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Introduction to Exploring the Mesoamerican Subterranean Realm

JAMES E. BRADY AND CRISTINA VERDUGO

This volume represents the first major collection of published material on the ritual use of the Mesoamerica subterranean since the appearance of *In the Maw of the Earth Monster (The Maw)* (Brady and Prufer 2005) and *Stone Houses and Earth Lords (Stone Houses)* (Prufer and Brady 2005) in 2005. As such, it is instructive to consider how the field has changed in almost two decades. In 2005, only Dominique Rissolo (2001) and Keith Prufer (2002) had followed James Brady (1989) in producing cave-related dissertations. This limited attention reflects the embryonic state of the field at that time. Since then, more than a dozen cave-focused dissertations have appeared, indicating a dramatic increase in interest in the topic as well as the exponential expansion of information on the subject (Arksey 2017; Helmke 2009; Ishihara 2007; Kieffer 2018; Martos López 2010; Moyes 2006; Morten 2015; Peterson 2006; Sánchez Aroche 2018; Scott 2009; Slater 2014; Spenard 2014; Verdugo 2020; Woodfill 2007). The previous two volumes had a noticeable impact on Maya archaeology during this expansion. The idea of cave habitation largely disappeared, replaced by a general acceptance of caves as being singularly important sacred landmarks.

The present volume attempts to encapsulate aspects of the evolution of the subdiscipline's thinking since the publication of *The Maw* and *Stone Houses*. We examine the field's roots; clarify the history; demonstrate some of the many newer techniques being utilized in cave archaeology; and refine concepts, theory, and thinking within Mesoamerican subterranean archaeology that reflect its evolution and maturation.

HISTORICAL PERSPECTIVES ON THE INVESTIGATION OF THE SUBTERRANEAN

The present volume builds on a noteworthy feature of *The Maw*, which was the publication of the first history of Mesoamerican cave investigation. In the part "Historical Perspectives on the Investigation of the Subterranean," Ann M. Scott, in her chapter "Turning a Critical Eye on the History of Maya Cave Archaeology: The Emergence of the Discipline in Its Current Form," elaborates on her influential reformulation of the history of Mesoamerican cave studies in the second half of the twentieth century (Scott 2004, 2012). She focuses on the transition between the Post-War Period (1950–1980) and what she calls the Foundation Period (1980–1997) to clarify the exact changes and their timing that led to current method and theory in cave studies. Scott demonstrates that Post-War Period cave studies represented a culmination of the thinking and practices dating back a century denoted by the continued adherence to the notion of cave habitation as the default explanation for the presence of cultural material in caves. The fundamental change defining the Foundation Period was the rejection of habitation and a commitment to a ritual function.

A number of additional changes occurred during the Foundation Period that also serve to distinguish investigations conducted during this period from previous work. Previous cave investigations tended to be conducted over a matter of a few days, whereas Foundation Period projects were often multiyear affairs employing innovative field methodologies. Regional cave surveys first appear in the 1990s and continue to this day (see Helmke, Pérez, and Tejeda Monroy, this volume). Finally, cave studies adopted a sacred landscape approach during the Foundation Period, and this also continues to be the dominant approach in the field. Scott's work is important in clarifying the development of cave archaeology over the last half century, especially for new scholars entering the field who did not witness the events discussed here.

The late William J. Folan's "The Cave of Balankanché, Yucatán, México Revisited: 1959–2019" provides an additional perspective on the preeminent cave discovery of the Post-War Period (1950–1980). Interestingly, the author comments that it was only with the publication in 1970 of the Balankanche report, which also contained Alfredo Barrera Vásquez's account of the cave ritual, that he "understood the significance of the record" created. Folan also laments the

fact that Román Piña Chán, the Mexican co-director, was not included in the publication.

In this delightful account of his personal recollections, Folan captures glimpses of a major figure's life as a student alongside his fellow student, the late George Stuart. Folan's being too broke to pay his laundry bill is an incident that will surely resonate with many readers. The personal approach also forcefully brings home points made in E. Wyllys Andrews IV's (1970) report about the difficult working conditions. Folan recounts needing to leave the rear chamber to smoke because the oxygen level was too low to light a cigarette. Ann Scott (this volume) elaborates on this difficulty in discussing the possibility of cave habitation. Folan goes to great lengths to mention by name the many individuals left out of the final report (Andrews 1970), some of whom are mentioned in other chapters in this volume. Scott discusses Andrews's work at Balankanche and Alfredo Barrera Vásquez, while Brady et al. mention Víctor Segovia Pinto and his investigation of the Osario Infantil.

THE MESOAMERICAN SUBTERRANEAN REALM

An immediate change in direction from previous volumes is signaled by the use of the term "subterranean" in the title of the present work rather than "cave" used in the earlier books. This change reflects the significant increase in the importance of artificially constructed underground spaces. The existence of what were called man-made caves had been part of the cave literature since the early 1990s (Brady 1991; Brady and Veni 1992), but only Manuel Aguilar and colleagues' chapter, "Constructing Mythic Space," in *The Maw* and Prufer and Kindon's (2005) "Replicating the Sacred Landscape" and Pugh's (2005) "Caves and Artificial Caves in Late Postclassic Maya Ceremonial Groups" in *Stone Houses* dealt with this topic in 2005. These were the first tentative forays into the topic, but archaeology appeared little interested in a constructed subterranean. The idea that the terrestrial was so central to Mesoamerican cosmology that underground space was created with monumental constructions was a radical concept at the time. With the discovery and excavation of the cave beneath the Temple of the Plumed Serpent at Teotihuacan, however, the existence of these "caves" now appears to be well accepted (Gómez Chávez and Gazzola 2003; Gómez Chávez et al. 2016).

The decision to adopt the term "subterranean" formalizes an approach that developed quite early while the subdiscipline was still primarily concerned with the investigation of natural caves. This novel direction was explicitly set forth in Brady and colleagues' (1997, 359) discussion of the Petexbatun caves as "built environments." It may in part be responsible for the fact that Richard Bradley's (2000) *An Archaeology of Natural Places*, which has enjoyed considerable influence in Europe, has never had a comparable impact in Mesoamerica. Considering

that almost half of the chapters in this volume focus on or at least mention non-natural subterranean features appears to be a movement away from Bradley's idea in favor of an archaeology of cultural places or spaces.

While the movement toward a subterranean archaeology certainly emerged out of the documentation of man-made caves, the novel element in the present volume is the reinterpretation of several categories of small, constructed subterranean chambers that have long been known to Maya archaeology: the chultun and the *sascabera*. Because these features have long been known, the function of both is thought to be understood, although specialists will readily admit that there are problems with both. Nevertheless, any attempt to reinterpret the "known" generally generates a good deal of controversy. The significance of the reinterpretation will be profound, not because of the importance of the individual modest chambers but because of their large numbers. It is certainly true that quantity as a quality of its own will profoundly impact archaeology's approach to the subterranean, sacred landscape, and religion.

In the first of these chapters, Brady and colleagues introduce the concept of the "constructed subterranean," in "Confronting Archaeology's Ambivalence with a Constructed Subterranean: A Critical Reassessment of the Underground in the Northern Lowlands." The chapter traces the history of man-made caves in Mesoamerica, noting that it took some fifty years for the field to become comfortable with the idea. As already noted, the final acceptance appears to have been won by the incredible discoveries reported from the cave under the Pyramid of the Plumed Serpent.

The authors argue that non-monumental subterranean chambers are poorly understood because archaeologists tend to label anything with a constructed circular entrance as either a chultun or *sascabera* without careful investigation. Their chapter then presents data on a number of subterranean chambers that clearly did not function as either, and the authors conclude that at this time the field does not have an accurate idea of the range of variation of subterranean features. Brady and colleagues go on to challenge the notion that features with small circular entrances labeled as *sascaberas* functioned primarily as sascab mines. The sheer inefficiency of handing sascab through the small openings argues persuasively that the extraction of sascab was of secondary importance to the creation of subterranean space.

Thomas Ruhl explores a similar theme in his chapter, "The Inadequacy of the 'Chultun' Category," which critically reevaluates the other common designation for these subterranean chambers. Ruhl shows that the term recorded by Stephens comes from a single informant in Ticul before being applied by Alfred Maudslay to a subterranean feature at Tikal, creating a false equivalence that has persisted ever since. He demonstrates that "chultun" is not an emic Maya category but rather a modern grab bag applied to any subterranean chamber with

a man-made circular entry. This overgeneralization, he feels, has been at the root of our inability to understand these features. Ruhl observes wryly that “our reigning consensus that chultuns are multipurpose features sounds more like an admission of failure than an actual scientific conclusion.” He advocates, instead, for “a socialized and historicized use of the underground that we cannot discuss as if it were mere variation within a single category.”

The evolution in the field’s approach to these constructed landmarks is nicely exemplified in this volume by Arturo Montero, Christophe Helmke, and James E. Brady’s overview, “The Cerro de la Estrella and the Politics of Time,” of the extensive cave construction on the Cerro de la Estrella, the well-known site of the last Aztec New Fire ceremony. The project, directed by Montero, documented no fewer than 144 man-made caves as well as a series of petroglyphs and other constructions that provide a clear picture of the Cerro as a heavily modified ritual landscape. The study represents a clear advance over earlier studies in that the subterranean constructions are documented over a large geographical area and nonsubterranean features are integrated into the analysis. It also underscores the fundamental tenets of cave archaeology that subterranean features are so important in Mesoamerican ideology, they were artificially manufactured to be incorporated into nonkarstic landscapes.

Montero and colleagues go on to analyze the Cerro in terms of its position at the end of the Ixtapalapa Peninsula, projecting into the middle of the shallow lake system of the Valley of Mexico. They conclude that the importance of the Cerro lies in its closely modeling the Mesoamerican “primordial landscape” described by Ángel García-Zambrano (1994, 217–218) for the beginning of the world, a distinction that, therefore, defines it as the center of the cosmos. The authors then investigate the political implication of the Cerro being the accepted center of the cosmos within the Valley of Mexico as the Aztecs attempted to make the same claim for the Templo Mayor (Matos Moctezuma 1987). Despite Aztec power, the New Fire ceremony of AD 1507 was held on the Cerro de la Estrella rather than in Tenochtitlan.

Another advance in the analysis of subterranean space is presented in the chapter “Invisible Ritual: Chemical Residue Analysis of Excavated Soils from the Cave beneath the Sun Pyramid, Teotihuacan.” Rebecca Sload reports the results of analysis of soil samples collected by the Teotihuacan Mapping Project in 1978 during excavations in the cave beneath the Pyramid of the Sun. The project collected soil from every excavated layer, resulting in almost 1,000 samples. Using semi-quantitative testing, the researchers analyzed each sample for pH level, phosphates, carbonates, fatty acids, protein residues, and carbohydrates. Chemical enrichment of samples in any of these categories provides evidence of utilization and clues to the type of activities that may have been responsible for the enrichment. The lack of enrichment can also be informative in indicating

that utilization had not occurred on particular levels. Slod uses these data to construct a fine-grained interpretation of the utilization of the cave over time. Because of the relatively reasonable cost of these tests, residue analysis is particularly attractive for use in constructed subterranean features.

The chapter by Scott Nicolay, Margaret Berrier, and Myles Miller, “‘Tlaloc’ and ‘Chicomoztoc’ in the North: Evidence for Mesoamerican Chthonic Cosmovision in the United States Southwest and Northwest Mexico,” documents two widely distributed manifestations of Mesoamerican cosmovision in the Southwest/Northwest that are tied to the subterranean. This discussion greatly extends the geographical extent of at least these aspects of the Mesoamerican subterranean cult complex. The first element is Tlaloc, the goggle-eyed rain deity whose Nahuatl name translates as “Long Cave” (Sullivan 1972). H. B. Nicholson (1971, 414) sees the rain complex as dominant in Central Mexican pre-Columbian religion and ties rain production explicitly to caves. Nicolay and colleagues present evidence that the origins of the Tlaloc iconography emanated from West Mexico rather than from Central Mexico. The second feature is the Chicomoztoc, the seven-chambered cave of human emergence from the earth. The authors present data on several man-made or humanly modified caves that may have been meant to represent the Chicomoztoc, which suggests that the idea of a constructed subterranean extends beyond the borders of Mesoamerica.

ADDRESSING SIGNIFICANT ISSUES

This volume also demonstrates refinements to cave theory discussed in two 2005 volumes, as time and new data have allowed for expanded thinking around concepts such as pilgrimage, speleothem (cave formation) utilization, and the interpretation of human skeletal material. In “Caves in Ancient Maya Pilgrimage: Archaeological Evidence of a Multifaceted Role,” Brady builds on a theme first introduced in Alan Sandstrom’s (2005) ethnographic account “The Cave-Pyramid Complex among the Contemporary Nahua of Northern Veracruz” in *The Maw* and that Shankari Patel (2005) elaborated with her discussion of pilgrimage to Cozumel in *Stone Houses*. Brady’s chapter reexamines earlier archaeological suppositions about the phenomenon of pilgrimage in Mesoamerica that tend to minimize its importance by limiting participation to the upper classes (Kubler 1985; Thompson 1970). Using cross-cultural data, Brady shows that the largest known human gatherings are related to pilgrimage and that all classes pilgrimage. The approach taken in this chapter differs from other works on the subject in a number of respects. Unlike Norman Hammond and Matthew Bobo’s (1994) pioneering article that looks at continued visitation to La Milpa after its collapse, the focus here is on a site at the pinnacle of its power as a pilgrimage destination. It also differs from Joel Palka’s (2014) discussion of pilgrimage involving the Lacandon movement within their territory to visit sacred landmarks in that Brady

deals with large-scale movement on a regional level. Brady's approach shares little with Harrison-Buck, Runggaldier, and Gantos's (2018) attempt to disassociate pilgrimage from place, as he examines the political and economic implications of pilgrimage that are central to the development of that place. Finally, the chapter examines the prevalence of several unusual ceramic vessel forms at Naj Tunich to provide evidence of specialized production for pilgrimage visitation.

Christophe Helmke, Ileana Echaui Pérez, and Eduardo Arturo Tejeda Monroy's chapter "A History of Speleoarchaeological Investigations at Yaxchilan, Mexico" extends the discussion of ancient Maya speleothem use initiated in two chapters published in *Stone Houses*. The first of these, a stalactite inventory in Balam Na Cave 1, provided data on the quantity of material under discussion in documenting that nearly 60 percent of these formations had been broken and the material removed from the cave (Brady et al. 2005). In the second, Polly Peterson and colleagues (2005) reported hundreds of speleothems associated with architecture at the Hershey site. Some years later, Humberto Nation and colleagues (2012), using inductively coupled plasma mass spectrometry, showed that formations did not come from Actun Chanona, a cave closely associated with the Hershey site, but rather from a cave located at least 10 km from the site. Christophe Helmke and Brady (2014) speculate that the speleothems may have been war trophies taken after the desecration of an enemy's cave. It will be interesting to see if this idea is borne out at Yaxchilan.

Helmke and colleagues' current chapter is unique in a number of respects. First, it attempts to find and catalog all the caves enclosed within the oxbow of the Usumacinta River that surrounds Yaxchilan. The survey was an outgrowth of Teobert Maler (1903) calling attention to the fact a number of large speleothems had been set up as monuments in the site core, including Stela 31, a carved stalagmite containing a glyphic inscription (Helmke 2017). The survey attempted to determine whether these large speleothems had come from a local cave. The fact that Helmke and colleagues did not find any caves with large formations in their survey around Yaxchilan supports the idea that the Maya may have brought speleothems from some distance. The possibility that speleothems may have been moving considerable distances in the lowlands has not as yet been seriously considered.

Cristina Verdugo and Brady's chapter "Caves and the Question of Sacrifice: Changing the Rules of Engagement" takes on the hotly debated question of the interpretation of human remains in caves. The presence of human skeletal material in the subterranean has been an important issue in cave archaeology, where there is a long tradition of disregarding human sacrifice as an explanation for human remains. In fact, an entire section of the earlier volume *Stone Houses* was devoted to the interpretation of skeletal material in caves, and the present chapter builds on the foundation laid by that work. Verdugo and Brady

start from the point established by Ann Scott and Brady (2005) that caves are not normal burial places and so one cannot assume individuals died from natural causes simply for lack of evidence to the contrary. The authors also build on the distinction between rockshelter burial and remains in dark zone caves established in chapters by David Glassman and Juan Luis Bonor Villarejo (2005) and Saul, Prufer, and Saul (2005). Finally, Verdugo and Brady's discussion of sacrifice in caves builds on earlier work by Vanessa Owen (2005) and Vera Tiesler (2005)—all in *Stone Houses*.

Verdugo and Brady intentionally unite the focus on archaeological context with the analysis of the osteological artifact. They take this discussion a step further, however, in arguing that the practice of designating remains as a "burial" without specifying a specific burial type is a major flaw in bioarchaeological interpretation. In examining Midnight Terror Cave (MTC) and its assemblage of 10,000 bones, they reason that for the cave to represent burial it would have to be some type of ossuary. Midnight Terror Cave is then compared with known ossuaries in the Maya area to determine whether the depositional pattern matches. They find that MTC does not follow the patterns identified with Maya ossuary spaces. Drawing from Tiesler (2007) and Carrie Berryman (2007), they then compare data from MTC with characteristics for distinguishing sacrificial assemblages. MTC closely matches all of the characteristics elaborated by Berryman (2007), allowing the authors to confidently conclude that their assemblage reflected sacrifice. These spaces require consideration beyond just the bones themselves and must include the ethnohistory and archaeology, which, in the case of MTC, says something substantially different from cemetery use.

SIGNIFICANCE OF THIS VOLUME

As we have shown, the present volume builds upon and extends many of the themes discussed in *The Maw* and *Stone Houses* in continuing to develop lines of research that lead Mesoamerican studies in empirical approaches to the study of sacred landscape and the archaeology of ritual. While this volume reflects its beginnings in cave archaeology, it also demonstrates significant expansion into areas not generally considered to be actual caves. The expansion of the scope implied by a subterranean archaeology has the potential to dramatically impact the way that the field views sites, as literally thousands of constructed subterranean chambers would populate the sacred landscape. Additionally, the idea of the constructed subterranean dialectically impacts our appreciation of the natural subterranean because we see the importance of this element in the Indigenous value system humanly fashioned as analogs in the landscape. Furthermore, artificial features incorporated into the ideational landscape have the potential to exist on every scale from the polity to the household.

Subterranean archaeology is exciting and dynamic precisely because its vista continues to expand. Both Ruhl and Brady et al. suggest that the imprecise application of labels as chultun and *sascabera* masks a good deal of variation in subterranean chambers. It is to be expected, therefore, that careful investigation of these features will enhance our knowledge of the range of forms and functions. As this volume goes to press, the discipline is just entering this new, expanded domain with no one certain where it will lead.

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