cozumel Archaeological Project was not a settlement pattern project per se, the project investigated a number of sites around the island and undertook settlement work around several of them. Paula Sabloff (1975) contributed to our understanding of ancient settlement by analogy through her studies of historic and modern settlement. With regard to the nonelite, we were able to support the hypothesis that economic conditions for the island’s inhabitants were just as good, if not better, than for nonelites in the Lowlands during the Classic period and that nonelites appeared to have had greater access to a wide variety of goods than ever before. We also were able to trace an extensive system of stone walls on the island, which provided boundary markers for the inhabitants’ agricultural fields. Doctoral dissertations on the Cozumel research were completed by Judith Conner, David Friedel, Nancy Hamblin, David Phillips, and Paula Sabloff.



With regard to better understanding commoner life not only in the Preclassic and Classic periods but also in the Postclassic period, researchers have made important strides in both the Southern and Northern Lowlands on this topic since the 1970s. Of particular note is the long-term research of Marilyn Masson, Carlos Peraza Lope, Susan Milbrath, Clifford Brown, and their colleagues at the site of Mayapan, which has built on the earlier research of the Carnegie Institution of Washington that was noted above (see Masson & Peraza Lope 2014 for an excellent overview of some of this research).

I then codirected the Sayil Archaeological Project with Gair Tourtellot in the Puuc region of the Northern Lowlands during the mid-1980s (see Tourtellot & Sabloff 1989, Sabloff & Tourtellot 1991, Smyth et al. 1995, Sabloff 1996, among others). The focus of that project was the mapping of this small city with particular attention to nonelite residences. One of the major achievements of this project was mapping the layouts of nonelite residences through surface survey in much greater detail than had been previously possible. Most Maya settlement maps depict, as small black rectangles, low mounds that excavations indicated were the remains of perishable wood and thatch residences and associated structures. Owing to the excellent preservation of low stone walls of one or two courses in height that supported the bases of wooden house walls at Sayil, the project was able to map the rooms of the houses and adjacent activity areas, such as kitchens and water cistern collection zones. Another key advance was the meticulous horizontal exposure of surfaces between and around houses and the concomitant study of chemical residues, which revealed that such areas were probably used as household vegetable gardens, thus supporting the hypothesis that ancient Maya urban landscapes were really “garden cities” (Killion et al. 1989). A number of students were involved in the publications of the project, including Kelli Carmean, Diana Christensen, Christopher Dore, Nicholas Dunning, Berndt Fahmel Beyer, Tom Killion, Signa Larralde, Patricia McAnany, Michael Smyth, Stanley Walling, LuAnn Wandsnider, L. Val Whitley, and Susan Wurtzburg, as were a number of Mexican archaeologists, including Sylviane Boucher, Rafael Cobos, Tomás Gallareta, Sandra Lopez Varela, and Carlos Pérez Alvarez.

## WHAT DO WE KNOW ABOUT ANCIENT MAYA COMMONERS?

So, what have Mayanists learned about pre-Columbian commoners at this point? Since the turn of the twenty-first century, Mayanists have made great strides in understanding pre-Columbian commoner life (see Robin 2001 for an excellent baseline discussion of this research). Most of the new understandings of commoners derive from archaeological field research, including settlement pattern studies and laboratory analyses. Unfortunately, even though there have been significant advances in the decipherment of Maya hieroglyphic texts, the contents of the texts rarely refer to nonelite activities. However, scenes depicted on ancient murals and ceramics do augment our understanding (see below for a discussion of the Calakmul murals).

Let us look at some of these significant advances, as well as some of the gaps or problems. Detailed surface surveys and excavations of the remains have begun to reveal a richer picture of ancient Maya commoners (see Webster & Gonlin 1988). At this point, the picture that has been formed to date is complicated and still far from complete. Moreover, tracing the evidence for the timing of the rise of an elite/commoner split is not at all straightforward.

New research, for instance, at the site of Ceibal (Seibal), directed by Takeshi Inomata and Daniela Triadan has shown that the earliest public architecture at the site, dating to approximately 1000–900 BCE, was ceremonial in nature and was built by Maya peoples who were only partially sedentary (Inomata et al. 2015a,b). It showed no clear evidence yet of class structure. The architectural form persisted in the Maya Lowlands for another two millennia. It is not until some centuries later—during the Late Preclassic period (~300 BCE), at sites in the Mirador Basin and

Tikal, among others—that clear early societal divisions began to appear, although these divisions may well have occurred earlier (see Estrada-Belli 2011).

Two key, but still unanswered, questions in Maya studies are, How clear are the distinctions between elite and commoner? and Can scholars break up the class of commoners into analytic components? Did the Maya have a middle class and a lower class, or multiple classes? As Smith (2018, p. 320) has insightfully noted, “[W]ritings on Maya nonelites...focus heavily on ‘commoners’ as the principal counterbalance to elites, a long continuity of the historical approach to a two-class system that dates to the early analysis of the Maya by J. Eric S. Thompson in the 1920s.” She further notes, “Ancient Maya cities...reveal a range of consumption parameters in architecture, material goods, burial practices, and spatial organization that indicate the presence of a discernable middle-stratum group of producer-consumer individuals and households” (Smith 2018, p. 313). At Sayil, for instance, Tourtellot et al. (1992) showed that house size and construction may not be sufficient to distinguish among elite and commoner houses. Thus, growing evidence certainly indicates the presence of a middle class, but its detailed nature and its possible divisions have yet to be demonstrated (see also Smith 2010, Kohler & Smith 2018 for examples of more general considerations).

These basic questions remain difficult to answer because of the growing realization that commoner life varied from city to city and was heterogeneous in each city. As Robin (2001, p. 20) has stated, “Increasing archaeological evidence...clearly illustrates that Maya commoners were far from an isolated homogeneous peasantry. Maya commoners were a diverse and innovative group, who actively and variably partook in their society.” Due to the growing understanding of such variability, it has also become clearer that ancient Maya settlements are not easy to sample and that it is more difficult to generalize from limited house mound excavations than had previously been assumed. The question of how many mounds were actually residences and not kitchens, work areas, or storage areas—or complex combinations of all of these—became a concern, as did the questions of how many remains of perishable structures were actually visible on the surface rather than hidden (see Johnston 1994). Such variability also has important implications for population estimates, an important and controversial topic that I do not have space here to explore (see Culbert & Rice 1990 for an early consideration).

Through the pioneering research of McAnany, Mayanists better understand the importance of place and continuity of time for Maya commoners (as well as for elites). In her book *Living With Ancestors* (1995, 2013), McAnany has shown that the Maya buried their ancestors under the floors of their houses, and these ancestors were an important and active part of peoples’ lives. McAnany’s work and that of many other archaeologists show, not surprisingly, that ritual and associated aspects, such as directionality, played key roles in the daily lives of nonelites.

In recent years, Mayanists have been building a growing body of evidence about the daily mundane activities of the people who lived beyond the palaces and temples. Perhaps the most detailed new understandings have come from the site of Cerén in El Salvador, which Payson Sheets and his colleagues have excavated (see Sheets 2006 for a general summary). A volcanic eruption during Classic times covered the village with a thick layer of ash and helped preserve the remains of many activities involving perishable materials that normally would disappear in a hot, humid environment over time. Moreover, the rapid abandonment of homes at the time of the eruption provided numerous insights into activities whose remains were left on house floors. The abandonment of homes due to other causes, such as warfare, has also provided similar opportunities to archaeologists [see, for instance, the findings at Aguateca by Inomata and colleagues (2008)], although without the relatively superb preservation found at Cerén.

Research by Robin and her team at the site of Chan in Belize is another excellent example of detailed studies of daily nonelite activities (Robin 2002, 2012; see also Hutson 2016, 2017 for

another very useful example from Chunchucmil near the west coast of northern Yucatan, among a growing number of such studies). Studies of plant and animal remains from Maya sites are also providing useful information about both elite and commoner ancient Maya diets (see White 1999; Emery 2004, 2010; Wright 2006; Emery & Thornton 2008, among many others). Studies of salt production and distribution (including salted fish) are also enriching our knowledge of the ancient Maya diet (Andrews 1983, McKillop 2002). The activities of farmers in maintaining and sustaining agriculture have been an important focus of Ford and her colleagues (see Ford & Nigh 2015), as has the nature of economic variability in relation to differing landscapes (Ford 1991; see also Fedick 1989). The consequences of prolonged drought on ancient Maya agriculture have been another area of interest with a growing literature on this key subject (see Turner & Sabloff 2012, for one example).

One of the most exciting new insights into daily, nonelite activities has come from the discovery and conservation of very well-preserved murals at the site of Calakmul in southern Campeche, Mexico, by Carrasco Vargas and his colleagues (see the beautiful illustrations in Carrasco Vargas & Cordeiro Bacqueiro 2012 and Martin 2012; see also Boucher & Quiñones 2007, Carrasco Vargas et al. 2009). As Carrasco Vargas et al. (2009, p. 19245) point out, “Many issues that concern scholars...leave little or no physical trace. Cultures with a strong tradition of art and writing fill some of these gaps, but here data are usually restricted to the social elite, leaving fundamental questions about societies as a whole unanswered....Missing from these sources are the lower echelons of society....[O]ur work at the site of Calakmul, Mexico, offers data that address these issues.” Many of the images on the murals are women, and they depict clothing, face paint, and ornaments, as well as the preparation, transportation, and display of a variety of different foods and objects. One hypothesis concerning the Calakmul murals is that the depictions relate to marketplace activities (see Martin 2012).

Scholars now infer that all the Maya cities had at least one marketplace, if not multiple markets, as recently detailed in *The Ancient Maya Marketplace: The Archaeology of Transient Space* (King 2015), and that the nonelite, especially women, played a key role in market activities, although the details remain to be discovered (see also Hirth & Pillsbury 2013).

Mayanists have also made major strides in recent years in understanding the roles of women, both elite and nonelite. Baseline understandings can be found in the volumes edited by Ardren (2002) and Pyburn (2004; see also Wright 1996; Claassen & Joyce 1997; Gillespie & Joyce 1997; Joyce 2000, 2008; Marcus 2001; Meskell & Joyce 2003, among many others), detailing the many key roles played by ancient Maya women in a variety of cultural spheres, including economic production, ritual, and politics. Recently, the roles of queens have become clearer (see Joyce 1996, Guenter & Freidel 2009, Guenter 2014, for example); Paula Sabloff (2019) has demonstrated that elite women had not only significant power and wealth but also real agency amid their powerful fathers, husbands, and other male kin.

Regarding the agency of nonelites, there are growing indications that the nonelite also had socioeconomic agency and that the rulers did not have total power over their subjects. However, as Webster (2018, p. 88) has cautioned, “[W]e have absolutely no idea whether Classic Maya commoners generally felt oppressed by Maya kings and nobles, whether they negotiated much of anything, including power relations and access to resources, or whether they unduly fretted about identity.” Nevertheless, it can be inferred that the ancient Maya had a social contract of sorts with their rulers, who represented the gods on earth and were responsible for ensuring sufficient and well-timed rain that made for at least an adequate agricultural supply for the population of the cities. The nonelite, in turn, were responsible for providing the labor that helped build the temples and palaces and produced the food for all. When the ruling elite failed their end of the bargain, which appears to have happened during the severe droughts in the late eighth to early

ninth century CE and the concomitant increase in intercity raiding, many of the nonelite apparently responded by walking away from the major cities in order to find better circumstances, as a recent agent-based modeling analysis has indicated (see McAnany et al. 2016; see also Aimers 2012).

I close by pointing to a new technical development that has already made a significant impact on settlement pattern studies in the Maya area and promises to have an even greater impact in the coming years: the remote-sensing technique LiDAR. The pioneering research of Arlen, Diane, and Adrian Chase, for example, at the city of Caracol in Belize (see Chase et al. 2012, Chase & Chase 2017) has shown how the use of this technique can not only greatly expedite settlement pattern mapping by completely penetrating dense forest cover to show remains on the ground (which traditional aerial photography could not do) but also reveal clear patterning of land use—such as agricultural terracing—in as accurate a manner as total station mapping (see also Yaeger et al. 2016 for another Belize example). LiDAR has also been used to discover social changes over time (Inomata et al. 2018). The recent LiDAR study by Canuto and his colleagues in the northern part of Guatemala has revealed approximately 61,000 apparent structures in a 21-km<sup>2</sup> area (Canuto et al. 2018), although careful groundtruthing is still needed to verify the LiDAR images (see Ford & Horn 2018). This technique is also proving to have revolutionary implications for the understanding of other tropical rainforest civilizations, such as the great Khmer capital of Angkor in Cambodia (see Evans et al. 2013).

## CONCLUSION

In sum, archaeological studies of pre-Columbian complex societies in the Lowlands of modern-day Belize, El Salvador, Guatemala, Honduras, and Mexico have come a long way in the past half-century in helping us understand the nature of ancient Maya society. Knowledge of both elite and commoners is much more robust than ever before, although clearly many outstanding questions remain. But with a suite of stronger techniques, methods, and hypotheses, there is good reason to be optimistic that these understandings will continue to improve and will help to contribute to broader considerations of commoner lives in premodern states (see, for example, Smith 2010, Robin 2013). They will also allow archaeologists to share these stronger, more inclusive findings with modern Maya peoples (see McAnany 2017).

I have been privileged to have been part of the tremendous changes in the field of Maya studies. Moreover, I am delighted to have contributed to the replacement of the traditional model with a model that is sensitive to the entire range of ancient Maya society and to have seen scholars' work exceeding and carrying forward my own research. I feel confident that Gordon Willey would be quite pleased to see the state of the field today and optimistic, as I am, that the field continues to rapidly progress and will build newer and stronger understandings of pre-Columbian Maya peoples.

## DISCLOSURE STATEMENT

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## LITERATURE CITED

- Aimers JJ. 2012. Environment and agency in the ancient Maya collapse. In *Climates, Landscapes, and Civilizations*, ed. L. Giosan, DQ Fuller, K Nicoll, RK Flad, PD Clift, pp. 27–33. Geophys. Monogr. Ser. Washington, DC: Am. Geophys. Union
- Andrews AP. 1983. *Maya Salt Production and Trade*. Tucson: Univ. Ariz. Press
- Andrews EW IV, Andrews EW V. 1980. *Excavations at Dzibilchaltun, Yucatan, Mexico*. Publ. 48. New Orleans, LA: Middle Am. Res. Inst., Tulane Univ.
- Andrews EW V. 1981. Dzibilchaltun. See Sabloff 1981, pp. 313–41
- Ardren T, ed. 2002. *Ancient Maya Women*. Walnut Creek, CA: AltaMira
- Ashmore W, ed. 1981. *Lowland Maya Settlement Patterns*. Albuquerque: Univ. N. M. Press
- Ashmore W, Willey GR. 1981. A historical introduction to the study of lowland Maya settlement patterns. See Ashmore 1981, pp. 3–18
- Ashmore W, Yaeger J, Robin C. 2004. Commoner sense: Late and Terminal Classic social strategies in the Xunantunich area. In *The Terminal Classic in the Maya Lowlands: Collapse, Transition, and Transformation*, ed. AA Demarest, PM Rice, DS Rice, pp. 302–23. Boulder, CO: Univ. Press Colo.
- Billman BR, Feinman GM, eds. 1999. *Settlement Pattern Studies in the Americas: Fifty Years Since Virú*. Washington, DC: Smithson. Inst. Press
- Blanton RE. 1994. *Houses and Households: A Comparative Study*. New York: Plenum
- Boucher S, Quiñones L. 2007. Entre mercados, ferias y festines: los murales de la Sub 1–4 de Chiik Nahb, Calakmul. *Mayab* 19:27–50
- Bullard WR Jr. 1960. Maya settlement pattern in Northeastern Petén, Guatemala. *Am. Antiq.* 25:355–72
- Canuto M-A, Yeager J, eds. 2000. *The Archaeology of Communities: A New World Perspective*. London: Routledge
- Canuto MA, Estrada-Belli F, Garrison TG, Houston SD, Acuña MJ, et al. 2018. Ancient lowland Maya complexity as revealed by airborne laser scanning of northern Guatemala. *Science* 361:aau0137
- Carmean K. 1991. Architectural labor investment and social stratification at Sayil, Yucatan, Mexico. *Lat. Am. Antiq.* 2:151–65
- Carr RF, Hazard JE. 1961. *Map of the Ruins of Tikal, El Peten, Guatemala*. Mus. Monogr. 21. Philadelphia: Univ. Mus., Univ. Pa. Phila.
- Carrasco Vargas R, Coreiro Baqueiro M. 2012. The murals of Chiik Nahb Structure Sub 1–4, Calakmul, Mexico. See Golden et al. 2012, pp. 8–59
- Carrasco Vargas R, Vázquez López VA, Martin S. 2009. Daily life of the ancient Maya recorded on murals at Calakmul, Mexico. *PNAS* 106(46):19245–49
- Chase AF, Chase DZ, Fisher CT, Leisz SJ, Weishampel JF. 2012. Geospatial revolution and remote sensing LiDAR in Mesoamerican archaeology. *PNAS* 109(32):12916–21
- Chase DZ, Chase AF. 2017. Caracol, Belize, and changing perceptions of ancient Maya society. *J. Archaeol. Res.* 25:185–249
- Claassen C, Joyce RA, eds. 1997. *Women in Prehistory: North America and Mesoamerica*. Philadelphia: Univ. Pa. Press
- Culbert TP, Rice DS, eds. 1990. *Precolumbian Population History in the Maya Lowlands*. Albuquerque: Univ. N. M. Press
- Douglass JG. 2002. *Hinterland Households: Rural Agrarian Household Diversity in Northwest Honduras*. Boulder: Univ. Press Colo.
- Douglass JG, Gonlin N, eds. 2012. *Ancient Households of the Americas: Conceptualizing What Households Do*. Boulder: Univ. Press Colo.
- Emery KF, ed. 2004. *Maya Zooarchaeology: New Directions in Method and Theory*. Monogr. 51. Los Angeles: Cotsen Inst. Archaeol.
- Emery KF. 2010. *Dietary, Environmental, and Societal Implications of Ancient Maya Animal Use in the Petexbatun: A Zooarchaeological Perspective on the Collapse*. Vanderbilt Inst. Mesoam. Archaeol. Ser. Book 5. Nashville, TN: Vanderbilt Univ. Press
- Emery KF, Thornton EK. 2008. Zooarchaeological habitat analysis of ancient Maya landscape changes. *J. Ethnobiol.* 28(2):154–79

- Estrada-Belli F. 2011. *The First Maya Civilization: Ritual and Power before the Classic Period*. London: Routledge
- Evans DH, Fletcher RJ, Pottier C, Cheavance J-B, Soutif D, et al. 2013. Uncovering archaeological landscapes at Angkor using lidar. *PNAS* 110(31):12595–600
- Fedick SL. 1989. The economics of agricultural land use and settlement in the Upper Belize Valley. In *Pre-historic Maya Economies in Belize*, ed. PA McNany, BL Isaac, pp. 215–53. Res. Econ. Anthropol. Suppl. 4. Greenwich, CT: JAI Press
- Foias AE, Emery K. 2012. *Motul de San José: Politics, History, and Economy in a Classic Maya Polity*. Gainesville: Univ. Press Fla.
- Ford A. 1991. Economic variation of ancient Maya residential settlement in the Upper Belize River area. *Anc. Mesoam.* 2:35–46
- Ford A, Horn S. 2018. Above and below the Maya forest. *Science* 361:1313–14
- Ford A, Nigh R. 2015. *The Maya Forest Garden: Eight Millennia of Sustainable Cultivation of the Tropical Woodlands*. New York: Routledge
- Freidel DA, Sabloff JA. 1984. *Cozumel: Late Maya Settlement Patterns*. New York: Academic
- Fry RE. 1969. *Ceramics and settlement in the periphery of Tikal, Guatemala*. PhD Diss., Dep. Anthropol., Univ. Ariz.
- Gillespie SD, Joyce RA. 1997. Gendered goods: the symbolism of Maya hierarchical exchange relations. See Claassen & Joyce 1997, pp. 189–210
- Golden C, Houston S, Skidmore J, eds. 2012. *Maya Archaeology 2*. San Francisco: Precolumbia Mesoweb Press
- Gonlin N. 1993. *Rural household archaeology at Copan, Honduras*. PhD Diss., Dep. Anthropol., Pa. State Univ.
- Gonlin N. 1994. Rural household diversity in late Classic Copan, Honduras. In *Archaeological Views from the Countryside: Village Communities in Early Complex Societies*, ed. GM Schwartz, SE Falconer, pp. 177–79. Washington, DC: Smithsonian. Inst. Press
- Gonlin N, Lohse JC, eds. 2007. *Commoner Ritual and Ideology in Ancient Mesoamerica*. Boulder: Univ. Press Colo.
- Guenter S. 2014. The Queen of Cobaá: a reanalysis of the Macanxoc stelae. In *The Archaeology of Yucatan: New Directions and Data*, ed. T Stanton, pp. 395–421. Oxford, UK: Archaeopress Archaeol.
- Guenter S, Freidel D. 2009. Warriors and rulers: royal women of the Classic Maya. In *Gender in Cross-Cultural Perspective*, ed. CB Brettell, CF Sargent, pp. 74–80. Upper Saddle River, NJ: Pearson/Prentice Hall
- Harrison PD, Turner BL, eds. 1978. *Pre-Hispanic Maya Agriculture*. Albuquerque: Univ. N. M. Press
- Haviland WA. 1966. Maya settlement patterns: a critical review. In *Archaeological Studies in Middle America*, pp. 21–47. Publ. 26. New Orleans, LA: Middle Am. Res. Inst., Tulane Univ.
- Haviland WA. 1968. Ancient lowland Maya social organization. In *Archaeological Studies in Middle America*, pp. 93–117. Publ. 26. New Orleans, LA: Middle Am. Res. Inst., Tulane Univ.
- Haviland WA. 1985. *Excavation in Small Residential Groups of Tikal: Groups 4F-1 and 4F-2*. Tikal Rep. 19, Univ. Mus. Monogr. 58. Philadelphia: Univ. Pa. Mus. Archaeol. Anthropol.
- Hendon JA. 1996. Archaeological approaches to the organization of domestic labor: household practice and domestic relations. *Annu. Rev. Anthropol.* 25:45–61
- Hirth KG, Pillsbury J, eds. 2013. *Merchants, Markets, and Exchange in the Pre-Columbian World*. Washington, DC: Dumbarton Oaks Res. Libr. Collect.
- Hoggarth JA, Awe JJ. 2015. Household adaptation and reorganization in the aftermath of the Classic Maya collapse at Baking Pot, Belize. In *Beyond Collapse: Archaeological Perspectives on Resilience, Revitalization, and Reorganization in Complex Societies*, ed. RK Faulseit, pp. 504–28. Occas. Pap. 42. Carbondale: Cent. Archaeol. Investig., South. Ill. Univ. Press
- Hutson SR. 2016. *The Ancient Urban Maya: Neighborhoods, Inequality, and Built Form*. Gainesville: Univ. Press Fla.
- Hutson SR, ed. 2017. *Ancient Maya Commerce: Multidisciplinary Research at Chunchucmil*. Boulder: Univ. Press Colo.
- Iannone G, Connell SV, eds. 2003. *Perspectives on Ancient Maya Rural Complexity*. Monogr. 49. Los Angeles: Cotsen Inst. Archaeol. Press, Univ. Calif.
- Inomata T. 2008. *Warfare and the Fall of a Fortified Center: Archaeological Investigations at Aguateca*. Nashville, TN: Vanderbilt Univ. Press



- Inomata T, MacLellan J, Burnham M. 2015a. The construction of public and domestic spheres in the Preclassic Maya lowlands. *Am. Anthropol.* 117(3):519–34
- Inomata T, MacLellan J, Triadan D, Munson J, Burnham M, et al. 2015b. Development of sedentary communities in the Maya lowlands: coexisting mobile groups and public ceremonies at Ceibal, Guatemala. *PNAS* 112(14):4268–73
- Inomata T, Triadan D, Pinzón F, Burnham M, Ranchos JL, et al. 2018. Archaeological application of airborne LiDAR to examine social changes in the Ceibal region of the Maya lowlands. *PLOS ONE* 13(2):e0191619
- Johnston KJ. 1994. *The “invisible” Maya: Late Classic minimally-platformed residential settlement at Itzán, Peten, Guatemala*. PhD Diss., Yale Univ., New Haven, CT
- Johnston KJ, Gonlin N. 1998. What do houses mean? Approaches to the analysis of Classic Maya commoner residence. In *Function and Meaning in Classic Maya Architecture*, ed. SD Houston, pp. 141–86. Washington, DC: Dumbarton Oaks Res. Libr. Collect.
- Jones C, Coe WR, Haviland WA. 1981. Tikal: an outline of its field study (1956–1970) and a project bibliography. See Sabloff 1981, pp. 296–312
- Joyce RA. 1996. The construction of gender in Classic Maya monuments. See Wright 1996, pp. 167–95
- Joyce RA. 2000. *Gender and Power in Prehispanic Mesoamerica*. Austin: Univ. Tex. Press
- Joyce RA. 2008. *Ancient Bodies, Ancient Lives: Sex, Gender, and Archaeology*. London: Thames and Hudson
- Killion T, Sabloff JA, Tourtellot G, Dunning N. 1989. Surface assemblages at Terminal Classic (A.D. 800–1000) Sayil, Puuc Region, Yucatan, Mexico. *J. Field Archaeol.* 16:273–94
- King EM, ed. 2015. *The Ancient Maya Marketplace: The Archaeology of Transient Space*. Tucson: Univ. Ariz. Press
- Kluckhohn C. 1940. The conceptual structure in Middle American studies. In *The Maya and Their Neighbors*, ed. CL Hays, RL Linton, SK Lothrop, HL Shapiro, GC Vaillant, pp. 41–51. New York: Appleton-Century
- Kohler TA, Smith ME, eds. 2018. *Ten Thousand Years of Inequality: The Archaeology of Wealth Differences*. Tucson: Univ. Ariz. Press
- Kurjack EB. 1974. *Prehistoric Lowland Maya Community and Social Organization: A Case Study at Dzibilchaltun, Yucatan, Mexico*. Publ. 38. New Orleans, LA: Middle Am. Res. Inst., Tulane Univ.
- Lohse JC, Valdez F Jr., eds. 2004. *Ancient Maya Commoners*. Austin: Univ. Tex. Press
- Lucero LJ, Fedick SL, Dunning NP, Lentz DL, Scarborough VL. 2014. Water and landscape: ancient Maya settlement decisions. *Archaeol. Pap. Am. Anthropol. Assoc.* 24:30–42
- Manzanilla L, Barba L. 1990. The study of activities in Classic households: two case studies from Coba and Teotihuacan. *Anc. Mesoam.* 1:41–50
- Marcus J. 2001. Breaking the glass ceiling: the strategies of royal women in ancient states. In *Gender in Pre-Hispanic America*, ed. CF Klein, pp. 305–40. Washington, DC: Dumbarton Oaks Res. Libr. Collect.
- Marcus J. 2004. Maya commoners: the stereotype and the reality. See Lohse & Valdez 2004, pp. 255–84
- Martin S. 2012. Hieroglyphs from the painted pyramid: the epigraphy of Chiik Nahb Structure Sub 1–4, Calakmul, Mexico. See Golden et al. 2012, pp. 60–81
- Masson MA, Peraza Lope C. 2014. *Kukulcan’s Realm: Urban Life at Ancient Mayapán*. Boulder: Univ. Press Colo.
- McAnany PA. 1995. *Living with the Ancestors: Kinship and Kingship in Ancient Maya Society*. Austin: Univ. Tex. Press
- McAnany PA. 2013. *Living with the Ancestors: Kinship and Kingship in Ancient Maya Society*. Cambridge, UK: Cambridge Univ. Press. Revis. ed.
- McAnany PA. 2017. *Maya Cultural Heritage: How Archaeologists and Indigenous Communities Engage the Past*. Lanham, MD: Rowman and Littlefield
- McAnany PA, Sabloff JA, Lamoureux St-Hilaire M, Iannone G. 2016. Leaving Classic Maya cities: agent-based modeling and the dynamics of diaspora. In *Social Theory in Archaeology and Ancient History: The Present and Future of Counternarratives*, ed. G Emberling, pp. 259–90. Cambridge, UK: Cambridge Univ. Press
- McKillop H. 2002. *White Gold of the Ancient Maya*. Gainesville: Univ. Press Fla.
- Meskell LM, Joyce RA. 2003. *Embodied Lives: Figuring Ancient Maya and Egyptian Experience*. London: Routledge
- Morley SG. 1946. *The Ancient Maya*. Stanford, CA: Stanford Univ. Press

- Patterson TC. 1986. The last sixty years: toward a social history of Americanist archaeology in the United States. *Am. Anthropol.* 88(1):7–26
- Pollock HED, Roys RL, Proskouriakoff T, Smith AL. 1962. *Mayapan, Yucatan, Mexico*. Carnegie Inst. Wash. Publ. 619. Washington, DC: Carnegie Inst. Wash.
- Proskouriakoff T. 1955. The death of a civilization. *Sci. Am.* 192(5):82–87
- Puleston DE. 1973. *Ancient Maya settlement patterns and environment at Tikal, Guatemala: implications for subsistence models*. PhD Diss., Dep. Anthropol., Univ. Pa.
- Puleston DE, Callender DW Jr. 1967. Defensive earthworks at Tikal. *Expedition* 9(3):40–48
- Pyburn KA, ed. 2004. *Ungendering Civilization*. New York: Routledge
- Rice DS, Rice PM, Pugh T. 1998. Settlement continuity and change in the Central Peten Lakes region: the case of Zacpeten. In *Anatomía de una civilización: aproximaciones interdisciplinarias a la cultura Maya*, ed. A Ciudad R, Y Fernández M, JM García C, MJ Iglesias Ponce de León, A Lacadena G, LT Sanz G, pp. 207–52. Madrid: Soc. Esp. Estud. Maya
- Ricketson OG, Ricketson EB. 1937. *Uaxactun, Guatemala, Group E, 1926–1937*. Carnegie Inst. Wash. Publ. 477. Washington, DC: Carnegie Inst. Wash.
- Robin C. 2001. Peopling the past: new perspectives on the ancient Maya. *PNAS* 98(1):18–21
- Robin C. 2002. Outside of houses: the practices of everyday life at Chan Noohol, Belize. *J. Soc. Archaeol.* 2(2):245–68
- Robin C. 2003. New directions in Classic Maya household archaeology. *J. Archaeol. Res.* 11(4):307–56
- Robin C. 2012. *Chan: An Ancient Maya Farming Community*. Gainesville: Univ. Press Fla.
- Robin C. 2013. *Everyday Life Matters: Maya Farmers at Chan*. Gainesville: Univ. Press Fla.
- Sabloff JA. 1975. *Excavations at Seibal: Ceramics*. Mem. Peabody Mus. 13(2). Cambridge, MA: Harvard Univ. Press
- Sabloff JA. 1977. Old myths, new myths: the role of sea traders in the development of ancient Maya civilization. In *The Sea in the Pre-Columbian World*, ed. EP Benson, pp. 67–97. Washington, DC: Dumbarton Oaks Res. Libr. Collect.
- Sabloff J, ed. 1981. *Supplement to the Handbook of Middle American Indians*, Vol. 1. Austin: Univ. Tex. Press
- Sabloff JA. 1983. Classic Maya settlement pattern studies: past problems, future prospects. In *Prehistoric Settlement Pattern Studies: Retrospect and Prospect*, ed. EZ Vogt, RM Leventhal, pp. 413–22. Cambridge/Albuquerque: Peabody Mus., Harvard Univ./Univ. N. M. Press
- Sabloff JA. 1990. *The New Archaeology and the Ancient Maya*. Sci. Am. Libr. San Francisco: W.H. Freeman
- Sabloff JA. 1996. Settlement patterns and community organization in the Maya lowlands. *Expedition* 38(1):3–13
- Sabloff JA, ed. 2003. *Tikal: Dynasties, Foreigners, and Affairs of State*. Santa Fe, NM: Sch. Adv. Res. Press
- Sabloff JA. 2004a. Gordon Randolph Willey. *Proc. Am. Philos. Soc.* 148(3):405–10
- Sabloff JA. 2004b. Looking backward and looking forward: how Maya studies of yesterday shape today. In *Continuities and Changes in Maya Archaeology: Perspectives at the Millennium*, ed. C Golden, G Borgstede, pp. 13–20. New York: Routledge
- Sabloff JA. 2007. It depends on how we look at things: new perspectives on the Postclassic period in the northern Maya lowlands. *Proc. Am. Philos. Soc.* 151(1):11–25
- Sabloff JA. 2015. On the history of archaeological research in Mesoamerica, with particular reference to pre-Columbian Maya civilization. In *Globalized Antiquity: Uses and Perceptions of the Past in South Asia, Mesoamerica, and Europe*, ed. U Schüren, DM Segesser, T Späth, pp. 219–29. Berlin: Reimer
- Sabloff JA, Ashmore W. 2001. An aspect of archaeology's recent past and its relevance in the new millennium. In *Archaeology at the New Millennium*, ed. GM Feinman, TD Price, pp. 11–32. New York: Plenum
- Sabloff JA, Fash WL Jr., eds. 2007. *Gordon R. Willey and American Archaeology: Contemporary Perspectives*. Norman: Univ. Okla. Press
- Sabloff JA, Rathje WL, eds. 1975a. *A Study of Changing Pre-Columbian Commercial Systems: The 1972–1973 Seasons at Cozumel, Mexico*. Peabody Mus. Archaeol. Ethnol. Monogr. 3. Cambridge, MA: Harvard Univ. Press
- Sabloff JA, Rathje WL. 1975b. The rise of the merchant class among the ancient Maya. *Sci. Am.* 233(4):72–82
- Sabloff JA, Tourtellot G. 1991. *The Ancient Maya City of Sayil: The Mapping of a Puuc Region Center*. Publ. 60. New Orleans, LA: Middle Am. Res. Inst., Tulane Univ.

- Sabloff PLW. 1975. Changing patterns of dwelling distribution (1847–1972). See Sabloff & Rathje 1975b, pp. 29–46
- Sabloff PLW. 2019. The political agency of royal women: a comparison of eight premodern societies. *J. Archaeol. Res.* In press
- Sharer RJ, Traxler LP. 2006. *The Ancient Maya*. Stanford, CA: Stanford Univ. Press. 6th ed.
- Sheets PD. 2006. *The Ceren Site: An Ancient Village Buried by Volcanic Ash in Central America*. Belmont, CA: Wadsworth Cengage Learn. 2nd ed.
- Smith ML. 2010. *A Prehistory of Ordinary People*. Tucson: Univ. Ariz. Press
- Smith ML. 2018. Urbanism and the middle class: co-emergent phenomena in the world's first cities. *J. Anthropol. Res.* 74(3):299–326
- Smyth MP, Dore CD, Dunning NP. 1995. Interpreting prehistoric settlement patterns: lessons from the Maya center of Sayil, Yucatán. *J. Field Archaeol.* 22:321–47
- Taylor WW Jr. 1948. *A Study of Archaeology*. Mem. Ser. 69. Arlington, VA: Am. Anthropol. Assoc.
- Thompson JES. 1954. *The Rise and Fall of Maya Civilization*. Norman: Univ. Okla. Press
- Tourtellot G. 1988. *Excavations at Seibal: Peripheral Survey and Excavation: Settlement and Community Patterns*. Mem. Peabody Mus. Mem. 16. Cambridge, MA: Harvard Univ. Press
- Tourtellot G, Clarke A, Hammond N. 1993. Mapping La Milpa: a Maya city in northwestern Belize. *Antiquity* 67:96–108
- Tourtellot G, Sabloff JA. 1989. Approaches to household and community structure at Sayil, Yucatan. In *Households and Communities: Proceedings of the 21st Annual Chacmool Conference*, ed. S MacEachern, DJW Archer, RD Garvin, pp. 363–70. Calgary, Can.: Archaeol. Assoc., Univ. Calgary
- Tourtellot G, Sabloff JA, Carmean K. 1992. Will the real elites please stand up? An archaeological assessment of Maya elite behavior in the terminal Classic period. In *Mesoamerican Elites: An Archaeological Assessment*, ed. DZ Chase, AF Chase, pp. 80–98. Norman: Univ. Okla. Press
- Turner BL II, Sabloff JA. 2012. Classic period collapse of the Central Maya Lowlands: insights about human–environment relationships for sustainability. *PNAS* 109(35):13908–14
- Wauchope R. 1934. *House Mounds of Uaxactun, Guatemala*. Carnegie Inst. Wash. Publ. 14. Washington, DC: Carnegie Inst. Wash.
- Webster D. 2018. *The Population of Tikal: Implications for Maya Demography*. Paris Monogr. Am. Archaeol. 49. Oxford, UK: Archaeopress
- Webster D, Gonlin N. 1988. Household remains of the humblest Maya. *J. Field Archaeol.* 15(2):169–90
- Webster D, Murtha T, Straight KD, Silverstein J, Martinez H, et al. 2007. The great Tikal earthwork revisited. *J. Field Archaeol.* 32(1):41–64
- White CD, ed. 1999. *Reconstructing Ancient Maya Diet*. Salt Lake City: Univ. Utah Press
- Wilk RR, Ashmore W, eds. 1988. *Household and Community in the Mesoamerican Past*. Albuquerque: Univ. N. M. Press
- Wiley GR. 1953. Prehistoric settlement patterns in the Virú Valley, Peru. *Bur. Am. Ethnol. Bull.* 155:1–453
- Wiley GR. 1956a. Problems concerning prehistoric settlement patterns in the Maya Lowlands. In *Prehistoric Settlement Patterns in the New World*, ed. GR Wiley, pp. 107–14. Viking Fund Publ. Anthropol. 23. New York: Wenner-Gren Found. Anthropol. Res.
- Wiley GR. 1956b. The structure of ancient Maya society: evidence from the Southern Lowlands. *Am. Anthropol.* 58:777–82
- Wiley GR, Bullard WR Jr., Glass JB, Gifford JC. 1965. *Prehistoric Maya Settlements in the Belize Valley*. Pap. Peabody Mus. Archaeol. Ethnol. 54. Cambridge, MA: Harvard Univ. Press
- Wiley GR, Sabloff JA. 1993. *A History of American Archaeology*. New York: W.H. Freeman. 3rd ed.
- Wright LE. 2006. *Diet, Health, and Status among the Pasión Maya: A Reappraisal of the Collapse*. Nashville: Vanderbilt Univ. Press
- Wright RP, ed. 1996. *Gender and Archaeology*. Philadelphia: Univ. Pa. Press
- Yaeger J. 2000. The social construction of communities in the Classic Maya countryside: strategies of affiliation in Western Belize. See Canuto & Yaeger 2000, pp. 123–42
- Yaeger J, Brown MK, Cap B. 2016. Locating and dating sites using LiDAR survey in a mosaic landscape in western Belize. *Adv. Archaeol. Pract.* 4(3):339–56