A RADIOCARBON DATE FOR A WOODEN BURIAL PLATFORM FROM THE RESERVOIR STONE MOUND (33LI20), LICKING COUNTY, OHIO

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Abstract

The Reservoir Stone Mound (33LI20) located in southeastern Licking County, Ohio, originally was between 12 and 15 m (40 and 50 ft.) high. It was the largest aboriginal stone structure north of Mexico. A fragment of wood from a unique wooden burial platform excavated from the mound in 1860 has yielded a radiocarbon date of between cal A.D. 85 and 135, situating it in the early Middle Woodland period. Artifacts reportedly found in association with the burial platform suggest an Adena cultural affiliation for the mound.

Introduction

The Reservoir Stone Mound (33LI20), also known as the Jacksontown Stone Mound, the Great Stone Mound, and the Jury Stone Mound, was the largest aboriginal stone structure north of Mexico. Originally, it was between 12 and 15 m (40 and 50 ft.) in height and between 55 and 61 m (180 and 200 ft.) in diameter. According to Israel Dille, writing in the 1866 Annual Report of the Smithsonian Institution, it was surrounded by a "low fosse, and parapet of an ovate form, with a gateway on the east end, leaving a large open area on the west end of the mound, within the enclosure" (1867:359). The site is located on a prominent hilltop approximately 2.4 km southeast of Jacksontown, Ohio (Figure 1).

The mound achieved considerable notoriety in 1860 when the second and most celebrated of the so-called Newark Holy Stones was discovered at the site (Lepper and Gill 2000). Although many scholars initially accepted the Holy Stones as genuine relics of antiquity, eventually they were determined to be fraudulent to the satisfaction of the archaeological community if not individuals with ideological (or economic) reasons for promoting their authenticity (Lepper and Gill 2008; Lepper et al. 2011).

Ironically, this 15-minutes of fame followed by more than a century of infamy appears to have cast a pall of suspicion over everything relating to the mound, which may be one reason for the otherwise entirely unjustified subsequent neglect of this remarkable ancient monument. Whatever the cause, this neglect is unfortunate because this extraordinary site is deserving of more attention than it has received.

In this paper, I share some of what can be known about the Reservoir Stone Mound based on a search of available archives. In addition, I report a new radiocarbon date for the mound obtained on a fragment of a wooden burial platform in the collections of Yale University's Peabody Museum of Natural History. The results indicate

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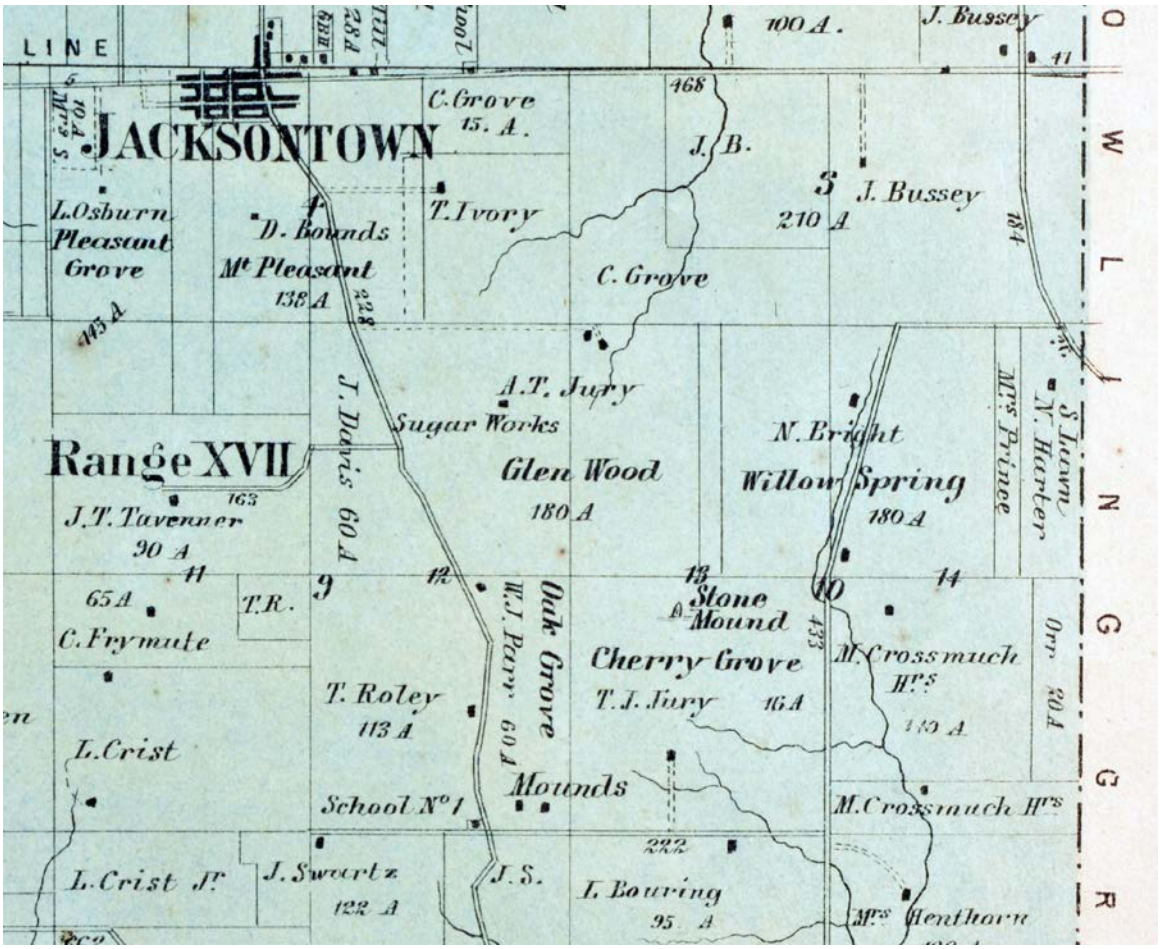


Figure 1. Portion of the 1866 map of Licking Township, Licking County, Ohio, showing the location of the Reservoir "Stone Mound" on the T. J. Jury property southeast of Jacksontown (Beers, Soule & Co. 1866).

that the Reservoir Stone Mound was built at around A.D. 130.

Reservoir Stone Mound

In 1822, Joseph Sansom published an appeal to preserve "this venerable mound," because it was "by far the noblest monument of antiquity now extant in North America…" (1822:126). In spite of this laudable, if perhaps slightly hyperbolic, appeal, beginning in 1823 somewhere between 10,000 and 25,000 wagon loads of stone were removed from the mound to provide riprap for the Licking Reservoir, now Buckeye Lake, located only a few kilometers to the southeast (Dille 1867; Wyrick 1860).

Although the destruction was extensive, it was by no means complete (Figure 2). Charles Whittlesey (1850:13) examined the mound in 1838 and described it as "even now a commanding object, rising among the trees of a thrifty western forest." Whittlesey also reported that "fifteen feet of the apex was removed, many years since, by a believer in *Robert Kid's* treasures, and a cavity sunk nearly to the bottom with much labor" (1850:13; emphasis in original). And people in the area still were carrying off stones "for masonry" (1850:13).

In 1896, Warren K. Moorehead documented the surviving remnants of the mound as extending "189 feet northeast and southwest; 207 feet northwest and southeast; average height 8 ½ feet; maximum height 12 feet; minimum height 5

Figure 2. A view of a surviving remnant of the Reservoir Stone Mound as it appeared in 2007. The extent to which this is an intact remnant of the original mound or a pile of stones removed from the original mound and relocated to this location is not known.

feet" (Moorehead 1897:170). He excavated a 12 by 6 m (40 by 20 ft.) trench through what he believed to be an "undisturbed section of the mound" as well as "eight or ten large holes" in "other parts of the mound" (1897:171). He concluded that "nearly the whole of the original area covered had been disturbed by those vandals" who had removed the stone for the Licking Reservoir: "Thus, in the interest of modern progress, was destroyed one of the most important and imposing, if not unique, tumuli in the entire Ohio valley" (Moorehead 1897:171).

A survey of the site conducted by the Ohio Department of Transportation (ODOT) in 1993 determined that "the stone mound is still an impressive structure" (ODOT, Cultural Resource Unit 1993:147). The report states that "stones occurred over a distance of 185 ft. (56.4 m) east to west" and the stone pile ranged in height from "8 to 12 ft. (2.4 to 3.7 m) above the level of the rise crest" (1993:147-148). The authors of the ODOT survey concluded, however, that "it is difficult to determine what portions of the overall stone pile represent intact mound remnants" as opposed to material displaced during previous excavations (ODOT, Cultural Resources Unit 1993:149).

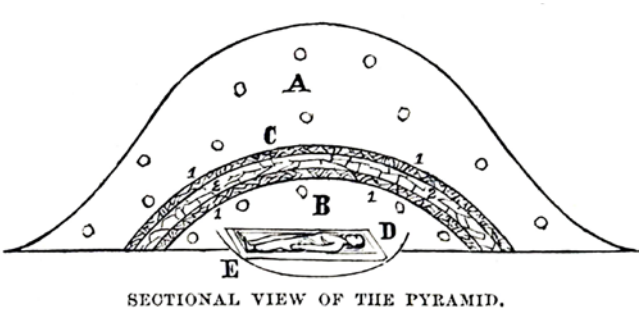
Wooden Burial Platform

Dille (1837:360) reported that, in the process of removing the stone for the Licking Reservoir, the laborers found "15 or 16 small earth mounds around or near the circumference of the base, and a similar one in the centre." In 1853, Jacob (or William) Parr, one of the laborers employed to remove the stone, conducted his own excavation into at least one of the earthen mounds in the outer ring. He discovered a wooden "trough" that was "overlaid by small logs of wood" (Dille 1867:360). James and Charles Salisbury (1863:46) reported that beneath the trough, or

> "coffin were found two long oaken sleepers, about 5 inches in diameter, placed longitudinally and parallel, about two feet distant from each other, -- upon which were placed a number of short cross ties, each about two inches in diameter, cut from 'saplings,' – Upon this layer of short sleepers rested the sarcophagus; under which and beneath the foundation sills was a layer of ashes."

Benson Lossing (1868:564), in his *Pictorial Field-Book of the War of 1812*, noted that the coffin was "more like the hollowed platform of a scaffolding." It had been "lined with a fabric resembling old carpeting, so fragile that it crumbled at the slightest touch. On this the body of the deceased had been laid; and thereon was found the skeleton in fragments, locks of beautiful black hair, and ten copper rings lying near where the hands might have been folded over the breast." Lossing (1868:564) also published David Wyrick's reconstruction of the mound's cross-section along with a detailed drawing of the wooden coffin (Figures 3 and 4).

Wyrick (1860:6) wrote that Parr removed the copper bracelets and a fragment of the wooden platform, but "left the greater portion of this coffin in the earth and unmoved." Years later, when Wyrick first learned about the discovery, he, along with the Salisburys and several other "gentlemen of Newark," initiated further investigations at the site. According to Wyrick, he "took some men to the place, and had the remaining portion [of the burial platform] taken out" (Wyrick 1860:6).



SECTIONAL VIEW OF THE PYRAMID.

Figure 3. Schematic cross-section of the earthen mound from which the wooden burial platform was recovered (Lossing (1868:564). The figure provides information about the mound stratigraphy not contained in any other source. Lossing's caption reads, in part: "The annexed diagram, kindly drawn for me by Mr. Wyrick, shows a sectional view of the clay mound, the small stone arch, and the position of the coffin. A the upper part of the clay mound, and B the lower portion. In these the open dots indicate the places where it was evident timbers had been placed, and had rotted away. C the arch of stone, 1111 indicating two layers of small stones from six to ten inches in diameter, and 2 a layer of broad flat stones. D the coffin and skeleton, and E the concavity filled with water, in which they rested." Courtesy of the Ohio History Connection.

The Salisburys give a corroborating, but somewhat different account of the investigation including additional details of the wooden burial platform:

> On hearing of Mr. Parr's former discovery; with Mr. W. [Wyrick] and several gentlemen of Newark, we repaired to the mound and researched the sarcophagus excavation, which was found as described by Mr. Parr. The sarcophagus was found imbedded in a stratum of hard blue clay, impervious to water. The clay was so placed as to form a basin in which the sarcophagus rested. The basin was several

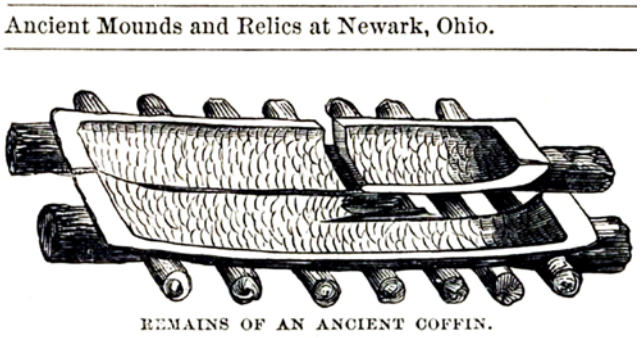


Figure 4. Illustration from Lossing (1868:564) of the wooden burial platform recovered from the Reservoir Stone Mound. Courtesy of the Ohio History Connection.

> feet below the surrounding level, and was kept constantly filled with water, making the conditions favorable for preserving wood any length of time.
>
> Surrounding the bed of this sarcophagus at little distance, was planted near together a row of short oaken posts, each about 5 inches in diameter. These were not as well preserved as the sarcophagus; yet the marks of the instrument used in cutting off the ends & limbs, in some of them, could be plainly seen. Between these posts was found a copper breast plate somewhat in the form of a letter X; perhaps five inches in its longest diameter and one eighth of an inch in thickness. Its sides and ends were very deeply scalloped & it contains two holes near its center" (Salisbury and Salisbury 1863:47-48).

Wyrick returned yet again to the mound from which the wooden burial platform had been removed and continued his excavations. In the clay beneath where the wooden burial platform had been placed, he claimed to have found a small stone box containing what became known as the Decalogue Stone, so-called because it was inscribed with the Ten Commandments in an archaic-looking Hebrew alphabet. This fraudulent artifact undoubtedly had been introduced into the clay deposit at some time subsequent to the removal of the wooden burial platform (Lepper et al. 2011; Lepper and Gill 2000, 2008).

The wooden burial platform (Figure 4) has been described variously as a trough, a coffin, or a sarcophagus. James and Charles Salisbury (1863) estimated that the platform had been "constructed from an oak tree, about 2 feet in diameter." Wyrick described it as

> "one-half of an oak log nearly eight feet long, evidently hollowed out with the use of hot stones, and by chopping with stone or copper axes. The marks of such chopping could be plainly and plentifully seen. It was a very rude and rough concern, of the swamp oak variety, placed in a kind of basin-shaped depression, that appeared to be lined with a species of impervious clay that kept it imbedded in water to the depth of some ten or twelve inches" (Wyrick 1860:6).

Its form is unique in the literature of Woodland era mortuary furniture. As Lossing (1868:564) noted, it was constructed with the same technology used to "hollow out logs for canoes."

Although the preservation of this artifact is nothing short of remarkable, the Salisburys noted that

> "The upper edges of the wood coffin were somewhat decayed, the other portions were blackened, hard and tough. The under part appears to have been flattened by burning, so that it would rest on its foundation firmly.
>
> The hollow, or excavation within, was 6 feet 6 inches in length; 8 inches in depth and its outside length 8 feet. But the most interesting features of the rude relic of the 'Mound Builders' were the plainly visible marks of an axe used in its excavation. These many scorings within were from three to 4 inches in length, and appeared too smoothly cut to be made by a stone axe; hence it is quite probable that

Figure 5. Fragment of wooden burial platform from the Reservoir Stone Mound, Newark, Ohio, shown prior to the removal of the small section for radiocarbon dating. Courtesy of Erin B. Gredell, Repatriation Compliance Coordinator for the Peabody Museum of Natural History at Yale University.

> the instrument used was made from native copper." (Salisbury and Salisbury 1863:47-48)

After its excavation and retrieval by Wyrick, the platform was broken up and dispersed as souvenirs. In 1867, a piece of the "coffin" was made into a gavel and presented to the Licking County Pioneer Historical and Antiquarian Society (1867).

J. N. Wilson, a local Newark physician and one of the founders of the Licking County Pioneer, Historical and Antiquarian Society, presented a fragment of the wooden coffin to O. C. Marsh, a paleontologist from Yale University who was in Newark in 1865 to excavate the Taylor Mound (33LI11) (Marsh 1866). In the report of his mound investigations, Marsh acknowledged the assistance of Dr. J. N. Wilson (Marsh 1866:2). Marsh donated the fragment of wood to the Peabody Museum of Natural History at Yale University. The "wood fragment (coffin?)", which weighed 87 g, was assigned the catalog number ANT.003744 (Figure 5).

In addition to his gift of the fragment of the wooden coffin to Marsh, Wilson also presented a "portion of an Oak Post, forming part of a row around a human skeleton" from the Reservoir Stone Mound to the Western Reserve Historical Society (Western Reserve Historical Society 1871:39). Unfortunately, when I made inquiries some years ago, the curators were unable to locate the specimen and presumed it had been discarded long ago.

Age of the Reservoir Stone Mound

There are relatively fewer stone mounds in eastern North America than earthen mounds, but James Kellar's comprehensive review of the subject concluded that there were "countless stone mounds in the central Ohio Valley" (Kellar 1960:428). Most documented examples are small burial mounds that date to the Late Woodland period (Kellar 1960; Muller 1986:135-153), though Warren Moorehead (1892:105) claimed there were "hundreds of stone heaps in the Ohio valley" that covered graves of historic American Indians. He asserted that "modern implements and various utensils" frequently had been "found in stone heaps near the many trails which penetrated different parts of the state" (1892:106).

Some stone mounds, particularly the larger examples, appear to be largely referable to the Early and Middle Woodland periods (Dutcher 1988; Kellar 1960), but as Moorehead (1892:172) noted, stone mounds are "never more than 12 or 15 feet high, -- while the average is less than 6 feet." The Reservoir Stone Mound is therefore "unusual and unique – a freak, as it were" (Moorehead 1897:172). Since there is nothing remotely comparable, it is not possible to

assign an age or affiliation to the mound merely on the basis of its form and composition.

Prior to the discovery of a sample of wood from the Reservoir Stone Mound in the collections of the Peabody Museum, the only way to more reliably place the site into a temporal context was by reference to diagnostic artifacts reportedly found in association with the mound. The copper bracelets found on the wooden burial platform are consistent with either an Adena or Hopewell context. The X-shaped copper breastplate found in close association with the platform is likely to have been a reel-shaped copper gorget. Webb and Snow (1974:100-101) list reel-shaped copper gorgets as a trait of the Adena culture.

In addition to the re-investigation of the outer earthen mound that had produced the wooden burial platform, the Salisbury brothers also excavated the central earthen mound. The results of their investigation are of interest here principally because the artifacts they recovered shed additional light on the age and cultural affiliation of the Reservoir Stone Mound. They found "many human bones" as well as numerous bones from "small animals and birds." They also found "a few large fragments of very thick pottery" and a number of projectile points "apparently broken by fire" (Salisbury and Salisbury 1863:50). Very thick pottery is consistent with an Adena cultural affiliation. Unfortunately, no information is available on the form of the broken projectile points.

Finally, Moorehead (1897:172) reported the recollections of an "old man, who visited the mound" during his 1896 excavations. Although of questionable reliability due to the length of time between the man's observations and his interview with Moorehead, the account is compelling: "…as a boy he had seen several skeletons, covered with copper rings and plates, surrounded by chestnut logs. He thought these things were found on the north side" of the mound (1897:172).

These artifactual clues to the age and the affiliation of the Reservoir Stone Mound are suggestive, but without the actual artifacts to examine, their significance is difficult to evaluate. Moreover, even if one accepts these reported finds as evidence for an Adena affiliation, it does not allow us to refine the calendrical age any more precisely than sometime between 800 B.C. and A.D. 100 – a period of nine centuries. Therefore, a radiocarbon date for the mound has been a consummation devoutly wished for, but unable to be achieved, since none of the pieces of the wooden coffin or other wooden objects appeared to have been preserved in museum collections.

AMS Radiocarbon Date

I first learned of the existence of a fragment of the wooden burial platform in the collections of the Peabody Museum of Natural History in 2014, when I was contacted by Erin Gredell, Repatriation Compliance Coordinator for the museum, regarding information about other Ohio material in the museum's collections. Upon learning that the museum still curated the fragment, I initiated a request for destructive testing, which was approved.

According to Gredell, the fragment of the burial platform had been stored in a drawer at the museum. It did not appear to have been coated with any preservatives or present other issues that might compromise a radiocarbon date.

The Peabody Museum provided a sample of the artifact weighing 1.7 g, which was sent to Karen Leone, of Gray and Pape, Inc., for identification. She identified the wood as White Oak (*Quercus alba*) confirming the general identifications of the antiquarians who first described the burial platform as oak or "swamp oak."

The sample was sent to Beta Analytic, Inc. for AMS radiocarbon dating. The age of the fragment of the wooden platform was determined to be 1870 $\pm$ 30 B.P. (Beta-411555; wood; δ13C = -25.1‰) with a calibrated range of between cal A.D. 85 and 135 and an intercept with the calibration curve at cal A.D. 130 (calibrated at 1σ with the INTCAL 13 database).

Given the size of the log from which the burial platform was carved there is, of course, the issue of old wood to consider. The portion of the tree represented by the curated fragment might be

Table 1. Selected radiocarbon dates for Adena and Hopewell culture sites.

Site	Radiocarbon Age	Cultural Affiliation	Source
Octagon Earthworks, OH (33LI10)	1770 ± 80 (Beta-76909)	Hopewell	Lepper (1998)
Camargo Mound (15MM30-2), KY	1780 ± 60 (Beta-33159)	Adena	Maslowski et al. (1995)
Kirk Mound (46MS112), WV	1820 ± 60 (Beta-212017)	Adena	Maslowski et al. (1995)
Hale's House Site (33LI252), Newark Earthworks, OH	1845 ± 60 (Beta-28062/ETH-4593)	Hopewell	Lepper and Yerkes (1997)
Linn 7, Muskingum County, OH	1850 ± 80 (I-17126)	Adena	Carskadden and Morton (1996)
Reservoir Stone Mound (33LI20)	**1870 ± 30 (Beta-411555)**	**Adena**	this report
Norman Osborn Mound, (33MU534)	1870 ± 60 (Beta-71531)	Adena	Carskadden and Morton (1996)
Adena Mound (33RO1)	1910 ± 30 (Beta-323215)	Adena	Lepper et al. (2014)
Adena Mound (33RO1)	1990 ± 30 (Beta-323216)	Adena	Lepper et al. (2014)
Adena Mound (33RO1)	2110 ± 30 (Beta-323214)	Adena	Lepper et al. (2014)
Glenford Stone Mound (33PE3)	2220 ± 50 (Beta- number not reported)	Adena	Dutcher (1988)

from the outermost rings, in which case the date would closely approximate the actual age of the cutting of the tree for making the platform, or it might be from the inner rings, in which case the radiocarbon age would be older by many decades, perhaps, than the date at which the tree was cut down and the platform carved. The radiocarbon date, therefore, must be regarded as an indication of the minimum age of the platform.

Conclusion

There is little reason to doubt that the nondescript fragment of wood in the Peabody Museum's collections is, indeed, a fragment of the burial platform from the Reservoir Stone Mound. The catalog entry identifies it as such and states it was presented to Marsh by Wilson. Wilson was widely known and trusted in the Newark community, especially among the antiquarians engaged in studying the ancient mounds in the area. He had access to information and materials obtained from the Reservoir Stone Mound excavations, and he is known to have donated portions of this material to museums on more than one occasion. Marsh was active in the area at a time when wood from the wooden burial platform was available and worked directly with Wilson on a mound excavation.

The age of circa A.D. 130 places the construction of the Reservoir Stone Mound in the Middle Woodland period (100 B.C to A.D. 500), but the Adena culture is known to have persisted long into the Middle Woodland era in some areas (Table 1). Therefore, by itself, the radiocarbon age would be consistent either with an Adena or Hopewell cultural affiliation. The reports of the recovery of "very thick pottery" and an apparent reel-shaped copper gorget from the mound suggest it was constructed by the Adena culture; however, considering that the artifact descriptions are 150 years old and neither the objects themselves nor even illustrations of them are currently available for examination, a cultural

assignment on this basis must be regarded as tentative.

Additional investigations of the extant portions of the Reservoir Stone Mound would be desirable to further refine our understanding of its degree of preservation, its age, affiliation, and construction history. If significant portions of the structure are found to be intact, steps should be taken to see to its preservation – only about two centuries too late.

This research points to the importance of museum-curated collections for answering a variety of questions, including many that could not have been anticipated by the individuals who originally donated the objects or the museum curators who accepted the material and cared for it, in this case, for nearly 150 years.

Acknowledgements

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I thank J. Huston McCulloch, Professor Emeritus of Economics and Finance at the Ohio State University for his substantial contribution to the funding of the AMS radiocarbon date for the Reservoir Stone Mound. Although we strongly disagree in regard to the interpretation of the significance of the Decalogue Stone and the implications of the radiocarbon date reported herein, we agree on the value of obtaining a date for the mound to use as a means of evaluating various propositions of how the mound and its contents fit into Ohio's cultural history.

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