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James A. Delle

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Concluding Thoughts on the Finger Lakes National Forest Archaeology Project

James A. Delle

When Robert Ascher (1974) published his famous piece on Tin*Can Archaeology, his intended audience was still unconvinced of the importance of doing archaeology on recently abandoned historical sites. In 1974, historic preservation laws mandating archaeological surveys on federal lands were relatively new, and in the first stages of implementation. The Society for Historical Archaeology was only a few years old, and its practitioners, with a few notable exceptions, were still concentrating largely on early colonial sites on the east coast. In the mid-1970s, caught up in Bicentennial fever, Americans flocked to historical museums like Colonial Williamsburg and Old Sturbridge Village in record numbers, and much time and energy was spent excavating and interpreting the material past of the Thirteen Colonies and the Early Republic. In the midst of all this, Ascher made the case for examining the archaeology of the relatively recent past on sites where familiar objects like tin cans were more likely to be found than chamber pots or kaolin pipes; a "tin*can" archaeology of the "inarticulate," by which he referred to those under-represented in traditional histories. Among the many salient points made in this article, Ascher noted that changes in material culture have been extremely rapid in the past few hundred years. He asserted that "what happened twenty years ago is as far away as something that happened 200 years ago" (Ascher 1974: 13). To illustrate his point, Ascher briefly discussed a survey he had completed on the Hector Backbone, including the very sites analyzed in this volume; he concluded that the archaeological remains of the Hector Backbone "occupy a thin, spread-out section of ground" (Ascher 1974:12).

In the generation that has past since Ascher published his article, the field of historical

archaeology has matured topically, theoretically, and methodologically. At the turn of the 21st century, most historical archaeologists are quite comfortable with focusing their work on the "inarticulate" people identified by Ascher. While in 1974 Ascher was but one of a handful of historical archaeologists focusing on the archaeology of the commonplace—as opposed to the archaeology of great men and events—today, the majority of historical archaeologists recognize the importance of the seemingly mundane. Theoretically, many practitioners have struggled to demonstrate the important role material culture plays in the construction, maintenance, and reconstruction of quotidian social relations. Methodologically, our techniques for retrieving and analyzing archaeological data are continually becoming more sophisticated. This study has attempted to show how these topical, theoretical, and methodological developments in historical archaeology can be brought together in one project, under the twin aegis of a CRM project and a graduate seminar in archaeology.

The Finger Lakes National Forest Archaeology Project has followed Ascher's charges of a generation ago—we have focused our attention on a group of people generally lost to history, the common farmers who worked on, lived on, and abandoned the Hector Backbone. Like all people living in the modern world, the farmers of the Hector Backbone faced social and material realities that changed at lightening speed. This project has attempted to make sense out of the rapidly changing material culture of the series of cataclysmic events that led to the Great Depression of the 1930s, and resulted in large-scale land abandonment in older farming regions in places like central New York. In doing so, we have constructed and used a GIS database to examine how economic shifts occurring in the

capitalist system in the late-19th century impacted small-scale agrarian producers in the Northeast, and has at least hinted at the role the federal government played in removing people from their land and reconfiguring a local political economy. While the government may not have had as explicit an intent of exacerbating rural poverty as has been alleged for the Shenandoah (Horning 2001), both the state government and the Roosevelt Administration implemented policies in central New York that resulted in the eventual abandonment and takeover of hundreds of thousands of acres of farmland. The Finger Lakes National Forest is but a fraction of the New York farmland that came under government control during this period of crisis.

The archaeology of the Great Depression is an increasingly important topic to historical archaeology. As they are now more than 50 years old, all of the sites abandoned during the 1930s can potentially be defined as archaeologically "significant" according to federal guidelines. A generation ago, when Ascher wrote his article and Crane and Perry (1977) conducted their survey of the Finger Lakes National Forest in compliance with federal law, few would have considered the sites significant, save as examples of rural vernacular architecture. Even that was a stretch, as the only surviving features were foundations and cellar holes. Not surprisingly, Crane and Perry were somewhat disappointed to discover little evidence of Native American settlement on the Hector Backbone. Their rudimentary survey of historic sites seems to have been a consolation project, focusing on a topic that held very little interest to any but bottle collectors and other archaeological scavengers. While fulfilling the letter of the law, their report provided a very sketchy record of the cultural resources of the Finger Lakes National Forest with very little analysis of the material they did find. I do not mean to be too harsh on Crane and Perry—they set out to survey over 13,000 acres of land with few resources in a time when the Cultural Resource Management industry was in its infancy. The majority of the sites they rediscovered had been abandoned for less than 40 years, and it would have been difficult given the zeitgeist of the mid-1970s to make an argument that these abandoned farms held much

historical or archaeological significance. No one famous lived on any of these farms and many of the cellar holes could not be confidently dated any earlier than the Victorian era. As Ascher's article illustrated, few even among the community of historical archaeologists felt that any 19th-century site was of much interest, never mind those that were abandoned right before the Second World War. Indeed, why would anyone think that a few abandoned farms held any interest at all?

Fortunately, theoretically inclined historical archaeologists now recognize both the relevance and significance of studying local material manifestations of global economic process. Theory in historical archaeology has come a long way since the days of Ascher's article and Crane and Perry's report. Pioneering studies, particularly in the Northeast, have examined the relationship between local material culture and national and global processes (e.g. Beaudry and Mrozowski 1987; Paynter 1982), and have clearly demonstrated that even the most apparently mundane pieces of historical evidence can be used to interpret the vast changes that occurred on this continent as industrial capitalism evolved. Broken canning jars, an abandoned still, the soles of women's shoes, scattered evidence of patent medicines, deserted cellar holes and derelict barn walls and foundations are corporeal manifestations of how a once-prosperous agrarian community coped with socioeconomic change over the course of a few generations.

Methodologically, computer applications have become common place in historical archaeology. Whenever an academic field is faced with such newly developing technology, its practitioners are faced with several dilemmas. First, of course, is cost. Some commonly used devices, things like laser theodolites, ground penetrating radar, or cesium vapor magnetometers, can cost tens of thousands of dollars. Until recently, the cost of some computer applications, like GIS, made the use of the technology prohibitively expensive for all but the best endowed academic programs and profitable CRM firms. We hope that the methods used in this project, both in the field and the lab, have proven that interesting and timely research can be done on a

limited budget. The field equipment used in the Finger Lakes Archaeology Project cost less than \$500, while the computer application (ArcView GIS) and the computer used to run it together cost less than \$2,500. Cost no longer need be prohibitive to utilizing GIS in historical archaeology. A second, and more furtive dilemma is that of technological determinism. As several of the early articles in this volume have pointed out, GIS was designed to calculate the relationships that exist between geographical and ecological phenomena; it is all too easy to fall into simplistic ecologically determined models using a GIS platform.

As I hope we have demonstrated throughout this volume, there are a number of ways that the material remains located on public lands can be analyzed using GIS to tell a compelling story about the human condition under late capitalism. In the remainder of this article, I would like to review the several ways that GIS has been used in this project to analyze data readily available to most projects in historical archaeology.

Historical and Archival Evidence for Economic Change

Before any evidence for the result of change can be considered, one must accept that change did in fact occur. As Heaton demonstrated, farmers in central New York first benefited, then suffered, as the agrarian economy of the country changed. While it is far too simplistic to merely say that the lives of the people farming Burnt Hill were determined by technological change, it is equally simplistic to deny that technology played no role in the changes that occurred in the region. As Heaton points out, some of the 19th century's most rapidly changing technologies were focused on the transportation of goods from the interior to the seaboard. The construction of turnpikes to remote places like central New York opened settlement in earnest in the second quarter of the 19th century, making Central New York a booming place. By the 1840s the Erie Canal had connected the Finger Lakes Region to ready markets in the Hudson Valley, New York City, and beyond. A good living could be made at farming. The export of wool and dairy products out of the

Finger Lakes region brought cash into the region, and most farmers were able to obtain imported goods at local stores. A wealthy merchant class developed in the cities located on the lakes, land values increased, and the white population of Hector, and the rest of Schuyler County, hit an all-time high. As the railroads opened up better farm land farther west, and the canal system became obsolete, the export economy out of the Finger Lakes region declined and has never fully recovered.

There were simultaneous and equally significant changes in the organization of agrarian production in the United States. The introduction of mechanized farm implements made the mass production of food on large farms in the west both possible and profitable. Farming began to become a much more capital intensive venture. Many older farms in the east, particularly in highland regions like western New England and central New York, could not produce and transport surplus as cheaply as competitors in the west. As Heaton demonstrates, some farmers attempted to adapt to these new cultural and economic conditions by purchasing their neighbors' farms. This strategy proved futile in the long run, as it created a cycle of debt from which many farmers could not escape. Economic hard times, exacerbated by both the Great Depression and the flood of 1935, resulted in land abandonment and the final federal buyout of many of the farms in Hector.

Much of the documentary evidence used to construct this analysis, such as census data, abstracted title chains, etc., is familiar to historical archaeologists. The ability to incorporate such data into a GIS database allows us to link information gleaned from such sources directly to cartographic and archaeological data, making such analysis relatively easy, once data entry is complete.

Settlement Patterns in the Hector Region

Archaeologists have long recognized the importance of settlement analysis in understanding regional phenomena. While settlement pattern studies are not as common as they once were, such regional studies are critical when considering how entire communities reacted to social and economic change.

Wehner and Holmberg clearly illustrate that GIS can be a powerful tool in the analysis of changing settlement systems. There are several ways that historic map data can be integrated into a GIS database. As Wehner and Holmberg point out, these include scanned illustrations of primary sources, and the creation of "pin-maps" or point themes which georeference the location of specific structures or farmsteads in relation to geographic and ecological features (e.g. roads, creeks). Once georeferenced, sophisticated statistical analysis can be conducted to determine patterns in settlement change over time.

By using the Spatial Analyst, an affordable and user-friendly extension to ArcView, Wehner and Holmberg were able to model a trend toward settlement nucleation beginning in the third quarter of the 19th century. This trend coincided with the attempts by some farmers to consolidate their holding into larger farms, reconfiguring the landscape into one of fewer, larger farms, and growing population clusters in villages and rural hamlets. Multivariate statistical analyses are quite easily generated to consider the relationship site location had to features of the ecological and cultural landscapes. To illustrate this technique, Wehner and Holmberg used the Spatial Analyst to calculate the relationships that may have existed between farm location and familiar ecological variables such as slope and distance to water, as well as to cultural variables, such as exiting roadways and the original boundaries of the New Military Tract compartments. Significantly, the clearest trend they were able to observe was a consistent dispersion away from the road system originally laid out along the outlines of the New Military Tract compartments, the one mile square (2.59 km²) units used to carve the countryside up into uniform allotments. The trend over time was to reconfigure house location to conform to the realities of farming upland slopes. In so doing, the forcibly imposed grid of the New Military Tract, while still intact, became less relevant to settlement as time passed. This may in fact represent an abandonment of the ideology of control embodied in the uniform grid pattern imposed by the colonizing Anglo settlers on the landscape when it was still a contested space.

Architecture on the Hector Backbone

Smith and Boyle (this volume) explore the tensions and contradictions inherent in an agricultural system faced with the dilemmas of modernization. As farming became an increasingly "rational" industry in the 19th century, tensions grew between what have historically been called "folk" traditions and "progressive agriculture." It seems clear to most observers that spatial layout and the use of specific architectural forms both reflect and help make manifest changes in modes of production (Delle 1998). If, as we have suggested in this volume, American agriculture was experiencing a period of rapid change in class structure and the organization of production beginning in the later-19th century, it would follow that evidence for the consequences of that transformation should be observable in the archaeological record. Smith and Boyle argue that the most visible manifestation of the conflict between the folk and progressive—architectural style—is most evident in structural details that were erased when the farmhouses and barns on Burnt Hill were razed after federal purchase. Nevertheless, a careful archaeological analysis of the shape and size both of cellar holes and barn foundations can provide clues about how the contradictions between the traditional and modern were negotiated on Burnt Hill.

Using ArcView to generate comparative histograms on the size of cellar holes and barn foundations, and then running multivariate statistical tests on the correlations between these and other variables, Smith and Boyle are able to make some very interesting observations. Chief among these is the correlation they discovered between aggregated farms and the size of house foundation. While it might seem self-evident that people who were able to purchase additional farmland would also own bigger houses, Smith and Boyle discovered that all of the properties that had been expanded in the late-19th century featured small cellar holes, with larger un-cellaried additions. This seems to corroborate Heaton's argument that the pressures many farmers faced to modernize included relatively vast capital outlay. Smith and Boyle's use of GIS to analyze the relationships between acreage, barn and house size, and house expansion evident through foundation walls, indicates that those farmers who tried to make a go of

modern, progressive farming simultaneously modernized their houses through expansion.

Artifactual Evidence

Given the limitations of the project, the Finger Lakes Archaeology Team was unable to conduct excavations at any site, save 61-1. The potential for using GIS to analyze artifact assemblages is thus just hinted at in this volume. As Cuddy demonstrates, the powerful statistical capabilities of ArcView's Spatial Analyst extension allow historical archaeologists to quickly calculate artifact densities. This information can be further analyzed to determine correlations between cultural variables, expanding the potential of GIS as an archaeological tool. One could easily use this capacity of the application to compare artifacts recovered from distinct features on a single site, or, as we did, to compare assemblages between sites within any region defined by the user. As Six et al. demonstrate in their consideration of the artifacts recovered during this project, one of the strengths of using GIS is the user's ability to combine different classes of data into a single database.

Conclusion

While this project was limited in several ways by time and resources, it is my belief that the Finger Lakes National Forest Archaeology Project succeeded in reaching its objectives. As is evident from this volume, the students that participated in the GIS seminar at NYU—none of whom had prior experience with GIS—were able to grasp the potential of this burgeoning technology. Using a CRM project as the centerpiece of the seminar proved invaluable; not only did the US Forest Service acquire an updated and flexible inventory of sites, but it now has an active database which can be—and is currently—used by other researchers. Not only will the location of sites be much more accessible to the present and future staff of the National Forest, but the public interpretation of this space has been made much richer given the accessibility of all the various documentary, archaeological, and cartographic data brought together by this project.

On a more esoteric level, this project has been able to use GIS as a tool in aiding our

analysis of how the changing political economy of the United States impacted people living on the Hector Backbone and working the farms on top of Burnt Hill. Their stories are but a few of the millions that emerged out of the Great Depression, many of which are so much richer when put in a regional or global context. We hope that this project will become just one in a series of published studies on the archaeology of the Great Depression.

Although it has been available for nearly two decades, GIS has been a woefully underutilized tool in historical archaeology. We hope that this soon will be an obsolete observation. Where it once took a computer expert to run GIS, today, given the development of Windows-based working environments, even a person with rudimentary computer skills can easily learn how to use GIS. In years to come, GIS will be a standard tool used to manage and analyze data. We hope that through this study we will inspire other historical archaeologists to use this technology, and to do so creatively. Given the wealth of data available for even the most obscure historical sites, those who think creatively about how the technology can be used will be liberated from using GIS merely to calculate locational models for sites whose location is already known, or is not constrained by predictable ecological variables. It can, and has, been used to analyze cultural data in concert with, and independent of, ecological data. The possibilities are as endless as the imagination of the historical archaeologists who use GIS.

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James A. Delle

Department of Anthropology and Sociology
Kutztown University
Kutztown, PA 19530
(610) 683-4243
delle@kutztown.edu