THE MISSISSIPPIAN ICONOGRAPHY OF SERPENT MOUND

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Abstract

Serpent Mound (33AD1) is one of the most recognizable icons of American archaeology, yet there is ongoing debate over its age. Without an understanding of its antiquity and thus its cultural context it is difficult to address the broader question of what it might have meant to its builders. Various attempts to obtain radiocarbon dates for Serpent Mound have yielded more or less inconclusive results. A panel of Mississippian pictographs in Picture Cave in Missouri includes three motifs that are strikingly similar to the three principal components of Serpent Mound. Radiocarbon dates for the Picture Cave pictographs are contemporaneous with dates from Serpent Mound. When considered in the light of Dhegiha Siouan traditions, these pictographs offer insights into the original purpose and meaning of Serpent Mound. The general relevance of this iconography for the Late Prehistoric Ohio valley is affirmed by a fragment of an effigy pipe depicting a humanoid in association with a snake, which was found in Morgan County, Ohio. Serpent Mound was built during a period of severe droughts in the Mississippi valley, which resulted in Mississippian refugees migrating to the Ohio valley. I suggest that these refugees, or a local Fort Ancient community they influenced, created Serpent Mound as a means of calling upon the Great Serpent, Lord of the Beneath World, to maintain favorable environmental conditions in the Ohio valley.

Serpent Mound (33AD1) is arguably the most recognizable ancient American Indian earthwork in eastern North America (Figure 1). It is a National Historic Landmark and is on the U.S. Department of the Interior's Tentative List for sites to be considered for nomination to the UNESCO World Heritage List. It is on the cover of George Milner's (2005) book *The Moundbuilders: Ancient Peoples of Eastern North America* and is featured in David Hurst Thomas' (2000) *Exploring Native North America* – a catalog of sites with "major historical, cultural, or methodological significance" (2000:viii), as well as in Kenneth Feder's (2017) *Ancient America: Fifty Archaeological Sites to See for Yourself*. Less impressively, but no less significantly, it was also featured in a 2011 episode of the History Channel's popular program *Ancient Aliens*.

Steven Sims (2010:3), in discussing the rock art of the Great Basin Fremont culture, offered the following insight that applies equally well to geoglyphs such as Serpent Mound:

> "most rock art is, considered alone, inscrutable. It is susceptible to ad hoc interpretation because it is disconnected from … well, from people, their behaviors, and the cultures in which they live...."

This is partially why, to paraphrase Jacquetta Hawkes (1967:174), every age has the Serpent Mound it deserves or desires. Our current age apparently desires, among other things, a Serpent Mound built by aliens.

Dismissing, for the moment at least, the necessity of dealing with the baloney of ancient aliens and other equally ridiculous pseudoarchaeological claims (see

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Feder 2018), the goal of connecting Serpent Mound to its original cultural context and so rendering it scrutable, depends upon establishing the date of its initial construction. Currently there is debate over the antiquity of Serpent Mound with William Romain and his colleagues arguing for an Early Woodland (circa 800-100 B.C.E.) or Adena culture age (Herrmann et al. 2014; Monaghan and Herrmann 2019; Romain 2019; Romain et al. 2017; Romain and Herrmann 2018) and myself along with my collaborators arguing for a Late Prehistoric (circa 900-1650 C.E.) or Fort Ancient culture age (Fletcher et al. 1996; Lepper 2018a; Lepper et al. 2018; Lepper et al. 2019). This debate has been constructive and hopefully has nudged us closer to a clearer understanding of the age of the original construction of Serpent Mound, but the seeming inability to resolve the debate with radiocarbon dates from more or less problematic contexts suggests that other approaches for dating the mound need to be explored. George Kubler (1962:1) observed that the things made by humans "mark the passage of time with far greater accuracy than we know, and they fill time with shapes of a limited variety." This offers the hope that the history of Serpent Mound may be read in its form.

The purpose of this paper is to briefly review the data and arguments for the age of Serpent Mound that have been advanced so far; and to offer an extended argument for a Late Prehistoric age for the effigy based on iconography. Hopefully, this discussion will inspire further debate and, even more hopefully, further investigations that eventually will result in more definitive answers to our questions about this "wonderful, mysterious, thought-provoking Serpent Effigy," which lies "prone upon the plateau, as it has lain for centuries, puzzling the archaeologist, who racks his brain in his efforts to make it give up its secrets…" (Cole and Mills 1921:530).

The Age of Serpent Mound

Frederic Putnam (1888) believed that Serpent Mound was built by what later archaeologists would refer to as the Adena culture, the same culture responsible for the nearby large conical burial mound. He offered no evidence in support of his belief, only his opinion that "everything relating to the construction of the great earthwork points to antiquity" (1888:52). Reading somewhat between the lines, it appears that assessment was based on his negative views of the capabilities of the later (Fort Ancient) occupants of the site. Putnam (1888:51-52) felt the evidence for this occupation included "nothing remarkable" – only "rude" pottery and "no elaborate structures." Therefore, these unremarkable people simply could not have been the builders of something as elaborate and remarkable as Serpent Mound.

James Griffin (1966:57) agreed with Putnam's opinion of the age of Serpent Mound and evidently for the same reasons. He flatly stated that "Serpent Mound, the burial mound near it, and the lower levels of the village site are Adena" (1978:242). Griffin never offered any evidence to support such a definitive conclusion, but Mark Seeman, in a tribute to Griffin, recounted an anecdote that appears to confirm a strong prejudice against the Fort Ancient culture as the builders of Serpent Mound. Griffin wrote to Seeman that he "simply couldn't abide" the idea that Serpent Mound "might be of late prehistoric affiliation" (Brose 1997:150).

Radiocarbon Dates for Serpent Mound

Robert Fletcher et al. (1996) were the first to offer actual data in support of an age assessment for Serpent Mound. The team located and reopened one of Putnam's trenches into the effigy in the expectation of locating the deposits of "clay, mixed with ashes" that Putnam (1890:875) described as having been used in the construction of Serpent Mound. Although their trench did not reveal any clay-and-ash layer the team extracted bulk soil samples from two separate undisturbed portions of the mound that included fragments of white oak and ash charcoal, which yielded identical AMS radiocarbon dates of 920 $\pm$ 70 BP (Beta-55277/CAMS-3566 and Beta-55278/CAMS-3567). On this basis, Fletcher et al. (1996:133) concluded that Serpent Mound was constructed by the Fort Ancient culture during the early Late Prehistoric period.

Fletcher et al. (1996:132) also obtained a date of 2,920 $\pm$ 65 B.P. (Beta-47212, ETH-8520) on a small fragment of charcoal recovered from a soil core, not from the exposed profile in the "Fletcher trench" as claimed by Herrmann et al. (2014:123). The soil core was extracted in close proximity to where the trench was subsequently excavated and the charcoal was from a depth of approximately 132 cm below the surface of the mound, which, in the trench profile, would be about 70 cm below the base of the mound. The soils beneath the base of the mound conformed to the expectations of a typical, if truncated, Bratton silt loam (Fletcher et

al. 1996:132). There is no evidence in the exposed profile of soil material having washed in, slumped in, or been intentionally deposited in order to fill the gully that Herrmann et al. (2014:123) propose had developed across the mound in this location sometime after its construction during the Early Woodland period and which supposedly necessitated a repair during the Late Prehistoric period. Therefore, the charcoal fragment was likely intruded into this level either by bioturbation or by the displacement of material associated with the extraction of the soil core. In either case, it is out of context and bears no demonstrable relevance to the age of the original construction of Serpent Mound.

Excavations conducted by ASC Group, Inc. in 2011, in an area north of the large Adena conical mound, uncovered a buried A horizon beneath fill associated with late nineteenth or early twentieth century landscaping (Schwarz and Lamp 2012:53). The team recovered hickory charcoal fragments from this layer that yielded a radiocarbon date of 900 $\pm$ 25 BP (UGAMS 9540) (Schwarz, this volume). The close correspondence of this date for the Late Prehistoric occupation and the Fletcher et al. (1996) dates for Serpent Mound supports the interpretation that the construction of the mound and the occupation of the village were coterminous.

In 2011, Herrmann et al. (2014:119) sought to "reevaluate when and how Serpent Mound was built" and to that end extracted 18 soil cores from across the effigy. The team submitted samples of organic sediment from at or near the base of the mound for radiocarbon dating and obtained nine AMS radiocarbon dates ranging in age from 2170 $\pm$ 30 BP (Beta-337163) to 2530 $\pm$ 30 BP (Beta-337166). They concluded that Serpent Mound was "initially constructed 2,300 years ago during the Early Woodland (Adena) period" (2014:124). One significant problem with this claim is that they failed to consider Putnam's observation (1890:875) that the builders of Serpent Mound removed the A horizon prior to constructing the effigy (see also Griffin 1966:57); an observation corroborated by Lepper et al. (2018 and 2019).

Monaghan and Herrmann (2019:88) answered this concern with the simple assertion that their interpretation of their soil cores "belies Putnam's statements that the surface was stripped prior to mound construction." They proposed that "Putnam's notion of surface stripping likely derived from the erroneous identification of the E horizon as an 'ashy' layer" (Monaghan and Herrmann 2019:90).

Putnam's observation is, however, corroborated by multiple lines of independent evidence. First of all, Putnam's photograph of his excavation around the edge of the Serpent's tail demonstrates that here, at least, the A horizon had indeed been removed prior to its construction (Lepper 2018a:63-64; Lepper et al. 2019:48). Moreover, since Putnam (1890:875) employed this method of excavation along the edge of Serpent Mound "throughout" its length, he was able to determine that "no black soil was used in the construction of the embankment, nor left below it." That seems fairly clear. It certainly was clear enough for Griffin (1966:57).

Secondly, Frolking extracted additional soil cores in proximity to Herrmann et al.'s (2014) core locations and his physical descriptions of these cores combined with chemical analyses (not done by Monaghan and Herrmann) demonstrate that, in these locations at least, the A horizon had been removed prior to mound construction (Lepper et al. 2019:48-49).

As to whether Putnam might have mistaken the E horizon for the clay "often mixed with ashes" that he noted at a few places along the effigy, based on the evidence, such an error is highly unlikely. Putnam (1890:875) suggested the clay and clay-and-ash mixture were used to help stabilize the effigy in places where it might have been particularly susceptible to erosion. Since Putnam (1890:875) excavated along the edge of Serpent Mound "throughout" its length, if the clay "mixed with ashes" was actually the E horizon and if it was present across all or much of the length of the effigy, then Putnam would have observed it in more than a few locations. The fact that he observed the clay "mixed with ashes" only in isolated locations means that it was either clearly distinct from the supposedly more widespread E horizon, or, if it was localized remnants of the E horizon, then across the majority of the effigy's length the E must have been removed along with the A horizon. In either case, Monaghan and Herrmann's claim that there is an intact A horizon beneath Serpent Mound is not substantiated and the radiocarbon dates they obtained on bulk soil organics (not charcoal in spite of their repeated misleading claims to the contrary) recovered from at and near the base of Serpent Mound cannot be demonstrated to have any direct relationship to the age of its original construction. And moreover, regardless of the problematic provenience of the dated samples, it is well established that radiocarbon dates obtained on "bulk sediment organics" are "usually inaccurate" (Waters et al. 2018:1).

Herrmann et al. (2014:124) argued that the overall consistency in the radiocarbon dates they obtained from different cores extracted at various locations along the effigy mound supports their interpretation that Serpent Mound was built during the Early Woodland period. This argument, however, rests upon the fallacy of conflating precision with accuracy. If the dates all are skewed by the same mechanical, geochemical, or pedogenic processes, then they could all be wrong to the same degree and in the same direction. Thus, for a variety of reasons, the radiocarbon dates obtained by Herrmann et al. (2014) cannot be demonstrated to be directly relevant to the age of the original construction of Serpent Mound and, as Herrmann et al. (2014:121) originally conceded, "the mound could have been constructed any time after 300 BC."

Herrmann et al. (2014:122) suggested that the radiocarbon dates obtained by Fletcher et al. actually related to a Fort Ancient culture restoration of a supposedly extensively eroded section of an Adena Serpent Mound (see also Romain et al. 2017). Elsewhere, I have addressed the principal problems with this supposition, which I characterized as a "just-so story offered to account for the otherwise inconvenient Late Prehistoric radiocarbon dates" (Lepper 2018a:65; see also Lepper et al. 2018:438).

Romain et al. (2017:11-12) proposed that the discovery by Jarrod Burks (2012) of a supposed "'erased' convolution at the neck of the serpent" provided additional support for their supposition arguing that, since "at least one episode of prehistoric modification occurred, there is no reason to think that another episode… could not also have occurred." This argument assumes that the magnetic anomaly identified by Burks is related to a subsequently removed segment of Serpent Mound, though it is by no means clear that this is the correct interpretation of the anomaly. It further assumes that the original form of the mound, which included the supposed additional convolution, was an Adena design that was later altered by the Fort Ancient culture. Even if the magnetic anomaly represents a change made to the original design of the effigy, there is no evidence to indicate when that change was made. It would be just as plausible to argue that the original builders, whoever they were, made a decision to alter the design during some stage of the original construction process. Therefore, based on the currently available data, the magnetic anomaly suggestive of an "erased" convolution provides no corroborating support for the notion that the Fort Ancient culture modified an already ancient and degraded Serpent Mound.

The most recent attempt to obtain radiocarbon dates for the construction of Serpent Mound occurred during the 2017 removal of the CCC-era stone stairs, which extended over the tail of Serpent Mound (see Pickard et al. 2018; see also Lepper et al. 2019). The removal of the steps exposed what Pickard et al. interpreted as intact mound strata from which they obtained a radiocarbon date on soil humates of 720 $\pm$ 30 BP (Beta-470763); and two AMS radiocarbon dates on two fragments of oak charcoal: 1263 $\pm$ 22 BP (AA-110452) and 1300 $\pm$ 30 BP (Beta-473077). The dates on particulate wood charcoal, which overlap at one standard deviation, can provide only a maximum age estimate for the mound. The charcoal may be from old wood or it may have come from Late Woodland features that were inadvertently dug up by the Fort Ancient inhabitants of the site and incorporated into the mound fill. The dates are not inconsistent with a Fort Ancient culture attribution but are definitely inconsistent with an Adena age. The soil humates date is problematic because more recent humates can contaminate upper soil layers. It does, however, provide an approximate minimum age for the construction of Serpent Mound.

The relative merits of these various attempts to obtain radiocarbon dates for Serpent Mound are debated in a series of publications (Herrmann et al. 2014; Lepper 2018a; Lepper et al. 2018; Lepper et al. 2019; Monaghan and Herrmann 2019: Romain 2019; Romain et al. 2017; Romain and Herrmann 2018). It is clear, however, that neither the dates on particulate charcoal from mound fill, nor dates on bulk soil organics from a truncated soil horizon, are able by themselves to establish a definitive age for Serpent Mound.

Iconography of Serpent Mound

Lepper et al. (2018) argued that the MacLean (1885; Figure 1) and Holmes (1886) maps of Serpent Mound are the most accurate representations of the original form of the effigy. Based on these maps, there are three main components to Serpent Mound: (1) the serpent itself; (2) a large oval embankment sometimes interpreted as an egg in the mouth of the serpent or as the serpent's heart, eye, or gaping mouth; and (3) a wishbone-shaped embankment, which MacLean suggested might represent a frog (1885:45).

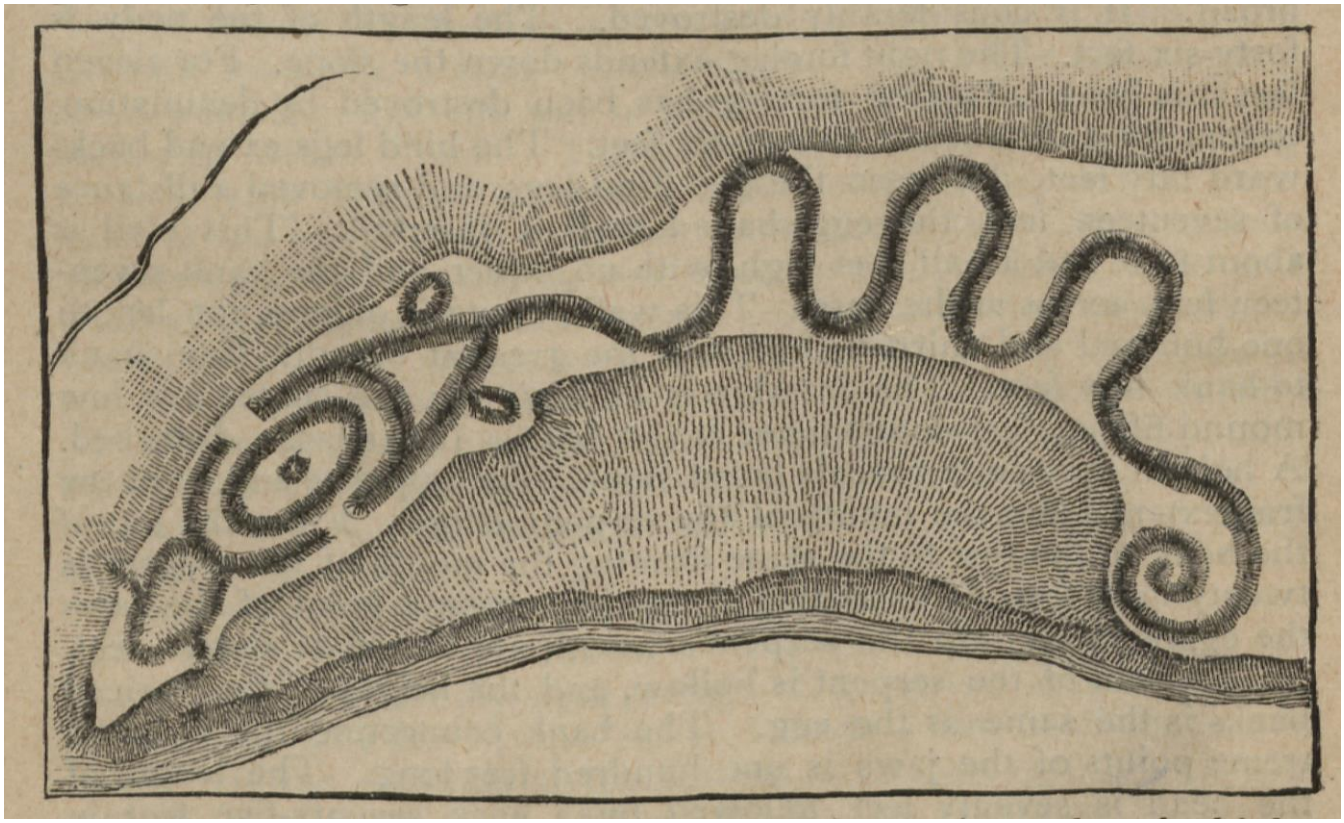

Figure 1. The John P. MacLean (1885) map of Serpent Mound is the earliest map to show certain features that often are omitted from discussions of the effigy, including the wishbone-shaped earthwork, which he interpreted as a separate effigy of a frog.

Lepper et al. (2018) concluded that a panel of pictographs at Picture Cave in Missouri included these same three motifs (Figure 2), which Carol Diaz-Granádos and her colleagues (2015) interpreted as (1) the Great Serpent, Lord of the Beneath World; (2) an oval representation of the serpent's open mouth or a vulvoid; and (3) First Woman, also known as Old-Woman-Who-Never-Dies, who is the "mother of all living things" in the traditions of the Dhegihan Sioux (Duncan and Diaz-Granádos 2018b:66).

Further corroboration of the relationship between the Picture Cave pictographs and Serpent Mound is provided by the correspondence between a pair of bulbous protuberances at the neck of Serpent Mound (see Figure 1) and similarly placed, blocky projections along the neck of another image of the Great Serpent on a separate panel at Picture Cave (Lepper et al. 2018:443). The Serpent Mound protuberances have been interpreted variously as wings (MacLean 1885:46) or horns (Willoughby 1919:162). The analogous features in the Picture Cave pictograph, however, bear a marked resemblance to earspools (Lepper et al. 2018:443), which suggests a more plausible interpretation for the Serpent Mound features. This particular pictograph produced an AMS radiocarbon date of 950 $\pm$ 100 BP (CAMS-41465) (Diaz-Granádos et al. 2001:489), which is virtually identical to the dates of 920 $\pm$ 70 BP obtained by Fletcher et al. (1996) for Serpent Mound. These iconographic and chronometric correspondences suggest that the Picture Cave glyphs may serve both to help situate Serpent Mound in time and provide a contemporary and parallel "visual text" (Boyd 2016:30) to shed light on the original meaning of the iconography of Serpent Mound.

Kent Reilly and the other members of the Mississippian Iconography Conference, including James Duncan and Carol Diaz-Granádos, have developed and refined the use of indigenous traditions as recorded in the ethnohistoric and ethnographic literature to

interpret the artistic motifs of the Mississippian Ideological Interaction Sphere (Steponaitis 2007). Reilly and colleagues see individual motifs or tableaus engraved on shells or painted on a cave wall as analogous to "clippings from a 1920s silent film…. The edited clips in several instances contain enough cells for the viewer to recognize some of the film sequences even if the full story is not evident" (Reilly III and Garber 2011:311). They argue that these separate images can be viewed as frames within a narrative sequence (Brown 2007:75). In order to identify the dramatis personae of those narratives and to fill in the narrative sequence, Reilly and colleagues refer to the deep knowledge, acquired over decades of painstaking research, of the traditional stories of groups indigenous, or at least with close geographic ties, to the regions in which the particular artistic motifs occur. Lepper et al. (2018) applied this method to the interpretation of Serpent Mound and concluded that the Picture Cave panel and Serpent Mound are telling the same or a closely related story. Although the compositions of the pictograph panel and Serpent Mound clearly are not identical, they can be viewed as separate but related frames from the same narrative sequence recording "the moment when First Woman bridges the cosmos, bringing the life-giving powers from the Beneath Worlds to the Middle World, the Earth" (Lepper et al. 2018:446).

Diaz-Granádos et al. (2015) associated the Picture Cave pictographs with the ancestors of the Dhegihan Sioux, but this does not necessarily mean that the ancestors of the Dhegihan Sioux built Serpent Mound. There is clear historical evidence that Siouan groups lived in the Ohio valley in the early historic era (Cook 2017:17) and the traditions of some Dhegihan tribes attest that this region was, indeed, their homeland (Henning 1993). But other groups lived in the region as well and it may simply be that the rich ethnographic record of the Dhegihan tribes, especially the Omaha, preserve elements of traditions that once were shared more widely, but subsequently have been lost for various historic reasons in other tribes. The Shawnee, for example, also have traditions relating to a female creator with many of the characteristics of First Woman (Prentice 1986:249-254) and formerly had a Snake Clan (Spencer 1909:321). As a result, it may not be possible to culturally affiliate Serpent Mound with any particular modern American Indian tribe.

With regard to the wishbone-shaped earthwork at the head of Serpent Mound, Romain (2019:60) states

Figure 2. A portion of Panel 3 from Picture Cave, Missouri, showing the three glyphs that correspond to the three principal elements of Serpent Mound as mapped by MacLean. The Great Serpent (Glyph 67), First Woman (Glyph 64), and the large oval vulvoid (Glyph 59) (Diaz-Granádos et al. 2015). These images are thought to be associated in a single composition not just because they are adjacent to one another, but also because they appear to have been painted with the same pigment and application technique. Drawing by Peter Lepper.

categorically that "there are no embankments flanking the anterior aspect of the oval that might be interpreted as frog legs." Yet these features were independently observed and documented by MacLean (1885), Holmes (1886), and Willoughby (1919). Putnam also described them: "between the oval figure and the edge of the ledge there is a slightly raised circular ridge of earth [the body of MacLean's "frog"], *from either side of which a curved ridge extends towards the sides of the oval figure*" (Putnam, quoted in American Antiquarian Society 1884:11, emphasis added; see also two of Putnam's early plans of Serpent Mound, which clearly show these embankments [Putnam n.d. and Willoughby 1919:Plate XIc, facing page 158]). Ultimately, however, Putnam decided to follow Ephraim Squier and Edwin Davis in ignoring these embankments, which appeared to complicate if not contradict their preferred interpretation of the effigy as a serpent

swallowing an egg (Lepper et al. 2018:8). Seen in this light, Putnam's decision not to restore the features that he and others documented is therefore not credible evidence of their absence, but rather an example of "experimenter expectancy, or seeing what you want to see" (Broad and Wade 1982:107).

Romain (2019:74) also wants to see the Great Serpent in the act of swallowing something; however, he interprets the oval earthwork as a representation of the sun rather than an egg and offers an unconvincing justification for why the ancient American Indian builders depicted a round sun as an oval. Romain's interpretation makes MacLean's "frog" just as inconvenient for him as it was for Squier, Davis, and Putnam. So, of course, he also would like to make it go away.

In an effort to justify this erasure, Romain (2019:60-61) turned to LiDAR imagery to confirm that there are no "embankments or embankment remnants extending from the jaws of the serpent around the oval." LiDAR, however, can show only what is, or is not, there now, not what was there prior to Putnam's extensive excavations, restorations, and the construction of the paved path around the oval earthwork. I do not dispute Romain's LiDAR results, but the obvious fact that the embankments are not there now is due solely to Putnam's decision not to restore them.

A Possible Representation of First Woman and the Great Serpent on a Fragmentary Stone Pipe from Ohio

The Mississippian iconography supporting the interpretation of Serpent Mound as First Woman and her consort the Great Serpent derives almost exclusively from the Mississippian heartland in the Mississippi River valley and southeastern North America. Among the most important representations are ceramic and stone sculptures of a kneeling woman often interacting with a serpent, such as the Birger figurine found in the vicinity of Cahokia (Duncan and Diaz-Granádos 2018b; Emerson 1982; Prentice 1986). The apparent absence of such representations from the Ohio valley might be thought to suggest that this iconography was not a part of the traditions of the cultures indigenous to this region and so any similarities to Serpent Mound could be dismissed as coincidental and therefore irrelevant to an understanding of its form and meaning.

The collections of the Ohio History Connection, however, include a fragment of a sandstone pipe from Morgan County, Ohio, which, based on its form and subject matter, is considered to date to the Mississippian/Late Prehistoric period. It depicts the lower torso and legs of a naked, kneeling humanoid figure with a serpent extending across its back from the left shoulder to the right buttock (Figure 3). Although fragmentary, on the basis of comparisons to the Birger figurine in particular, it may be part of another iconic representation of First Woman and the Great Serpent. The Morgan County pipe appears to have been deliberately broken "fitting the pattern of ceremonial 'killings' of Mississippian statues and effigies" (Prentice 1986: 248).

Squier and Davis (1848:248) documented a somewhat similar pipe found "on the banks of Paint creek, one mile distant" from Chillicothe in Ross County, Ohio. It was carved from a "compact reddish sandstone" and appears to represent a quadrupedal creature, though the "limbs are barely indicated," with a human head and a large serpent draped around its neck. The serpent's head and tail are "resting together upon the breast of the figure."

The recently described Vaux pipe, supposedly found in Cumberland, Virginia, and therefore also "at the periphery of the Mississippian world" (Veit and Lobiondo 2018:56), was carved from a "fine-grained sedimentary stone, likely sandstone" (Veit and Lobiondo 2018:55). It depicts a "zoomorphic creature: in part a kneeling chunkey player and in part a taloned, rattlesnake-wrapped being that may be a Birdman, a Great Serpent, or a Great Panther" (Veit and Lobiondo 2018:41).

Although these other pipes do not appear to depict First Woman, they show the Great Serpent in association with other figures from the "pantheon of supernatural beings" that is characteristic of Mississippian iconography (Duncan and Diaz-Granádos 2004:215). And while it is regrettable that so little of the Morgan County pipe has been recovered and that there is no information regarding its specific provenience, its presence in southeastern Ohio corroborates the importance of these mythic figures in the traditions of at least some of the Late Prehistoric peoples living in the Ohio valley.

Getting to the Original Purpose and Meaning of Serpent Mound

> 'The historical past was real, but the evidence that survives of it can be distorted and disconnected, like a shadow cast on a field of rocks. The evidence includes traditions often

Figure 3. Fragment of a Late Prehistoric period sandstone pipe found in Morgan County, Ohio, depicting a naked, kneeling human figure with a serpent extending diagonally across its back. The regrettably small portion of the sculpture that remains is consistent with other Mississippian representations of First Woman and her consort, the Great Serpent (Duncan and Diaz-Granádos 2018b:68). William Hook collection, Ohio History Connection (A76/001).

> imperfectly transmitted between generations; ceremonies whose symbolism has changed to become supportive of new values; origin myths naturalized to new locations; ceremonial objects whose full significance was known only to elders who have died; the bones of Indians whose deaths silenced personal stories that await telling; buried artifacts that speak of technologies long forgotten; and earth constructions that speak of rituals long abandoned." Robert L. Hall (1997:169)

Carolyn Boyd (2016:30) argues persuasively that "visual texts," including pre-contact era rock art and effigy mounds, "can be read. In fact, they can be analyzed with the same logic, rigor, and success as printed texts." In other words, we can hope not only to use the iconography of Serpent Mound to situate it within a particular temporal context, but also potentially to understand its original purpose and meaning.

David Whitley (2011:307) regards "earth figures or geoglyphs" as a kind of rock art and asserts that the "majority was made for religious reasons." We know this, according to Whitley, because of "the restrictive

nature of the iconography of many corpora of art, sometimes by its location in unusual places…, and occasionally by associations with other ceremonial objects" (2011:307).

Serpent Mound certainly meets these loose criteria. It has a (formerly) cryptic iconography. It also is situated on a prominent narrow bluff overlooking Ohio Brush Creek and it is associated with mortuary ceremonialism, both more ancient and contemporary, in the form of nearby burial mounds as well as subsurface burials. And, as Putnam (1890:888) observed, given the magnitude of the effigy and the clear evidence for careful planning and deliberative execution, "what other than a religious motive could have been sufficient?"

Are we able, however, to say anything beyond the banal fact that Serpent Mound had a religious motivation and purpose? George Lankford, in his review of American Indian traditions relating to the Great Serpent in eastern North America, recognized that the "functional importance of the Great Serpent" was as "a source of power" (2007:119). Lepper et al.'s (2018:447) conclusion that Serpent Mound is a representation of the key moment in the Dhegihan creation story supports a religious motivation for the construction and suggests the uses to which the power of the Great Serpent could be applied. They proposed that Serpent Mound was not merely a static monument, but rather "an instrument through which the world could be actively renewed" (2018:447):

> "Through ritual performance, cosmogonic actions that were performed by gods at the beginning of time are not only commemorated, but repeated; thus human action in the present re-creates events of the past… myth, place, and image become fused to create a time-transcending reality" (Boyd 2016:160-161).

Boyd (2016:160) concluded that the reason rock art exists "is very similar to what is at the core of much of Mesoamerican art: 'prayer and direct communication with and participation in the sacred realm' (Furst 1978:19)." Similarly, I think Serpent Mound was all about "prayer and direct communication with and participation in the sacred realm" with the expectation that the periodic invoking of the powers of the Beneath World could sustain and renew the life of the Middle World – the sphere of human existence.

Serpent Mound as a Portal to the Beneath World

The oval enclosure at the head of the Serpent and its associated wishbone-shaped earthwork are potential keys to the meaning and purpose of Serpent Mound. Reilly (2015:137-138) interpreted the oval glyph in the Picture Cave tableau as a "toothy mouth," a "*pars pro toto* representation" of the Great Serpent. Alternatively, Richard Townsend (2015:156) identified it as a vulva or more specifically, if more anatomically imprecisely, as the "Old Woman Earth Deity Vagina." I favor Townsend's interpretation though there is always the possibility that such ambiguous imagery was intended to have multiple levels of meaning. Moreover, I suggest the analogous feature at Serpent Mound also represents the symbolically exaggerated vulva of First Woman rather than the gaping maw of the Great Serpent.

The interpretation of the wishbone-shaped earthwork as First Woman is supported by its similarity to numerous more or less contemporary petroglyphs depicting her as a stylized female figure with legs spread in a broad U-shape and often in close proximity to images of serpents (Duncan and Diaz-Granádos 2018b:70-71). The interpretation of the oval enclosure as the vulva of First Woman is suggested by its location between the legs of First Woman and is supported by similarities to numerous petroglyphs representing vulvae (Duncan and Diaz-Granádos 2004:193, 196; 2018b:60-61), which Diaz-Granádos (2004:142) explicitly argues are symbolic *pars pro toto* representations of First Woman – "the mother of all things in the heavens and the Middle World, also known as Corn Mother or Earth Mother, depending on the group, location, and associated oral tradition."

The Serpent Mound oval earthwork also is similar to the Osage Big Moon peyote ceremony altar (Figure 4). Duncan and Diaz-Granádos (2004:205) describe the altar as a "vulviform" earthwork, which represents First Woman's "female organ of the world" and "the portal where the dead begin their journey" (Duncan and Diaz-Granádos 2018b:61). Morning Star/Sun entered this "portal to the Lower World" where he had "his contest with the snakes" (Duncan and Diaz-Granádos 2004:205-206; see also Lepper et al. 2018:446); and it is "where the sun enters the body of First Woman at day's end" (Duncan and Diaz-Granádos 2018a:38).

In addition to general shape, there are more particular similarities between the Big Moon altar and the oval earthwork at Serpent Mound that suggest a more

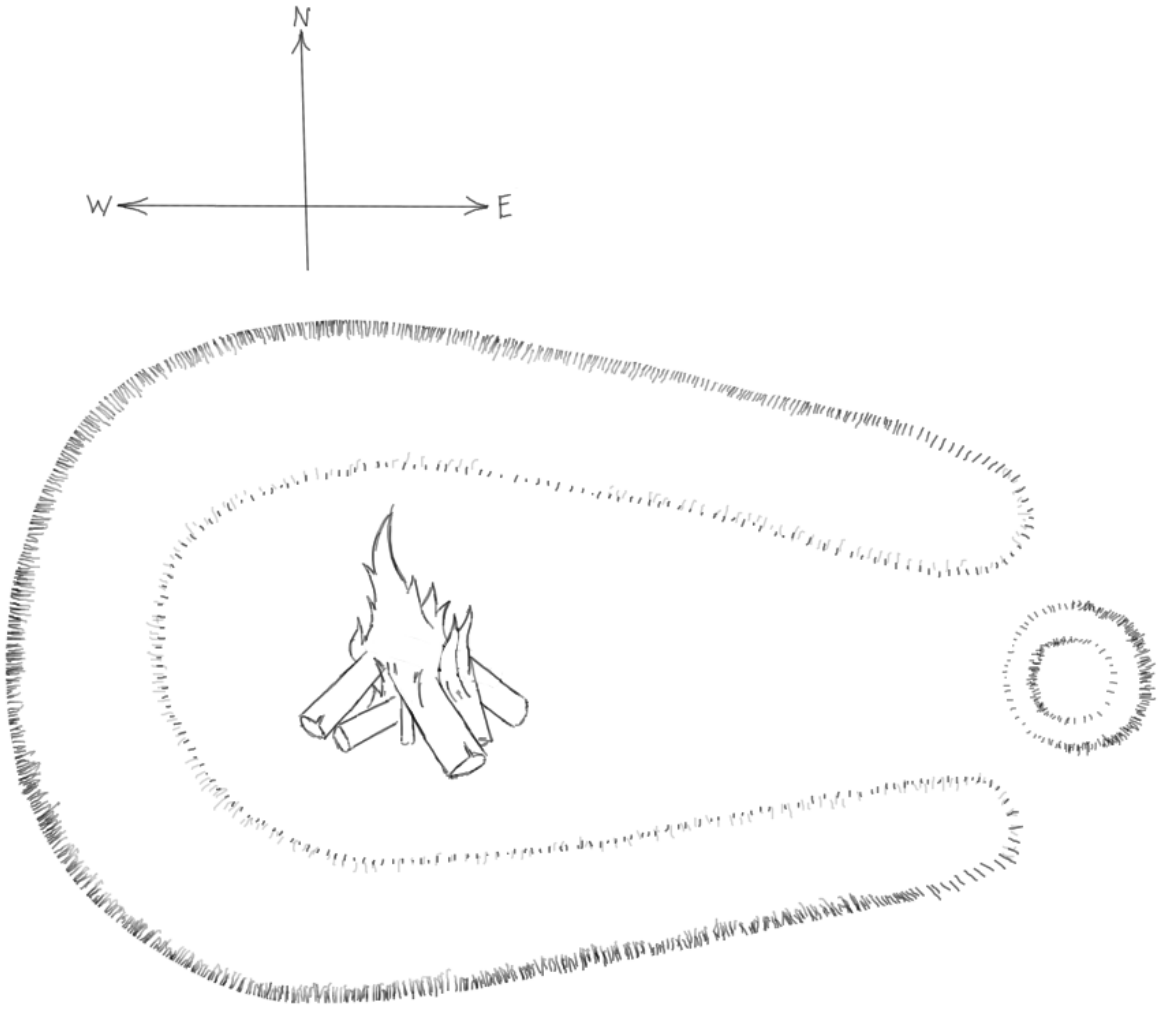

Figure 4. Osage Big Moon peyote ceremony altar, which Duncan and Diaz-Granádos (2004:192), citing Swann (1999:32), identified as "a vulviform altar that represents the earth or Old Woman." Note the similarities to Serpent Mound's oval earthwork with its central mound of burned stones. Redrawn from Duncan and Diaz-Granádos (2004:205) by Peter Lepper.

than superficial correspondence. The Big Moon altar has a central fire (Figure 4); and the Serpent Mound oval had a small mound of "large stones much burned" located at the center of the oval enclosure (Squier and Davis 1848:97). Unlike other peyote ceremony altars, the Osage altar "is not crescentic but vulviform … and always faces west" (Duncan and Diaz-Granádos 2004:205); and the Serpent Mound oval also faces generally west. It has been suggested that it is aligned to the setting sun on the summer solstice (Fletcher and Cameron 1988; Hardman and Hardman 1987). There are, of course, differences as well. The Big Moon altar is smaller and is horseshoe-shaped with an east-facing opening (Figure 4), whereas the Serpent Mound oval is larger and has no opening.

Duncan and Diaz-Granádos (2004:207) asserted that the Osage Big Moon peyote ceremony included "a lot of precontact western Mississippian symbolism." As they describe it, the ceremony is led by a holy man referred to as the "Roadman." "The rites must take place around the altar representing the earth – the Old Woman's vulva, the portal to the lower worlds" and during the night, the "sacred flame" is kindled inside the altar. Importantly, I am not suggesting that the Serpent Mound oval earthwork is a peyote ceremony altar, but rather that it was an altar created for ceremonies of

a similar character and its design was later adapted for the peyote ceremony.

The earliest Osage Big Moon altars were constructed of "pond clay" (Swan and Simons 2014:327). Robert Hall (1997:18), citing W. C. McKern, notes that effigy mounds in Wisconsin "were sometimes constructed using special soils associated with wet, mucky, lake-bottom or riverside locations." Hall (1997:19) related this to the Earth Diver creation stories in which an animal "dives into the depths of the sea to retrieve mud that then expands to create the land." I think this is one of those examples of "precontact…symbolism" to which Duncan and Diaz-Granádos referred and which suggests a direct connection between ancient effigy mounds and historic and recent religious structures that are reliably linked to ethnographically-recorded indigenous genesis stories and world renewal ceremonies.

An Historical Context for Serpent Mound

My colleagues and I (Fletcher et al. 1996; Lepper 2018a; Lepper et al. 2018; Lepper et al. 2019) have sought to make the point that "a monumental earthwork constructed in the shape of a serpent is not likely to have existed in a cultural vacuum" (Lepper et al. 2018:440). This paper is a further attempt to seek for that cultural context in the material culture of the people that have been proposed as the original builders of Serpent Mound. Romain et al. (2017:216) suggested that it was "faulty logic" to expect that the indisputable importance of serpents to the builders of Serpent Mound necessarily would be reflected in other aspects of their material culture. Romain and his co-authors identified a number of Hopewell depictions of serpents, including a mica effigy from the Turner site, which they suggested had certain similarities to Serpent Mound (2017:216) and correctly observed that these similarities did "not make Serpent Mound Hopewell in origin" (2017:16). Nevertheless, it is logical to expect that something of such profound importance as a gigantic serpent effigy mound would indeed find expression in the broader cultural context of its builders.

In a subsequent paper, Romain (2019:67) implicitly accepted this logic in his attempt to make the argument that Serpent Mound is "well situated in an Adena culture context." For example, he suggested that snake skeletons found in association with two Adena burials at the Wright Mounds in Kentucky find "analogous expression in the location of the Serpent Mound effigy in proximity to a burial ground" (2019:67). He also referred to a stone "effigy," actually a C-shaped pavement of stones, that partially enclosed several of the Hopewell burials in Mound 1, Group 1 at the Utica site. Romain considered the stone pavement to be a serpent effigy similar to "stone effigies at the base of burial mounds" at other Hopewell sites (none of which are serpents), such as those documented by Warren Moorehead at Mound 25 at Hopewell Mound Group (Romain 2019:66).

Although it's a somewhat minor point, the Mound 25 "boulder mosaics" were not located at the base of the mound as he states, but evidently had been laid out upon the surface of the mound at some relatively late stage of its construction (Moorehead 1897:236). Moorehead's team encountered them "some three feet below the [1891] surface" of the mound, which was 23 feet tall when they began their excavation (Moorehead 1897:236-237). Thus, the association of these geoglyphs with particular burials is more tenuous than Romain supposes.

Moorehead (1922:106) does mention encountering "a small mosaic of fine stones" along with "a layer of stones in the form of a semi-circle" on the floor of Mound 25; and perhaps it is these features that Romain thinks might represent effigies similar to the Utica site stone pavement. In subsequent excavations at Mound 25, however, Shetrone (1927:98-99) found no evidence to corroborate the "intentional use of colors to effect designs" and no evidence of stones placed in "any definite form." He argued, instead, that the semicircular arrangements of stones were not "intentional figures," but rather the "fringe of coarse gravel and fine stones" that delineated the outer margins of the "interior primary mounds."

Romain (2019:67) observed, correctly, that "serpent associations with death and the Otherworld were not exclusive to Mississippian or Fort Ancient cultures" and that "they originated at least as early as the Early Woodland period." These observations are, however, irrelevant to providing a credible Adena cultural context for Serpent Mound.

Lepper et al. (2018:15) already acknowledged Susan Power's (2004:177) observation that the serpent was an "ancient image" and therefore, it is unsurprising that serpents made occasional appearances in Adena (and Hopewell) contexts. On the whole, however, serpents are exceedingly rare in the archaeological record of the Early Woodland period.

As a counterpoint to Romain's list of associations between snakes and Adena (and Hopewell) burials, I briefly reviewed the animal remains found in association with Adena burials cataloged by William Webb and Ray Baby (1975). Based on frequency of occurrence, carnivores, especially wolves, bears, and cougars, were far more important to the Ohio and Kentucky Adena than snakes. So, even if effigy mounds had been a part of the Adena cultural repertoire (and there is no convincing evidence to suggest they were), the question remains, why would they have chosen to construct a monumental effigy of a snake rather than a wolf or a bear?

The key point here is that Serpent Mound's extraordinary size, elegant design, and cryptic iconography indicate that the people who built it did not simply include serpents in their pantheon of spiritually-potent other-than-human persons; serpents must have been of singular importance in their cosmology. None of the data presented by Romain support the primacy of serpents in the Adena belief system. In stark contrast, the Mississippian period is partially defined by "new serpentine expressions…often distinguished by their unique size, placement, elaboration, and at times function" (Power 2004:177).

Romain (2019:62) cautions that "it is not a good idea to date an earthwork effigy based on numeric counts of serpents," but the iconographic argument I am making is not simply that serpents frequently appear in Mississippian/Late Prehistoric art and therefore Serpent Mound is Mississippian/Fort Ancient in origin. Power (2004:177) appreciated that while "the snake was an ancient image," Mississippian representations of snakes were quantitatively and qualitatively different from everything that preceded them. Reilly and James Garber (2007:2) echoed and elaborated upon that assessment:

> "The Hopewell artistic tradition is partially identified by its naturalistic depictions of birds and animals [including the very occasional snake], while the Mississippian artistic tradition features often-bizarre configurations of dragon-like creatures whose images invoke mystery and hidden knowledge" (see, for example, Figure 5).

The iconographic arguments put forth by Lepper et al. (2018) find support in Robert Cook's (2017) comprehensive overview of the Fort Ancient culture, which provides a coherent historical context for a Fort Ancient Serpent Mound (Lepper et al. 2019). Cook (2017:58) observed, for example, that the guilloche design on pottery, which has been interpreted as an abstract representation of intertwined serpents, became common between about 1000 and 1400 C.E. This period encompasses the radiocarbon dates for Serpent Mound obtained by Fletcher et al. (1996) and Lepper et al. (2019). Moreover, Serpent Mound is "located squarely within…this concentration of guilloche designs" (Cook 2017:60). Cook (2017:137) interprets the guilloche design motif as "a local take on Mississippian Ramey-style designs," which appeared abruptly "in a relatively large quantity" in southwestern Ohio and neighboring parts of Indiana and Kentucky. This abrupt appearance of Mississippian influence coincides with a drought that affected much of the Mississippi valley except for the Fort Ancient region. The fact that the Ohio valley was not experiencing drought conditions "may well have acted as a pull for Mississippians to come into the region" (Cook 2017:107).

At about this same time, around 1000 C.E., "there was an artistic explosion" throughout much of eastern North America, which included "a surge in the portrayal of the familial pantheon of supernatural beings, perceived to be both the creators and ancestors" of the Mississippians (Duncan and Diaz-Granádos 2004:215). Prominent among these portrayals were the "new serpentine expressions" referred to by Power (2004:177). Lepper et al. (2018 and 2019) argued that Serpent Mound was a part of that artistic explosion as it reverberated through the Ohio valley.

In contrast to the abundance of serpent imagery in the Mississippian and Fort Ancient cultures, there is a nearly complete absence of serpent imagery in Adena iconography. In addition, virtually every well-dated and convincingly naturalistic effigy mound in eastern North America, including Ohio's Alligator Mound (Lepper and Frolking 2003) and the Kern serpent effigies (White 1986, 1987), was created during the Late Woodland – Mississippian periods; none whatsoever are known to have been built by the Adena culture (Lepper et al. 2018:441).

Also relevant to this discussion is Cook's observation that the Fort Ancient culture tended to occupy sites where already ancient mounds were present. For example, the Kern stone serpent effigies are located in the valley below and are aligned with the Hopewellian Fort Ancient earthworks (Cook 2017:121). Alligator

Figure 5. Mississippian sandstone tablet with an engraved design incorporating two intertwined serpent creatures with rattlesnake tails and the opposing canine teeth of a mammalian carnivore, possibly a felid (Prentice 1986:245). These are typical of the "often-bizarre configurations of dragon-like creatures whose images invoke mystery and hidden knowledge" (Reilly and Garber 2007:2) that were an important component of the Mississippian artistic tradition. The tablet often is referred to as the "Issaquena Disk" for Issaquena County in Mississippi where it was found. Marshall Anderson collection, Ohio History Connection (A14/023).

Mound is another possible example as it is built on a prominent bluff just upriver from and in sight of the Newark Earthworks. Cook suggested that this was an intentional strategy of non-local Mississippians "to establish a connection to local traditions" (2017:118); and it provides a compelling explanation for why the Mississippians, or the Mississippianized Fort Ancient culture, would have built Serpent Mound in close proximity to existing Adena burial mounds.

Conclusions

> "A specific aspect of materialization of Native American belief…is the widely-held idea that the invisible worlds around us are connected to ours by permeable boundaries of perception, *portals*, which can be crossed in places where they intersect the visible world.
>
> … and the creation of cultural landscapes

> often involved locating and materializing these access points. Ritual specialists then used these created spaces as stages for their ceremonial and transformational activities" (Sabo and Simek 2018:27).

The iconography of the uniquely enormous Serpent Mound is pregnant with mystery and hidden knowledge. It has everything to do with Mississippian iconography and conversely practically nothing at all to do with Adena or Hopewell iconography. The Mississippian glyphs of Picture Cave provide particular analogs for virtually all the (formerly) obscure elements of Serpent Mound, from the oval egg/heart/eye/mouth/vulva and its associated frog/First Woman to the horns/wings/earspools at the neck of the serpent (Lepper et al. 2018:442-443).

Mississippian refugees arriving in Fort Ancient villages gripped by the urgency of finding ways of averting the environmental catastrophe afflicting the lands to the west could well have provided the means and motive for recreating the mythic moment when First Woman mated with the Great Serpent and thereby bridged the cosmos, "bringing the life-giving powers from the Beneath Worlds to the Middle World, the Earth" (Lepper et al. 2018:446). Knowledge of contemporary Upper Midwestern effigy mounds could have provided the inspiration for re-creating that moment in three dimensions and on a monumental scale. The location may have been chosen, at least partly, because the bedrock outcroppings along the bluff on which Serpent Mound was built bear a striking resemblance to a gigantic serpent seeming to emerge from the earth (Holmes 1886:627). According to Lucy Lippard (1983:222), this is an instance of "a meaningful land form eventually being refined by sculptural or architectural techniques," which is not uncommon in indigenous art going back to the Upper Paleolithic (Bahn 2016:159-162). Thus, this landscape may have been perceived to be a place where the Lord of the Beneath World already was immanent.

Serpent Mound then, and in particular the oval vulvoid earthwork, served as a materialization of a portal to the Beneath World and a stage for "ceremonial and transformational activities" (Sabo and Simek 2018:27). Mississippian religious leaders could use this portal to transfer offerings of supplication and thanksgiving to the Powers of that other world in return for the power needed to save their world. The fact that Adena and Late Woodland mortuary facilities already were present on that landscape allowed the Mississippian immigrants to build upon and draw legitimacy from that ancient foundation of ceremonialism.

Kubler (1962:8) observed that every human-made object "arises from a problem as a purposeful solution." Based on the available data reviewed here and in previous papers, I assert that Serpent Mound is best understood as a Mississippian solution to a peculiarly Mississippian problem. And, for all intents and purposes, it appeared to have worked for them. The middle Ohio valley never suffered the extended droughts that wracked the central Mississippi valley (Comstock and Cook 2018).

Epilogue

> "The study of symbolism in archaeology, and particularly in the pursuit of culture history, is no less important because of its difficulty. Regardless of its shortcomings on which I have been harping, doubtless to the irritation of many of my colleagues, archaeologists cannot in conscience ignore its enlightening potential." Ronald Mason (2006:178)

One of my goals in writing this paper is to inspire further research that might lead to a more definitive answer at least to the question of the antiquity of Serpent Mound. We may never know with any degree of certainty its original meaning, or indeed, meanings, since there is no reason to expect that every participant in the construction and subsequent use of Serpent Mound would have had an identical understanding of its meaning; or, indeed, that its designer imbued it with only one layer of meaning. Yet it is important that we continue to try to recover those meanings; and regardless of the limitations of the Direct Historical Approach and being mindful of the temptation to engage in what Mason (2006:179) referred to as "speculative thinking about the past," it is becoming increasingly apparent that the traditions of the American Indian tribes that were indigenous to the Ohio valley can contribute to our understanding of at least some aspects of pre-contact material culture (Lepper 2018b). In this regard, the research approach of the Mississippian Iconography Conference has been shown to be highly productive and has much to offer us in our search for answers to questions about the original purpose and meaning of Serpent Mound.

With regard to the specific question of the age of

Serpent Mound, it is clear that neither particulate charcoal incorporated in mound fill nor bulk soil organics sampled from a truncated soil layer can provide radiocarbon dates that, by themselves, definitively establish the age of the original construction of Serpent (or any other) Mound. That said, however, it could be argued that all the radiocarbon dates so far obtained for Serpent Mound are not inconsistent with a Fort Ancient age. Even the several radiocarbon dates obtained by Herrmann et al. (2014:121), because of their problematic contexts and the uncertainty regarding how the bulk soil organics that produced the dates relate to the actual date of the mound's construction, indicate only that "the mound could have been constructed any time after 300 BC"; and 1100 CE certainly came after 300 BCE.

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