

The 1914 Archaeological Atlas of Ohio: Its History and Significance

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the problem of site verification was not viewed lightly. I think most of the reported sites were verified, that the spatial biases can be known, and that the Atlas has research potential.

The uniqueness of the Atlas in a historical sense is obvious, and incontestable. There were none like it at the time and the only closely similar venture was the Archaeological Atlas of Michigan published 17 years later (Hinsdale 1931). For such a daring publication, it is surprising that Mills had little to say about the fieldwork on which it was based. Because of the brevity of his comments on the background of the project, it is not well known that the Atlas was the outgrowth of 20 years of serious survey work by the staff of the Ohio State Museum. The present paper aims to correct this deficiency and give the Atlas the attention it deserves.

As far as can be discovered, the Atlas was not reviewed, at least not in indexed periodicals. In a sense, therefore, this paper fills a gap; it is basically a review, 70 years late. As such, it explores some questions common in book reviews: How can the book be described? Was anything of importance omitted? How can the information be used today? What place does this project have in the history of the Ohio Archaeological and Historical Society?

DESCRIPTION

The Atlas is an oversized book that measures 35 x 43 cm.(13 3/4 x 17 inches) and is bound on the short edge. It is 2 cm.(3/4 inch) thick and weighs approximately 2268 grams (5 pounds). There are 94 sheets in the book (188 pages), 88 of which show maps of the 88 counties in Ohio. The maps show 5396 site locations, some of which include a cluster of mounds and earthworks. The

remaining sheets contain the title page and various kinds of "front matter." The book was printed in a limited edition of 500 cloth bound copies and possibly almost that many paper bound copies (Mills 1914: 388). The complete title of the work is as follows: Archaeological Atlas of Ohio; Showing the Distribution of Various Classes of Prehistoric Remains in the State with a Map of the Principal Indian Trails and Towns.

The book's front matter includes a "Preface" by Mills and a "Table of Contents accompanied" by separate lists of the county maps, the county archaeological descriptions, and illustrations (of which there are 60). The front matter also includes full page maps of Indian trails and towns and the distribution of mounds and enclosures. The "trails" map is accompanied by 1 1/2 pages of text; the "earthworks" map stands alone.

Opening the Atlas, a user finds the county map on the right and an archaeological description of the county on the left. Sites are shown as orange-colored symbols (explained in the "Preface") depicting site types in Mills' classification. The sites are un-numbered and un-named on the maps and no list of sites is included anywhere in the book or referred to as existing in some other source.

The base maps for each county are road maps made by the Ohio Road Commission. The scale of all the maps is 3 miles per inch (1:190,080), a medium scale in a relative sense. Roads of all grades are included and community grids (even for large cities) are shown in detail. Also shown are railroads, canals, the names of crossroads, towns, villages, and cities, as well as townships. The result is an extremely cluttered format. The orange color of the site symbols makes them stand out on the sheets, but it is difficult to see their relationship to the general terrain, which must be deduced from the drainage courses

which are shown on the maps as thin lines. Site distribution in relation to the modern built environment is clear, but the relationship to drainage and topography is obscure.

The county histories contain a variable amount of information, depending obviously upon the number of sites and the extent of excavation. They contain descriptions of notable sites (e.g. Serpent Mound, Fort Ancient, and Mound City), comments on the effect of resources and topography on site density and distribution, and an occasional discussion of the function of select sites, or the duration of site occupancy for others. All county descriptions include a table enumerating the number of each site type present in each township.

The "Preface" contains a brief discussion of the number of mounds that might be present if all were known, a brief history of attempts to produce an archaeological map of Ohio, a comment on the completeness of the Atlas, and a discussion of the site classification used in the volume. It also has a table listing the frequency of occurrence of each site class. Persons who helped more than others in compiling site locations are acknowledged by name in the concluding paragraph.

One item of historical interest in the acknowledgements is the identification of Henry Clyde Shetrone as a major contributor to the project. Shetrone's first year as Mills' assistant in 1913 apparently was spent field checking site locations for the Atlas. Mills at this point in his career had been Curator of Archaeology for the Ohio State Museum for 16 years, succeeding Warren K. Moorehead in the position in 1898. Shetrone continued as Mills' assistant until 1921 when Mills was made Director of the Museum, a position he

held till his death in 1928. Shetrone became Curator in 1921 and succeeded Mills as Director in 1929. Publication of the Atlas, then, came at the midpoint of Mills' career and at the beginning of Shetrone's.

Parenthetically, it should be noted also that the Atlas was published in the same year that the Society moved from temporary quarters in OSU's Page hall to a building on the OSU campus built specifically to house the Society's growing library and artifact collections. This was a banner year in the history of the Archaeological and Historical Society, which was founded in 1885 and for the first thirty years of its existence was moved from one place to another as space became needed by the host institution. Starting out in the Ohio State Capital building, the Society eventually found space in a number of buildings on the OSU campus before getting its own facility. The new Ohio State Museum, located on The Ohio State University campus, was to become the Society's home for 55 years.

HISTORY AND METHODOLOGY

Mills does not say much in the "Preface" to the Atlas as to what labor and resources went into making it. This omission is regrettable because an explanation of the methods used in locating sites and entering them on the map could help in an evaluation of how to use the Atlas. The picture given by reports and other statements in the Society's Quarterly journal is that work on what originally was known as the Archaeological Map of Ohio project can be divided into four periods. The first (Period I) covers Moorehead's years as Curator of Archaeology, between 1895 and 1897. The first two years of Mills' term as Curator constitutes a second period (Period II), the years 1898 and

1899. More than half (3687-68%) of the sites in the Atlas were recorded in these first two periods (Table 1). In Period III, between 1900 and 1909, Mills appears to have abandoned the project, although he says in the Atlas "Preface" that he devoted spare time for 16 years working on the map. In 1909, at the request of the Executive Board of the Society, Mills returned to the plans to produce an archaeological map of Ohio. Museum resources were allocated for the project during Period IV and five years later the Atlas was a reality.

The establishment of a position for Curator of Archaeology and the beginning of the mapping project late in 1894 were not accidentally linked. The first Curator, Warren K. Moorehead, was charged specifically by the Society's Executive Committee to make a map of Ohio's sites. Moorehead expressed his understanding of the purpose of this project as follows:

This work has never been established on so large a scale in America. France, Germany and England know the exact location of every one of their prehistoric remains. As ours are as imposing, as important and as interesting as those of Europe, we certainly should not be behind our friends across the water in our appreciation and understanding of the archaeology of the Ohio Valley. (Moorehead 1895: 422) (underlining added)

Thus, he views archaeological survey, in which the exact locations of sites are recorded, as a basis for archaeological analysis. Late in 1895, at the end of his first year on the Society staff, he adds a note of urgency to his statement of purpose (Moorehead 1897a:286): Ohio's monuments are being demolished and obliterated at an alarming rate; they need to be located, recorded, and possibly tested before they are destroyed; these actions will preserve at least some record of prehistoric archaeology for future generations of citizens and scholars. One year later, in his report of field work in 1896, Moorehead (1897b:257) emphasizes both the study potential and the preservation aspects of

the project, but he does not mention exact locations. Instead, he writes that the Europeans know "what mounds, and how many, are in each parish" (underlining added)

While there is no direct evidence, the shift from exact to unit locations may reflect difficulty getting exact locations put on a map. Moorehead was working with a wall map described as 6 feet square. An estimate of the scale is 3.5 miles per inch (1:221,760), close to that of the published Atlas. This scale is small enough to make precise placement of a site unlikely. Moorehead comments in several places that the dots on his map may in some cases mark the presence of more than one "monument" (Moorehead 1897b: 258). This is a realistic position because at the estimated scale a visible symbol would measure 500 meters in diameter (1650 feet, or 1/3 mile).

Moorehead (esp. 1897b and 1899) devotes much space in his reports to how the site locations were determined. He initially collected all references in the literature and transferred them to the map. He also sent tracings of counties to amateur archaeologists and requested that they record sites known to them. This technique was used throughout the project by Moorehead and Mills alike, though neither of them appear to have liked it much, or profited much by it. Ultimately, Moorehead felt that it was necessary for a trained archaeologist to visit a reported site to confirm its existence. In the second year of the survey, he stressed the importance of the Society making its own surveys of the counties. This strategy continued for the duration of the project. Sites reported by informants were field checked if there was doubt about their authenticity. Sites reported by knowledgeable informants most often were accepted without a field check, unless locational information was unclear. The Curators and staff of the museum conducted surveys in the vicinity of sites

under excavation, and conducted tours of poorly known counties to locate new sites. In Period IV, Mills devoted months at a time exclusively to the county surveys.

There is little question, if the statements in the Annual Reports are accurate, that sites were verified in most cases. Moorehead, in a long report on work in 1896, comments (Moorehead 1897b: 259) that sites that could not be accurately located were not put on the map. Again, in the same place (Moorehead 1897b: 260), he writes: "We cannot hope to complete our map, or at least have it approach completion, unless we resort to personal visitation." Mills also underscores the importance of field checks. In the Annual Report for 1899, he writes (Ohio Archaeological and Historical Society 1900: 351): "Slow progress has been made towards the completion of the Archaeological Map, as it is difficult to obtain data concerning mounds, sites, etc. without visiting, in person, the sections of the country to be reported" (Ohio Archaeological and Historical Society 1900: 351).

One of the unanswered questions about this work, a curious omission in the Atlas and the Annual Reports, concerns how the locational information was filed. There is no mention of a card file or list recording geographic coordinates and descriptive features of the sites. Moorehead had his county tracings, and when Mills got back to work on the project, in Period IV, he says that he entered sites on United States topographic maps. These most likely were the 30 minute topographic series maps at a scale of 2 miles per inch (1:125, 000) published by the USGS. These maps can not be found today and presumably the information has been lost. Furthermore, Moorehead's wall map cannot be found and neither Moorehead's nor Mill's archives contain any locational data on sites. There is,

therefore, no known systematic index of sites that are shown on the Atlas sheets, although possibly some locational data might be "excavated" in the files of the Ohio Historical Society.

The Annual Reports are extremely informative about the nature of the spatial coverage: as would be expected, the work favors counties with the most highly visible, numerous, and varied burial mounds and earthworks. These are the counties in which Museum staff worked most vigorously, improving their knowledge of archaeological remains around sites being excavated, and developing contacts among local people. Counties lacking prominent sites were not visited as intensely or frequently and it is possible that many mounds, earthworks, and other sites were missed and that site frequencies are underrepresented in them. Conversely, counties with energetic amateurs may have inflated site numbers.

Softening the effect of this systematic bias is the strategy Mills adopted in Period IV when he reports in the Annual Reports how many counties have been completed in preparing the Atlas and the current status of the remaining, unexamined counties. The entire 1910 field season was devoted to survey and by the end of the summer 67 counties had been visited and the maps prepared. Furthermore, publication of the Atlas was delayed until all counties had been covered. Mills thought the coverage was quite good; in the Atlas he writes:

In presenting the Archaeological Atlas of Ohio, the author wishes to state it is as near complete as is at present possible, mindful of the fact that many monuments have been destroyed by a century or more of cultivation of the soil and by other destructive agencies and that many, no doubt, exist that we have no records of. (Mills 1914)

Thus, it would appear that there are no major omissions in the Atlas data--no cluster of spectacular earthworks in a county represented by only one or two common sites in the Atlas. It is possible, also, that the sample is

sufficient for all counties, but simply over-represents certain classes in counties with abundant, highly visible sites. In any case, the Annual Reports contain information on the activities of the archaeologists from which to learn which counties have gotten more attention than others: the bias is controllable.

One element of the project which has an uncontrolled source of bias is site class. The project clearly emphasized mortuary archaeology and is a poor reflection of settlements and other non-mortuary sites. The sample is dominated by mounds, enclosures, burials, cemeteries, stone graves, and effigy mounds which collectively constitute 90 percent. Village sites and rock shelters obviously are underrepresented, as are flint quarries. While knowable, this bias is uncontrollable. There is nothing in presently known sources that gives the criteria for selecting the 345 village sites, 35 shelters, and 109 quarries from the thousands of such sites that are highly visible today and must have been 80 years ago as well and including them in the Atlas.

In a brief, evaluative synopsis of the history of the Atlas, it appears that Warren Moorehead, while he was unquestionably interested in excavation, was drawn to the survey as a powerful tool for learning something about archaeological sites and artifacts. The Annual Reports for his years with the Society are vigorously written and all contain lengthy commentary on the progress of the mapping project. Two of them contain conclusions about the distribution of certain classes and possible time relationships between them. Mills, on the other hand, seems more interested in excavation, having spent the field seasons in Period III conducting major excavations. Comments on methodology, goals, and results are rare from Mills and it would seem that time spent on the project between 1909 and 1914 was given because it was requested by the Society's

Executive Committee. Mill's disinterest is apparent in the Atlas itself and the Annual Reports. He knew what he wanted to do in archaeology through excavation by 1900; his work after that rarely includes survey. He promoted the book when it was published but rarely refers to it in his later writing. Similarly, Shetrone rarely mentioned the Atlas in print, and in his Mound Builders (1930), the most use he makes of it is to show the state map of earthwork distribution. Never-the-less, both Moorehead and Mills insisted on site verification and it is possible that the Atlas can be regarded as a¹ accurate reflection of the relative number of some kinds of sites in a given Township or County. Most specific site locations in the Atlas are in error, a result of the transference of "dots" from map to map and of the two-color printing process. In spite of this shortcoming, the distributional data for certain site classes have research potential, if the spatial and site type representation biases are taken into consideration.

THE ATLAS AS A SOURCE OF DATA

If the above characterization of the Archaeological Atlas of Ohio is correct, and the historical analysis is accurate, it would appear that his volume is a source of useful distributional data and of information on the history of archaeology in the eastern Midwest. An archaeologist would be foolhardy to try to use the Atlas as a guide to site locations or to suppose that a site had been destroyed because nothing can be found at a location shown on the map. On the other hand, the data appear acceptable for estimates of the

probability of site discovery geographically and environmentally. They should be useful also in estimating the degree of site loss in the 70 years since the Atlas was published.

Historically, the Atlas is a genuinely unique accomplishment. It represents a daring attempt to try something new and its goals were persistently sought for 20 years. Along with the paper trail of reports and other documents, the Atlas contains useful information about who was doing what, where, and why. In an indirect way it reveals something of the flavor of the Moorehead-Mills tradition of archaeology.

CONCLUSION

This belated review of William C. Mills' Atlas of Ohio Archaeology suggests that the Atlas should be taken seriously as a controlled sample of certain classes of sites, but that it is virtually worthless as a source of specific locational data. The absence of accurate, specific geographic coordinates restricts its potential use. On the positive side, however, included sites appear to have been verified by a field check. Given the difficulty of travel at that time, this was a noteworthy achievement. This investment, however, should pay off today by applying modern analytic approaches to these data and using the results to give some perspective on cultural resource management questions. The cluttered maps do not give a clear picture of site distribution relative to environmental features, but transferring the township counts to a political map of Ohio should permit the analysis of broad patterns of artifact and site distribution. Moorehead hoped that some understanding of Ohio Valley

archaeology would emerge from the survey that he inaugurated. If the present paper is accurate and promotes greater use of the Atlas, his hopes might actually be fulfilled, 90 years later.

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Table 1. The number of recorded Archaeological sites in Ohio for select dates between 1895 and 1914.

Year	Project Year	Total sites	Estimated sites	Number Increase Decrease	Percent Increase or Decrease
Pre 1894		700			
1895	1	3,000	12,000	+2300	+328%
1896	2	2,843	17,000	- 157	- 05%
1897	3	3,292	15,000	+ 449	+ 16%
1898	4	3,472		+ 180	+ 05%
1899	5	3,687		+ 215	+ 06%
1914	20	5,396	<11,000	+1705	+ 46%