Chapter 1
Introduction

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Bioarchaeology in the Maya area has always confronted a series of substantial challenges. The tropical setting and complex mortuary programs of the Maya act to break apart and disintegrate bones and then scatter them across the landscape, where they are documented and recovered archaeologically in an often inconsistent manner. For these reasons, researchers faced with typically small, piecemeal datasets with variable amounts of contextual information have struggled to conform to traditional bioarchaeological approaches that focus on population-specific data for comparative analysis. However, in recent years, the broader field of bioarchaeology has increasingly shifted its focus to include a series of new approaches that not only provide a wider variety of methodological techniques, but that rely heavily on historical, archaeological, and taphonomic contextualization of human bone. Rather than forcing skeletal data into broad or inappropriate analytical categories, greater attention is directed at reconstructing and interpreting aspects of individuals' lived experiences and of the treatment of bodies following death. Modern mortuary analysis benefits from a much greater contribution by bioarchaeologists in the field, who can decipher taphonomic clues to recognize often subtle aspects of cultural treatments and distinguish these from the effects of natural diagenesis and bioturbation. Often directed by theoretical concepts of the body and personhood, this disciplinary transition has been particularly strong in the Maya area, in large part because both modern and ancient Maya groups have been documented and portrayed in an incredibly rich and diverse set of written and artistic sources spanning almost the last 4,000 years. This volume, which was based on a session organized for the 2011 meetings of the Society for American Archaeology in Sacramento, serves to highlight the creative and interdisciplinary nature of Maya bioarchaeology and more generally to demonstrate the significant potential for bioarchaeology of incorporating nuanced contextual readings of mortuary contexts.

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1.1 Small, Biased Burial Samples and Bioarchaeology

The extraction of meaningful anthropological data from skeletal remains is problematic due to a series of confounding issues, such as differential preservation, biases inherent in sampling and in reference standards, the vagaries of social roles apparent in mortuary contexts, inter- and intraobserver error, and lack of standardization in methods, all of which have been discussed and problematized extensively by concerned researchers (see for instance, Agarwal and Glencross 2011; Katzenberg and Saunders 2008; Wood et al. 1992, among many others). The papers from this volume specifically address one such limitation consistently faced by most bioarchaeologists around the world: small skeletal assemblages. Many researchers consider the use of populational data as an integral aspect of bioarchaeology, correctly pointing out that the identification of specific genetic traits or diseases is of little value without knowledge of the broader prevalence and distribution of these conditions within the specific cultural, environmental, and genetic landscapes of which individuals are a part (Larsen 1999, p. 3; Wright and Yoder 2003, p. 44). However, large, representative skeletal datasets conducive to statistical treatment are difficult, if not impossible, to obtain in most archaeological settings. This is particularly true in the Maya region, where the vast majority of documented pre-Colonial era skeletons are distributed among a highly diverse array of contexts across the landscape, rather than concentrated in cemeteries containing most or all members of a community. Mortuary locales typically contain single or small numbers of individuals, and it is most often the case that the logic by which the living utilized specific mortuary treatments or locations to reflect belief systems or the social roles of the deceased is poorly understood.

In addition to the complexities of mortuary practices in the Maya region, a major problem hindering skeletal studies is that archaeological research designs rarely include significant input from bioarchaeologists (as discussed by Webster 1997). Ideally, excavation strategies would be shaped to generate diverse, representative skeletal data useful for analysis and comparison of various organizational levels and subgroups within the general population. Unfortunately, relatively few projects have historically prioritized these considerations, and only a few Maya sites have long histories of intensive research that have (inadvertently or by design) generated such assemblages. Bioarchaeologists are generally relegated to studying what is available and trying to overcome inherent and inevitable shortcomings in the nature of the data, such as detailed taphonomic recording that would aid in reconstructing mortuary behavior. This lack of attention to bioarchaeological considerations results in several problems that result in or are negatively affected by small sample sizes and bias. For instance, even moderate-sized collections may be difficult to utilize for statistical analysis because of the large amount of missing data resulting from poor preservation, incomplete recovery, and secondary manipulation of bodies by the Maya. In addition, skeletal data must be further subdivided by time period, sex, social status, and other such variables as a basis for comparative analysis, and at a certain point, these subgroups become too small for statistical testing. This forces

researchers to group skeletons into broad temporal, geographic, and social categories, thereby limiting hypothesis testing to only the most general comparisons.

Most skeletal assemblages also reflect varying degrees of sample bias. For instance, archaeological investigations in the Maya region have traditionally targeted site cores, resulting in disproportionate numbers of individuals recovered from elite and ritual contexts. In addition, excavations of site cores and elite architecture are more likely to recover skeletons completely, since these contexts are often the focus of large-scale excavations, which inevitably will be expanded if necessary upon the discovery of richly furnished burials. In contrast, excavation strategies designed for broad sampling of smaller (nonelite) residential structures from surrounding settlement contexts typically rely on testpitting, whereby skeletons are not always excavated and recovered completely. Furthermore, in many cases the few skeletons excavated from particular sites are found in close proximity or in similar types of contexts, such as tombs, which influences the representative nature of the recovered skeletal assemblage. For instance, during my work at Chau Hiix in northern Belize, excavations of Structure 2 on the main plaza produced 70 primary burials, representing almost half of the individuals found at the site. Because mortuary patterning among the Classic Maya often appears to have been dictated by membership in corporate groups (see McAnany 1995), it is likely that the individuals in Structure 2 not only shared a similar social status, but also that many were genetically related. Thus, when studying epigenetic dental traits or pathologies, for instance, it is difficult to assess whether the measure of variability for the Chau Hiix population in fact is limited because the skeletal series is composed largely of a closely related subgroup.

A final issue related to working in an area in which most sites have relatively few skeletons, as discussed by Roberts and Mays (2011, p. 629) for the UK, is that because of the reliance on statistical testing regional skeletal research tends to favor the use of larger samples. Thus, much of our knowledge about biological variation among the ancient Maya is heavily based on a few of the largest skeletal collections. These tend to originate from bigger civic ceremonial cores (such as Tikal and Copan), and mostly date to the Late Classic period.

In addition, access plays a large role in what gets studied, and thus collections that are stored in museums or universities often dictate the direction of bioarchaeological research designs as they attract an inordinate amount of attention compared to collections that are made more difficult to analyze. For instance, the Colonial period cemetery of Tipu is relatively large, well preserved, and, thanks to Mark Cohen at SUNY Plattsburgh, widely available for scholarly investigation. However, the nature of Tipu's population, which was highly mobile and diverse, and whose biology reflects the environmental pressures of a frontier zone in the tumultuous Colonial period, presents a series of difficult challenges for pursuing meaningful bioarchaeological analogy with Classic period groups. In addition, because of this focused attention, biological models of the Maya experience during the Colonial period were, until recently (see Tiesler et al. 2010), largely based on this single tiny community that was likely highly atypical in the broader Maya Colonial setting. Other Colonial cemeteries, such as Lamanai (White 1986; Wright 1990) and Tancah

(Saul 1982), were less studied, not because of their lack of importance or relevance, but because they were less accessible.

There are a number of approaches commonly employed by bioarchaeologists faced with the task of producing accurate conclusions about a population based on small numbers of skeletons. These can be divided into three general approaches: strategies for generating larger sample sizes, application of new methodologies, and the use of theoretical models and cultural analogy to identify and interpret specific cultural behaviors from biological data.

Perhaps the most obvious way to alleviate sampling issues is to increase sample size and diversity by systematically continuing to excavate and recover skeletons. Indeed, recent bioarchaeological investigations in the Maya region have greatly benefited from vastly expanded research that not only supplements skeletal databases with larger numbers of observations, but also broadens potential comparisons by including skeletons from a much wider variety of contexts. Regional surveys have begun to explore a diversity of site types instead of focusing on single sites, which tends to obscure variability in ancient socioeconomic and political organization. Finally, researchers have begun to recognize the importance of expanding analysis beyond formal primary burials to include contexts traditionally called "problematic," which has the added benefit of accessing a wider variety of mortuary processes and stages (Berryman 2007, p. 378; Cucina and Tiesler 2007; Weiss-Krejci 2011). Related to this last point is a recognition by both archaeologists and bioarchaeologists that the use of static, dichotic categorization has often proven to be counterproductive to accessing emic meaning underlying mortuary behavior.

Another common approach for increasing the size of datasets is to engage in broad regional or temporal comparisons in which multiple assemblages from different sites are combined. For instance, this has been particularly fruitful for dental genetic traits (Cucina et al. 2005; Scherer 2007) and studies of cultural modifications (Tiesler 2001, 2013). As noted above, grouping individuals from diverse settings together limits the scope of inquiry to very general temporal, social, and geographical comparisons. However, the use of aggregate datasets can generate baseline results that can aid in constructing models explaining variability, which in turn can be used to interpret site- or subregion-specific data (see Storey et al. 2002). Unfortunately, problems related to interobserver error, lack of standardization for scoring and reporting data, and limited or lack of access to many collections, present challenges for constructing large, regional databases.

A second general approach to overcoming problems introduced from small, biased samples is through the application of innovative methodologies. Reviews of recent advances in bioarchaeology, many of which are aimed at solving problems related to the Osteological Paradox (Wood et al. 1992), often specifically focus on new methods (see Goodman and Leatherman 1998, p. 15; Larsen 2006; Wright and Yoder 2003). These can provide new sources of data that open up investigation of novel lines of questions, as well as create new protocols for analyzing data or improvements to old ones. As an example, several standards based specifically on Maya reference collections have been published recently, providing methods of age and sex estimation for poorly preserved skeletons (Danforth et al. 2009; Pavón et al. 2010; Wrobel et al. 2002). Other new methods better estimate minimum numbers

of individuals among fragmentary and commingled remains (Herrmann 2002). In addition, new strontium isotope baseline values in previously unstudied areas, like western Honduras and the Maya Mountains, as well as detailed isotope mapping at the local level, support more nuanced interpretations of the movement of individuals and groups (Freiwald 2011; Miller and Freiwald 2013; Price et al. 2010). Finally, increased focus on data that was largely ignored previously, such as taphonomy and recognition of patterns of secondary manipulation of bone (Cook 1999; Tiesler 2004, 2007), has opened up new and intriguing avenues of investigation identifying specific mortuary ritual behaviors. The incorporation of bioarchaeolgists into fieldwork has provided an opportunity to expand data collection to include direct in situ taphonomic observations of highly deteriorated remains. Detailed mapping of bones can help provide accurate reconstructions of mortuary pathways (see Duday 2009; Hermann 2002), and has further important implications for analysis and interpretation of isolated bone fragments commonly found in a variety of mortuary and nonmortuary contexts.

In some cases, specific methods are implemented to improve the effectiveness of data collection. For instance, while poor preservation, pathologies, and cultural treatments of bone inevitably obliterate datapoints on skeletal remains, statistical replacement models can often be used to recover missing metric data. Such methods act not only to increase sample sizes, but also to facilitate the application of multivariate statistics by increasing the number of skeletons comprising complete datasets (Scherer 2007; Wright and Vasquez 2003; see also Serafin et al., Chap. 6, this volume). However, it should be noted that small and biased source samples are typically used as the basis for defining the group variability with which the replacement equations are created, and thus may ultimately introduce further problems.

A final type of approach that is increasingly common in bioarchaeology can be distinguished by its lack of population-centered methodologies. Most modern bioarchaeological studies, including the ones in this volume, utilize various strategies discussed above to minimize sampling problems. However, many times problems introduced by cultural or taphonomic processes cannot be overcome; in these cases, rather than trying to "correct" small, biased samples, analysis can be refocused on identifying the source of variations among groups of skeletal remains found in particular contexts in order to determine how restrictive mortuary behaviors specifically reflect social, political, ideological, or economic systems within the society. Studies of this type rely heavily on contextualization for interpreting aspects of both the life- and death-course of individuals, using theoretical models of human behavior and organization, analogy based on artistic depictions and written sources, and much deeper overall integration with archaeologists (c.f. Baadsgaard et al. 2011; Chacon and Dye 2007; Knudson and Stojanowski 2009; Martin et al. 2012, 2013; Stodder and Palkovich 2012; Tung 2012). This increased focus on contextualization, however, is of course not unique to studies of small samples, and has been applied successfully to large samples, often to critically evaluate the composition of skeletal assemblages in relation to that expected of living populations (Agarwal and Glencross 2011; Stojanowski 2010).

1.2 Placing This Book in a Historical Context

This volume takes inspiration from problem-based approaches that have largely defined Maya bioarchaeology for nearly the last 3 decades. While others have recently presented detailed historical reviews of the broader field of bioarchaeology (Larsen 2006, Zuckerman and Armelagos 2011), as well as of the progression of research trajectories specifically in Mesoamerica (Buikstra 1997; Cucina and Tiesler 2005; Spence and White 2009, Tiesler and Jaén 2012), I simply aim to place this volume in a historical context. Like in other places in the world, early bioarchaeological research in the Maya area is overwhelmingly characterized by descriptive case reports with little to no contextual analysis. Inquiry was heavily influenced by classificatory approaches that dominated the field prior to the 1970s. For instance, cranial and dental modifications generated an inordinate amount of attention, with efforts initially focused on identifying modification methods and on creating typologies.

The late 1980s and 1990s marked a dramatic increase in the volume of bioarchaeological investigation in the Maya area, as well as in its integration with archaeological research (Buikstra 1997). This period in the broader field of biological anthropology was characterized by an increasing focus on processual ecology, human adaptability, and political economy, complimented by the influence of post-processual archaeology and its concentration on political, social, and economic contexts (Zuckerman and Armelagos 2011, p. 19). The timing of the development of Maya bioarchaeology may be seen as shaping its overall character as it is today, especially outside of Mexico, which may be distinguished in some ways by influences based on its much longer history of research (Tiesler and Jaén 2012). However, it should be noted that many of the specific research directions were dictated in large part by some of the sampling issues discussed above. While contemporaneous studies in other regions of the world focused heavily on sociobiological processes related to the transition to agriculture and the development of social complexity, these topics have received minimal attention from bioarchaeologists in the Maya region, primarily because human skeletal remains from these types of contexts are so few in number. Instead, research agendas tended to focus on questions that could be answered using the larger datasets recovered by archaeologists—i.e., predominantly from urban contexts dating to the Late and Terminal Classic periods. The development of this targeted research focus has resulted in the Maya being an important case example in which to investigate biological processes in the contexts of the peak and subsequent restructuring (formerly characterized as "collapse") of complex sociopolitical structure (Cucina et al. 2011; Danforth 1989, Saul 1973, White 1997, Wright 2006, Wright and White 1996). However, several larger skeletal collections that do not fit this description also attracted attention, and helped to broaden the scope of population-based investigation to include other issues, such as the impact of Colonialism (Cohen et al. 1997; Jacobi 2000; Saul and Saul 1997; White 1986; Wright 1990), the nature of Postclassic political and economic organization (Serafin 2010; Wrobel and Graham 2013), the development of early urban centers (Saul and Saul 1997; Marquez Morfín and Storey 2007), and commoner status (Whittington 1999).

With a few exceptions, bioarchaeological investigation in the Maya area prior to the last few years has been largely limited to one of two types of analysis: descriptive and aggregate. Statistical analyses of large samples focused mainly on identification of broad patterns related to social organization and ecological adaptation at the population level. Analysis of small collections, however, was largely descriptive because of the difficulty and inefficiency of studying and incorporating numerous small collections of skeletons in large-scale studies. One unintended consequence of this practice was to generally overlook specific types of contexts that did not fit easily into established comparative categories. For instance, contexts involving the peri- or postmortem manipulation of bodies are difficult to interpret from a traditional framework relying on social status or population affiliation groupings, and thus were rarely included in bioarchaeological studies (though see Massey and Steele 1997).

Recent studies have benefited from a variety of new methods, a greater number of well-documented skeletons from a diversity of contexts, and perhaps a greater appreciation by archaeologists of the potential research contributions by bioarchaeologists (Cucina and Tiesler 2005; Spence and White 2009; Tiesler and Cucina 2008; Webster 1997). Furthermore, recent bioarchaeological approaches increasingly incorporate historical, archaeological, and theoretical contextualization (Knudson and Stojanowski 2008). In the Maya area, these developments have expanded research topics to include investigation of regional political interactions and migration (Freiwald 2011; Scherer 2007); identification and osteobiographical descriptions of historical individuals (Price et al. 2010; Tiesler and Cucina 2006); recognition of bioarchaeological markers of specific aspects of social identity (Danforth et al. 1997; Geller 2009; White et al. 2009); reconstruction of funerary and sacrificial events (Duncan 2011; Tiesler 2004, 2007); and interpretation of cultural attitudes towards biological variation—both intentional (Duncan and Hofling 2011; Geller 2011; Tiesler 2001, 2013) and unintentional (Wright 2011; Wrobel et al. 2012). This marks an interesting time for bioarchaeology, which as a discipline has begun to embrace a more integrative and culture-sensitive approach towards research. Increasingly, bioarchaeologists actively work to incorporate and balance multiple perspectives from a variety of other disciplines in an effort to recognize the potentials and the limitations of our data for informing models of cultural behavior.

1.3 The Contributions

In order to highlight the variety of ways in which bioarchaeologists in the Maya area have embraced the challenge of working with small, biased samples, contributors to this volume were asked to focus on individuals and small groups identified archaeologically by their inclusion in specific, discrete mortuary contexts or by distinct mortuary treatments. These mortuary variables are assumed to have social or ideological meaning for those who implemented them. Utilizing different combinations of archaeological, biological, iconographic, ethnographic and ethnohistoric,

and taphonomic data, each paper attempts to interpret the underlying meaning of such treatments by contextualizing them both locally and within broader social, political, and economic spheres. The chapters are generally organized from smaller to broader scale of analysis. The first group of three papers comprises case studies, which focus on analysis of specific, discrete mortuary contexts. The second section contains four papers that compare multiple contexts within a single site. The final two papers present surveys of similar mortuary contexts found across a wide variety of sites to discuss broader ideological belief systems.

Pamela Geller (Chap. 2) explores the concept of partibility as practiced and conceptualized by the Maya. Partibility practices include a wide variety of perimortem and postmortem manipulation of bodies, and appear in both reverential and desecratory contexts. Thus, it is often difficult to reconstruct and interpret the intended meaning of specific practices. Geller's contribution presents a bioarchaeological reconstruction of events surrounding the use of a royal tomb from Dos Hombres in northern Belize, in which she demonstrates how particular skeletal elements had been moved and removed over the course of time. Following this, she explores Maya conceptions of the body to demonstrate how specific treatments of bones acted to imbue them with meaning, ultimately contributing to emic models useful to contextualizing partibility practices in the mortuary record.

Davide Domenici (Chap. 3) presents a study of a small cave located in western Chiapas on the periphery of the Maya area. The stunning preservation allows an unparalleled reconstruction of mortuary treatment of 11 children who were deposited as bundles in the cave. Despite the lack of evidence of trauma on the skeletons, Domenici builds a convincing case for these individuals being sacrificial by identifying numerous archaeological parallels with symbolism and behaviors mentioned in ethnographic and ethnohistoric accounts as being associated with human sacrificial ritual. This paper not only presents a particularly good model for applying ethnographic and ethnohistoric analogy to bioarchaeological investigation, but it also highlights an important source of historical data from central Mexico that appears to have many parallels in broader Mesoamerica.

In Chap. 4, I, along with Christophe Helmke and Carolyn Freiwald, present another case study from a small cave. Located in central Belize, Je'reftheel contains the skeletal remains of approximately 25 individuals. We investigate the nature of the cave's use, and seek to assess whether the data are consistent with funerary or sacrificial mortuary behavior as documented in our review of the ethnohistoric and epigraphic record of the Maya. In addition, we discuss and problematize many of the archaeological indicators used recently to identify sacrificial and funerary contexts in cave settings, pointing out that most of these are consistent with both types of behavior and are thus not useful in isolation. Our study utilizes a wide variety of bioarchaeological data and concludes that the combination of these provides enough context to confidently interpret the mortuary use of Je'reftheel as funerary.

Chapter 5, by Carolyn Freiwald, Jason Yaeger, Jaime Awe, and Jenn Piehl, investigates the nature of identity during the Late and Terminal Classic periods in the monumental core of Xunantunich, Belize. The authors use strontium and oxygen isotope data to test whether variations in mortuary treatment of individuals at the

site are related to their local versus nonlocal origins. They find that burials of nonlocal individuals are common at the site and often are not distinguished in death from those of locally born individuals. However, they also find that most of the individuals distinguished in death by atypical burial positions, including those in termination ritual contexts, had nonlocal origins. This study demonstrates the importance of biological data in supplementing traditional archaeological analyses by helping to define the underlying meaning of mortuary variation.

Stanley Serafin, Carlos Peraza Lope, Eunice Uc González, and Pedro Delgado Kú (Chap. 6) also focus on local versus nonlocal identity in mortuary contexts. Their study of shrine ossuaries at the Late Postclassic site of Mayapan, located in the western Yucatan Peninsula of Mexico, utilizes odontometric data to test archaeological and ethnohistoric models of cultural and genetic diversity among elites. Specifically, this paper addresses the recurrent problem in archaeology of assessing whether or not the movement of ideas, as represented by changes in material culture, results from the movement of people. The differences found in dental metrics of individuals interred in freestanding shrine ossuaries compared to those of other groups in the same region suggest that this new burial practice accompanied the incorporation of foreigners into Mayapan's population.

In Chap. 7, Karyn Olsen, Stephanie Cleland, Christine White, and Fred Longstaffe explore dietary variations among groups of individuals placed in various contexts at Altun Ha, Belize. Using microwear and isotopic data, the authors show that while alone neither is able to distinguish individuals from dedicatory and residential contexts, using the approaches together provides a longer life history record. As a result, they were able to demonstrate that unlike the residential burials, individuals found in dedicatory contexts display evidence of dietary shifts prior to their death. Integration of these results with oxygen isotope data further refines explanatory models by showing that many of the individuals were nonlocal, and that dietary shifts likely accompanied a recent relocation to northern Belize. This study exhibits the importance of bioarchaeological data to identify the complex factors related to variability in mortuary and ritual expression.

Chapter 8, by Andrew Scherer, Charles Golden, Ana Lucía Arroyave, and Griselda Pérez Robles, focuses on Late Classic funerary practices at El Kinel, a subordinate center within the Yaxchilan polity. Their approach centers on reconstructing mortuary behavior through direct observations taken during excavation and consideration of taphonomic processes. While often such deliberate approaches are applied to sacrificial or other such sensational mortuary contexts, Scherer and colleagues argue that many of the often subtle variations in mortuary practices among burials in funerary contexts are also deliberate and important. In their study, they link particular aspects of mortuary treatment to demonstrations of local political relationships between El Kinel and Yaxchilan and also to reflections of pan-Maya belief systems. They are able to support their assertions by demonstrating clear parallels between the mortuary practices at El Kinel and data from a variety of related archaeological, iconographic, ethnographic, and ethnohistoric sources.

The final two chapters both focus on surveys of multiple sites, comparing data from similar contexts to make sense of specific practices. In Chap. 9, Andrea

Cucina and Vera Tiesler seek to test whether traditional archaeological classifications of subterranean sites into darkzone caves, lightzone rockshelters, crevices, and cenotes correspond to emic conceptions of these sites by the ancient Maya. They compare mortuary pathways reconstructed from skeletal assemblages representing a wide range of sites and fail to find any specific patterns of use that are consistent among sites from any of these categories. In fact, they find a surprising lack of patterning and argue that each site is unique, and must be understood as representing a distinctive historical trajectory that often incorporates a wide array of behaviors. Importantly, they are able to demonstrate behavioral and taphonomic influences on the movement of artifacts and human bones at cave sites through direct observation of the Lacandon Maya, who still practice rituals at nearby caves that utilize human bone in sacred shrines.

Finally, Chap. 10 by William Duncan explores the concept of mortuary sealing by the Maya, focusing specifically on cases in which bodies were covered in white marl or similar material. Like several other chapters in this volume, Duncan's study points to recurrent problems in distinguishing desecratory and reverential contexts resulting from similarities in the material record of associated ritual behaviors. Using a variety of source material to contextualize ritual acts of wrapping, binding, and sealing, Duncan is able to tease apart sealing from related behaviors that often accompany it. Importantly, he finds that sealing is not necessarily indicative of termination events, as has been suggested previously, but may also be used in reverential contexts. Instead, encasement in white marl is distinguished from other forms of wrapping by its intrinsic meaning, which is the creation of a sacred bundle. Bioarchaeologically, such focused attention to interpreting and defining the relationship of ideological beliefs and specific ritual acts provides invaluable models for understanding and explaining variations in mortuary behaviors.

1.4 Conclusion

In conclusion, the problems facing bioarchaeologists related to small, biased samples are certainly not unique to the Maya area. While many of the strategies for confronting these challenges discussed above are also utilized elsewhere, the exceptionally poor preservation and incredibly complex mortuary program of the ancient Maya have forced researchers to actively engage other lines of evidence to an extent not found in many other areas of the world. Working in our favor are a rich and varied set of complimentary sources and a strong scholarly tradition of studying contextual data, including art, iconography, ethnohistoric documents, ethnographic studies of modern descendant groups, and a particularly active and diverse set of archaeological research agendas. Together, these inform on a wide range of ideological beliefs, political processes, and social behaviors to promote contextually rich analyses. The focus on small, restricted samples is in no way meant to deemphasize the importance of population-level data, which still is a focus for much of the important research conducted today. Instead, the papers in this volume serve to

highlight the creative ways in which bioarchaeologists can generate insights into ancient cultures even when faced with such challenging conditions. The application of new standards and methods has increased accuracy and created opportunities for new avenues of research. Increased collaboration between bioarchaeologists and archaeologists has improved some of the problems related to sampling and contextualization of data. And, finally, the incorporation of iconographic, ethnographic, ethnohistoric, and linguistic data, as well as increased attention to frameworks provided by social theory, has aided in providing important mechanisms for deriving profound insights into the nature and meaning of behaviors that underscore the everyday subtleties, the dynamic changes, and the enormous diversity of culture within and beyond this area.

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