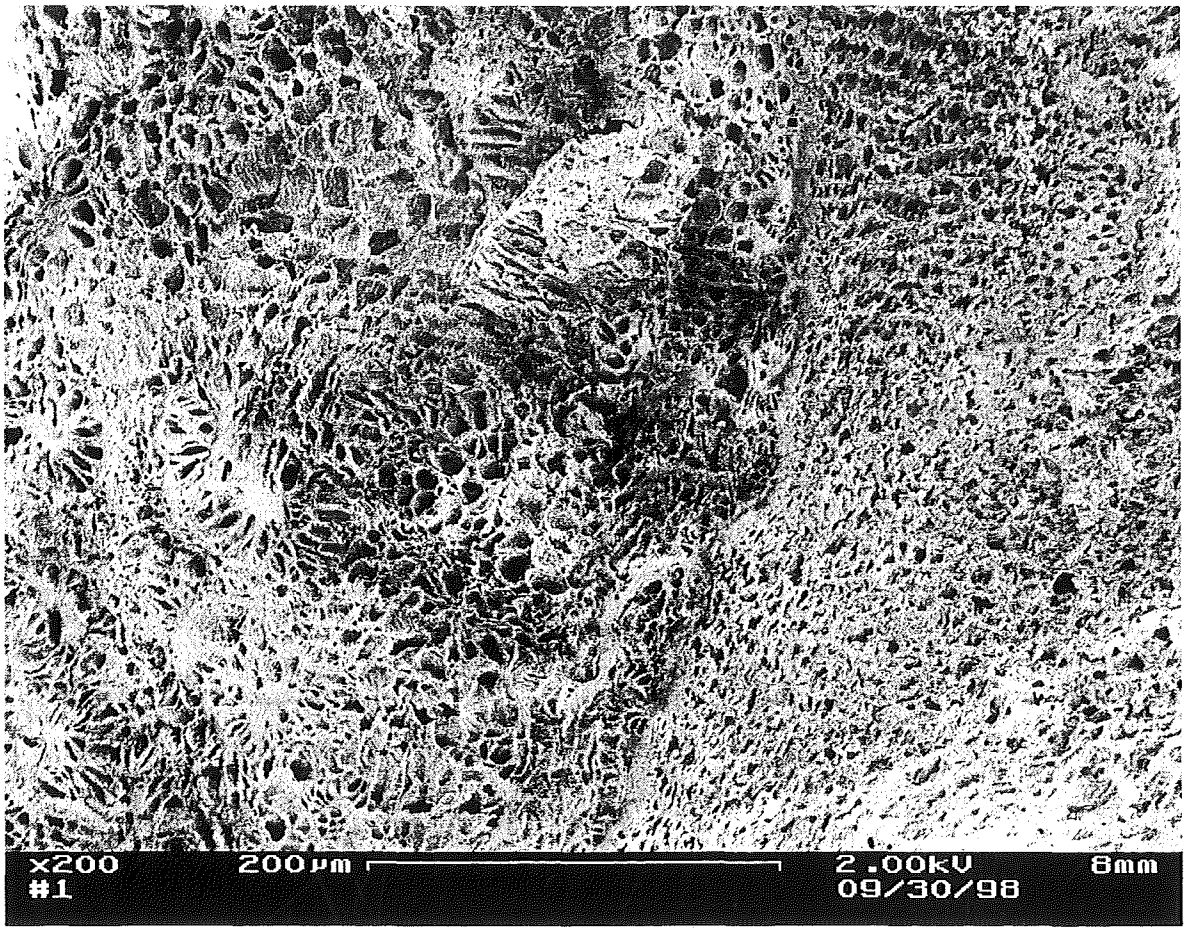
CNEA

Conference on New England Archaeology

NEWSLETTER

Volume 23 April 2004



SEM micrograph of *Cyperus esculentus* (nutsedge) rhizome, photo by D. Perry

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2003 - 2004

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CONFERENCE ON
NEW ENGLAND
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NEWSLETTER

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Archaeology and Technology in the 21st Century

Contributed commentary by Brian D. Jones
Mashantucket Pequot Museum

The topic of technology and archaeology is too broad to adequately summarize in a brief essay. Furthermore, it would be absurd, if not vainglorious, of me to attempt to discuss high-tech and hard-science methods that are beyond my limited realm of experience. I will therefore limit this discussion to the use of scientific technologies in archaeology with which I have had some degree of at least indirect exposure. I will also limit myself to methods pertinent to the archaeology of New England. These include X-ray fluorescence (XRF) and Neutron Activation analyses for use in materials sourcing, thermoluminescence dating, the use of scanning electron microscopy in plant identification, and sub-bottom profiling and related methods used in the discovery of inundated archaeological landscapes. I will wrap up with a short exposition regarding science and the social scientist. I claim no expertise in any of these methods or topics, but feel qualified to summarize each in a general way and to make suggestions regarding data collection methods and precautions for the field where applicable.

I. Material Sourcing Based on Element Identification

Raw material sourcing using complex high-tech devices is not a new thing, even in the relative backwaters of northeastern archaeology. Barbara Leudkte's analysis of Great Lakes chert sources based on trace element analysis in the late 1970s broke ground for analysts closer to home (Leudtke 1978, 1979). These included Kuhn and Lanford, who in 1987 used XRF to acquire early, if somewhat rudimentary, data that provided a means to differentiate three Hudson Valley chert sources based on the relative abundance of four trace elements (Kuhn and Lanford 1987). In the mid-90s, Jonathan Lizee (UCONN) completed a dissertation focused in large part on data acquired through trace element analyses on aboriginal ceramics (Lizee 1994). Lizee summarized his collaborative work with Hector Neff and Michael Glascock of the Missouri University Research Reactor (MURR) in *American Antiquity* (Lizee et al. 1995). This study used Neutron Activation Analysis (NAA) to establish absolute parts per million data for 28 elements from 70 archaeological samples. Lizee was able to relate the results of clustering observed in ceramic paste composition to distinct Pequot and Mohegan settlement regions. Importantly, the separation of the ethnic groups observed in the use of distinct clay sources was not as evident in the ceramic stylistic classification system (Hackney Pond vs. Shantock).

Since that time, O. Don Hermes (URI) and Anthony Philpotts (UCONN) have worked with archaeologists to use XRF to source lithics by identifying trace element signatures. One of Philpotts' analyses focused on hornfels with possible sources in New Jersey and the central Connecticut River valley (Tryon and Philpotts 1997). Sourcing such "soft" materials has its limitations because of the often severe effects of chemical weathering in the soil. In fact, as a graduate student, I heard Philpotts once declare that the samples he had recently run could not be chemically differentiated from the surrounding soil matrix—in other words, the flakes examined had essentially turned into dirt!

Hermes' work has focused largely on rhyolite sourcing. He, Duncan Ritchie, and Barbara Luedtke were able to match archaeological samples to particular quarry outcrops of a variety of southern New England rhyolites and felsites (Hermes and Ritchie 1997a, Hermes et al. 2001, Luedtke et al. 1998). Hermes also established that artifact samples from the Neponset Paleoindian site in southeastern Massachusetts included local as well as distantly-derived materials similar to those common to the Israel River

Paleoindian complex in northern New Hampshire and distinct from the nearby well-known Mount Jasper source in Berlin (Pollock and Hermes 2001).

Importantly, Hermes used non-destructive XRF analysis to circumvent the need to grind artifacts into fine powdery samples (Hermes and Ritchie 1997b). I recently provided Don with 12 diagnostic rhyolite artifacts from the Mashantucket Reservation. Using the non-destructive method, he was able to characterize these samples based on 10 elements. When the data are overlain on a plot depicting rhyolite sources based on Zirconium and Niobium (based on Hermes and Ritchie 1997a), it becomes evident that the materials analyzed can be traced to the Wamsutta (Attleboro) and Lynn-Mattapan sources (Figure 1). Don recently told me that his new state-of-the-art XRF analyzer is now up and running and he looks forward to further work with New England archaeologists. Though he has specialized on rhyolite sources, the XRF method can be applied to a wide variety of materials. Important future dissertation topics might include the characterization of quartzite quarries in eastern Connecticut and Massachusetts or the characterization and sourcing of 18th-century red earthenwares in New England.

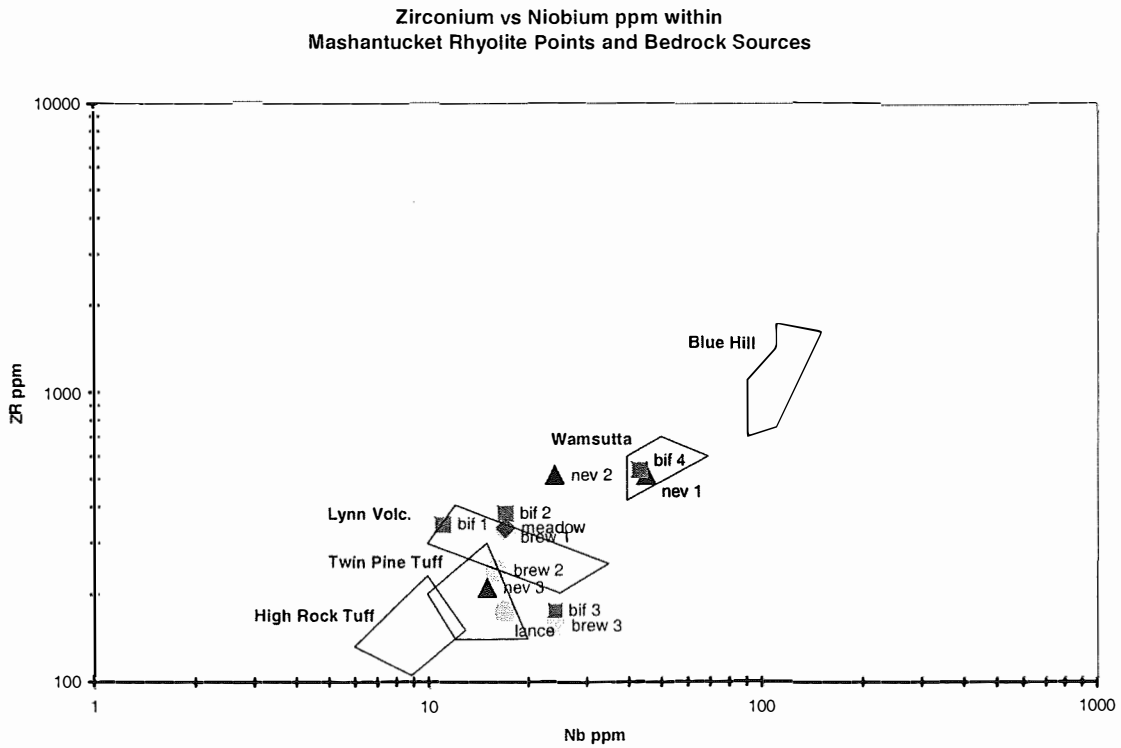

Figure 1: Mashantucket samples and known rhyolite sources plotted in log scale of parts per million (ppm), Zirconium vs. Niobium. Most samples cluster within the Lynn and Twin Pine sources of Lynn-Mattapan Rhyolites, although there is notable variety within these source areas. Nev 2 is likely part of the bif 4-nev 1 cluster (based on a Barium-Zirconium plot), although it falls outside of the typical variation of the Wamsutta (Attleboro) felsites. Rhyolite source polygons are based on approximations from Hermes and Ritchie 1997a (bif = bifurcate, nev = Neville, brew = Brewerton, meadow = Meadowwood, lance = untyped lanceolate).

II. Recent Experiments in Thermoluminescence Dating at UCONN

About the time Lizee and Levine were completing their dissertations, I had the opportunity to work with Cynthia Peterson in her thermoluminescence (TL) lab at the Physics Department of UCONN. Peterson had performed TL dates on some aboriginal ceramic fragments from the Cooper site for Kevin McBride in the 80s. I had read that TL dating of flint was being applied to Old World Paleolithic sites (e.g. Aitken 1985, Valladas et al. 1988, Mercier et al. 1995) and worked with Peterson to modify her ceramic methods for use on thermally-damaged chert flakes from the Late Paleoindian Hidden Creek site. We worked with some relatively crude, if technically challenging, equipment and were forced to make some estimates important to the calibration of the date from our samples. Principal among these was the estimate of background radiation over the last 10,000 years. Lack of sensitive detection equipment meant we had to estimate the rads-per-year of background radiation in the sediment, based on values provided by town-by-town control surveys used by the Nuclear Regulatory Commission. Results of these experiments were mixed. Ages produced by the method were typically in the neighborhood of 7,000 years, but varied by sample. This suggested a clear archaeological rather than geological signature, but was a poor match to the estimated 10,000 or so calibrated calendar years age of the site.

In the past year, I had the opportunity to supervise two undergraduate students (Joe Samolis, CCSU, and Kristy Dahlstrom, UCONN) in some additional experiments at Peterson's lab. Our goals were twofold: to test the TL method on burned quartz artifacts from well dated horizons at the Early Archaic Sandy Hill site, and to try dating fire-cracked gabbro and gneiss from the same context. By this time Cynthia had new equipment, including a TL dosimeter linked directly to a PC, which freed us from failed plotter pens and trips to the mainframe. Again, however, results of the experiments were somewhat mixed. We were unable to get consistent age measurements between samples; although some measured more than 8,000 years old, most were in the 5,000 year range.

I think the root of the inconsistencies lies in the complicated sample preparation methods (which include working under red light), and, in particular, the potential for human-introduced error when dealing with extraordinarily small sample sizes (one to two milligrams). The generally younger than expected dates may in large part be a function of a poor working estimate for the background radiation level. In particular, my concern is that the control data we have today reflect modern, post-atomic-bomb test conditions, and may not be good indicators of conditions over the last 10,000 years. If the actual background levels were about 30% lower (e.g. 0.20 rather than 0.28 rads/yr), these dates would be much closer to their expected values. Another potential problem can occur when an artifact is re-exposed to sunlight, which will result in the partial emptying of trapped electrons, less luminescence when reheated in the lab, and a date that is too young. On the positive side, although some processing and collection methods may need to be ironed out, the fact that both the quartz and the fire-cracked rock returned dates of archaeological age, rather than geological, is promising.

Recently, Optically Stimulated Luminescence (OSL) has taken precedence over its cousin TL (Aitken 1998). The concepts and methods are similar, but OSL samples must have been exposed to light (rather than heat) and rapidly reburied. The method measures only light-sensitive signals and potentially provides less "noisy" dates. OSL dating is usually applied to fine-sediment particles, but larger, transparent lithics such as crystal quartz should be possible to date as well. An important message for anyone wishing to collect samples for potential TL or OSL dating is that they must be kept out of the sunlight from the moment they are excavated. Immediate wrapping in aluminum foil is a necessity. We should expect that OSL dating of sediments will become more and more commonplace for archaeologists in the coming years. It is a dating method with which we are likely to become increasingly familiar.

III. Scanning Electron Microscopy Identification of Charred Plant Remains

Methods for the identification of charred vegetative plant tissues are relatively new. Jon Hather pioneered these while at the University of London in the late-80s (Hather 1988, 1991, 1993). Vegetative tissues are composed largely of parenchyma cells that store nutrients for the plants. While found in nearly all parts of the plant body, these cells are most numerous in roots, tubers, and rhizomes. The identification of charred vegetative tissues from archaeobotanical samples is grounded in the recognition of the diagnostic features of such tissues under both low and high power microscopy. Under low-power microscopy, vegetative tissues are generally amorphous in shape and featureless, lacking the grain typical of wood charcoal. The identification of diagnostic cellular structures requires deep familiarity with plant anatomy, as well as higher levels of magnification than are generally employed for the identification of macrobotanical remains.

David Perry, one of Hather's students, has applied these methods to both European Mesolithic sites (Perry 1999, Price et al. 2001) and, recently, sites at Mashantucket (summarized by Perry and Jones 2002). Perry has examined samples from 22 radiocarbon-dated contexts and historic features using the methods described above. Perry's analysis of vegetative plant tissues from datable prehistoric contexts has resulted in the identification of over 500 tissue fragments of 33 plant taxa. The most common taxa identified from prehistoric contexts include cattail (*Typha*, 29%), wood fern (*Dryopteris*, 14%), nut sedge (*Cyperus esculentus*, 8%), water plantain (*Alisma*, 7%), cow parsnip (*Heracleum*, 5%), bulrush (*Scirpus*, 4%), bur-reed (*Sparganium*, 4%), water lily (*Nymphaceae*, 4%), and Solomon's seal (*Polygonatum*, 3%). These identifications are markedly different from those typically made from prehistoric features, which have focused on macroscopically identifiable hard-plant tissues, such as seeds and nutshell fragments. Importantly, Perry has documented a similar range of use of wild taxa from sites dating to the post-contact period on the Pequot Reservation. Most common among the over 550 historic-era samples identified are yellow nutsedge (12%), Indian cucumber (*Medeola*, 10%), cattail (8%), and unidentified sedges (7%).

These data have profoundly affected our understanding of Native subsistence in the region. They have even prompted me to rethink some artifact classes, such as the quartz micro-cores from the Early Archaic Sandy Hill site, which I now hypothesize may have been used to produce chips for grating boards used to process wetland tubers. Such implements were in common use among manioc-growing peoples of South America until the introduction of metal tools. The detailed knowledge of plant anatomy needed to perform SEM-based identifications means that those interested in pursuing this field of study must be prepared for a long-term commitment. I strongly recommend that we push students in this direction to insure that our future understanding of paleoethnobotany and subsistence practices in the region will be grounded in a diverse and representative set of data.

IV. Underwater Landscapes and Wet Site Archaeology

In 2000, Kevin McBride joined Robert Ballard, Dwight Coleman (Institute for Exploration), Doug Levin (University of Maryland Eastern Shore), and Elazar Uchupi (Woods Hole Oceanographic Institute) in a long-term project to explore the potential recovery of prehistoric archaeological sites on the inundated shelf of southern New England. Ballard and McBride actually explored the shelf personally onboard the Navy's nuclear NR1 research sub, looking for intact landforms. Since then, work has focused on the detailed examination of the seafloor south of Block Island, where oceanographers have been aware of relict barrier beach and lagoon formations since the 60s (McMaster and Garrison 1967). This has included high-resolution sub-bottom profiling using a Datasonics Chirp high-frequency seismic profiler and

selective vibracore drilling of significant-looking landforms. Data collected to date indicate the presence of a relict stream channel and lagoon area that appear promising as potential prehistoric residential areas. Dates on recovered shell fragments from depths between about 1.5 and 4 meters beneath bottom sands are of Late Archaic age. Intact buried terrestrial surfaces have not yet been located, but this search will continue, possibly westward into the less eroded but deeply-silted areas of Long Island Sound.

Daria Merwin (SUNY Stony Brook) and David Robinson (PAL) have also implemented important explorations into the prehistoric use of inundated coastal regions (Merwin et al. 2003). Merwin focused on an area off the central New Jersey coast where Early, Middle, and Late Archaic artifacts were recovered by dredging operations. Robinson's work is part of CRM-based efforts through the Public Archaeology Labs to test the Boston Harbor area for potential prehistoric site locations. This is a critical new direction for CRM efforts and marks an important realization by regulatory agencies for the need to include inundated land surfaces in their planning. Importantly, all of these studies mark a growth in standard underwater reconnaissance efforts that have, until recently, been aimed primarily at shipwrecks.

In the coming decade, it is possible that archaeologists in the Northeast will excavate significant prehistoric underwater sites. I think it is important to keep in mind wet sites in salt marsh and interior wetland settings as well. These site settings have their own technological demands on excavation, including the use of multiple pump arrays and methods to stabilize deeply-exposed excavation walls. I am inspired by the work of Alfred Rust in northern Germany in the 1930s. Rust's excavations utilized pumps in circular arrays to drop water tables in interior bog settings, where he uncovered magnificently preserved remains of caribou and hunting paraphernalia (Rust 1978). Recent analysis of some of Rust's original faunal finds has even made it possible to calculate ballistic trajectories and recreate hunt strategies (Bratlund 1991). Danish, German, and English early and middle Holocene wetland sites such as Smakkerup Huse (Price et al. 2001), Starr Carr (Mellars and Dark 1998), and Bedburg-Koenigshoven (Street 1989) indicate that wetlands adjacent to habitation areas were typically used as discard zones and are likely to contain an abundance of archaeological debris. It is probable that similar sites exist in New England and an attempt should be made to search for these settings in light of their remarkable potential for organic preservation.

Final Thoughts

The most important skill for the archaeologist wishing to work with high-tech analytical methods is communication. We must be ready to approach and cooperate with our neighbors in other departments, be they geologists, physicists, oceanographers, or biologists. We need the expertise of those already devoted to and highly specialized in their own fields of study. It is unlikely that any of us can expect to start from scratch and independently become experts in any of these fields. Our colleagues are also better versed than we can hope to be in the relevant mathematics and statistical methods. Our challenge is to develop an inspiring research question, convince others of its merit, and invite them along for the journey. In my experience I have found the experts outside of our own field to be very engaged and enthusiastic about anthropological questions, and generally more willing to give of their time than other anthropologists.

A final word of caution: while there is a need to throw ourselves into new methods, we must be sure to keep ourselves from becoming so seduced by new technologies that we lose sight of our anthropological goals. High-tech instruments and complex statistical methods are enticing because they often seem to provide definitive answers. This is novel to the anthropologist. In fact, Edward O. Wilson has stated that the so-called hard sciences are actually relatively cut and dry–there are incontrovertible and immutable

laws that apply to chemistry and physics. It is the social sciences that he regards as "hard" (Wilson 1998: 183). The study of humans is hard because behavioral flexibility is one of our fundamental survival adaptations, and the remnants of behavioral variability can be extraordinarily difficult to define. Another of our core traits is the drive to explore and constantly monitor our environment. As a species, we have dispersed and adapted to nearly every habitat encountered around the globe. We continue to explore the world around us using evermore complex technological instruments. It is fitting, then, to turn our instruments of exploration on ourselves and to use them to better understand who we were and who we have become. Let us be sure, however, not to lose sight of these goals when provided with the technological gadgetry of the new millennium.

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CONFERENCE ON NEW ENGLAND ARCHAEOLOGY

2004 ANNUAL MEETING

TECHNOLOGY AND THE ARCHAEOLOGIST

Applications of the New and Re-creations of the Old

Saturday, May 8, 2004

9:00 – 3:00

Hosted by the **Mashantucket Pequot Museum,** Ledyard, Connecticut

Pre-registration is **$15.00** (contact Charlotte Taylor at 401-222-4140)

Registration at the door is **$20.00** (does not include newsletter)

Conference participants will receive a discounted rate of $13 to the Pequot Museum, and a behind-the-scenes tour of the archaeology labs led by Brian Jones. Immediately after CNEA's program, James Adovasio of Meadowcroft fame will present a public talk at the museum entitled, "Who are These People? Thoughts on the Peopling of the New World."

See inside back cover for directions to the Mashantucket Pequot Museum and Research Center.

PROGRAM SCHEDULE

8:30 **Coffee and registration**

9:00 **Opening remarks**
Brian D. Jones, Mashantucket Pequot Museum

9:15 **Research on Pre-European Stone and Bone Technologies in New England: Some Examples from Maine**
Richard T. Will, TRC

9:45 **The Application of Bio Medical and Geophysical Technology to Modern Forensic Cases: Virtual Assessment, Facial Reconstruction, and GIS Technologies**
Ann Marie Mires, Massachusetts Office of the Chief Medical Examiner

10:15 **Break**

10:40 **Micromorphology: A Geoarchaeological Technique in New England Archaeology**
Trina L. Arpin, Boston University

11:10 **Through the Looking Glass: Technology's Role in Underwater Archaeology**
David S. Robinson, PAL

11:40 **Questions and comments**

12:00 **Lunch**

1:15 **Business Meeting**

1:30 *The afternoon will entail three simultaneous demonstrations or tours in two half-hour slots.*
&
2:00 **Behind-the-Scene Tour of the Mashantucket Pequot Museum and Research Center**
Brian D. Jones, Mashantucket Pequot Museum and Research Center

Preserving Historic Resources for Tomorrow by Recording Them with Today's Technology
Ben Ford, PAL

Experimental Archaeology: Flintknapping Demonstration and Discussion
Tim Ives, PAL

Mashantucket Pequot Museum will present a special public program 3:00–5:00
Conference attendees are encouraged to attend.

Who are These People? Thoughts on the Peopling of the New World
James Adovasio

ABSTRACTS

Research on Pre-European Stone and Bone Technologies in New England: Some Examples from Maine

Richard T. Will
TRC

In New England, technology studies of Pre-European material cultural offer enormous potential to answer a wide range of cultural-historical questions. Technology can be defined as the knowledge used to create items of material culture. Controlled experimentation provides the empirical data to understand the techniques used to translate that knowledge into items used in everyday life. Experimental studies of stone and bone tool manufacture have assisted in developing chronologies otherwise dependent on typological analysis. Oftentimes it is the residue from tool manufacture, rather than the finished tools, that provides the most information pertaining to archaeological site use and function. Several case studies from Maine involving lithic and bone analyses are used to illustrate these conclusions.

The Application of Bio Medical and Geophysical Technology to Modern Forensic Cases: Virtual Assessment, Facial Reconstruction, and GIS Technologies

Ann Marie Mires, Ph.D.
Massachusetts Office of the Chief Medical Examiner

This paper presents three applications of technological innovations to modern forensic cases. The first application involved the use of three-dimensional (3-D) CT scans to "virtually" assess mummified remains from Egypt. This virtual assessment was used to explore the second application of facial reconstruction using 3-D modeling exclusively in a computer-generated environment. The Museum of Science (MOS), who hosted the project, was interested in the accuracy of both the virtual assessment and the facial reconstruction technique. The MOS provided us with a challenge. They provided CT scans of a living person's skull, Patient X, and asked us to follow the same process. At the same time that we unveiled the mummy, we also revealed a reconstruction of Patient X, who then stood up in the audience. The likeness was very accurate, except for the hair style, which is typical if no hair is recovered. We then started to apply this computer facial reconstruction technique to several modern forensic cases where the identity of the individual had eluded us. Three examples of casework will be presented where a computer image was generated in an attempt to secure identity. These will be shown along with traditional facial reconstruction sketches, which were also initiated, and actual photos of the decedents. The application of these types of technologies adds an important dimension to our traditional tool kit. Anthropological methodologies that have been tested and developed through research can now be expanded and applied through the cutting edge of technological innovation.

The third application of technology involved the use of GIS to assist in the location of clandestine human remains. An article of clothing was discovered in a wooded area. The clothing matched an item belonging to a person who had been missing for three years. As more items were located, they and any skeletal elements were added to a grid matrix using GPS instruments. The resulting map began to indicate the source of the skeletal remains, which had been scattered over the hillside by a scavenging carnivore. After a period of three weeks, over 50 acres were covered and the site where the body had

initially been deposited on the surface was located. The location of the original "drop" site allowed crime scene specialists to process the site for trace evidence, allowing for the possibility of linking the crime to a potential suspect.

This "location and recovery" technique was then applied to cases of unidentified skeletal remains and missing individuals from the last twenty years in Massachusetts. The locations of unidentified clandestine remains were mapped using GIS and compared to sites where human material was recovered and identified. These data were analyzed using demographic and spatial variables including geographical landmarks, distance to roads, indoors vs. outdoors, buried vs. surface, etc. Interesting patterns in the data emerged that may be useful predictors in "cold" cases. This type of modeling has allowed researchers to revisit "cold" cases and apply systematic testing techniques to ascertain if an original deposit of human remains was somehow missed or overlooked by searchers.

Micromorphology: A Geoarchaeological Technique in New England Archaeology

Trina L. Arpin
Boston University

Micromorphology, a technique for studying thin sections of sediments and soils, was borrowed from pedology more than 30 years ago. It has been used in Europe and the Old World to address a variety of archaeological questions, including identifying occupational floors and surfaces, sourcing constructional materials, interpreting depositional processes, and separating depositional from post depositional events. The technique is, however, poorly known and little used in North America in general, and in historical archaeology in particular. Drawing on examples of its application in New England and at historical and prehistoric sites elsewhere, this paper describes the application and basic assumptions of the technique and demonstrates its potential to address questions in historical archaeology.

Through the Looking Glass: Technology's Role in Underwater Archaeology

David S. Robinson
PAL

"You can really have no notion how delightful it will be
When they take us up and throw us, with the lobsters, out to sea!"
-Lewis Carroll, Alice's Adventures in Wonderland (1865)

Like the shimmering mirror through which lay the "Wonderland" in *Alice's Adventures*, the reflective waters of our world obscure, and thus, preserve, elements of our past that without technology would forever remain the stuff of imagination. Simply put, without technology, archaeology underwater would be an impossibility. Technological advances made within our lifetimes have opened up to us the submarine vistas of a vast unexplored world that is at once alien and familiar. This paper describes the current technologies utilized by today's underwater archaeologists to transcend, like Alice, the limitations of our physical selves to locate and study historic shipwrecks and prehistoric archaeological sites submerged beneath the waves of the "Looking Glass."

Preserving Historic Resources for Tomorrow by Recording Them with Today's Technology

Ben Ford
PAL

Within the past decade GIS (geographic information system) and GPS (global positioning system) have become powerful buzzwords in archaeology. This technology has begun to be viewed as essential in modern archaeology, but not everyone is entirely sure why. The purpose of this hands-on session is to demystify the technology, while providing a forum for experienced and novice users to exchange ideas. Experienced GIS and GPS users will be encouraged to exchange ideas with other users and to offer their expertise to novices. Novice users will have the opportunity to experiment with the hardware and software, view examples of projects completed with the technology, and gather information that will help them choose the right tools to perform their own digital mapping.

Experimental Archeology: Flintknapping Demonstration and Discussion

Tim Ives
PAL

Tim Ives will provide a hands-on discussion of ancient technologies from the perspective of experimental archaeology. The primary demonstration topics are flintknapping and the construction of atlatl-and-dart systems, but the presenter will also indulge in his interest in the didgeridoo, an aboriginal Australian musical instrument. These technologies are presented in a way that is immediately accessible to the curious, and as an effective means of establishing a deeper and more personal familiarity with material culture as it is engaged in the archaeological record.

CURRENT RESEARCH

GENERAL

A Testimony to the Late Dr. Elizabeth Alden Little

Mary Lynne Rainey, PAL

On August 12, 2003, Dr. Elizabeth Alden Little ('Betty') passed away in the company of her husband, children, and grandchildren at her home in Lincoln, Massachusetts. She was 76 years old, and in the past year of her life was breaking new ground on an international scale applying stable isotope analyses to the study of Native American diet during the Late Woodland Period. As a Doctor of Philosophy in Physics (1954) and Master of Arts in Anthropology (1985), Betty was uniquely qualified to blend her scientific expertise with anthropological and archaeological method and theory. She was an undaunted researcher and prolific writer, with over 70 publications and an extensive resume of professional titles and affiliations.

Since 1973, Betty voluntarily served as an Archaeologist, Co-Field Director, Director of Research, Vice-Chairman, Chairman, Curator of Prehistoric Artifacts, and Research Fellow for the Nantucket Historical Association's (NHA) Archaeology Department. Under the auspices of the NHA, a series of scholarly manuscripts were developed entitled *Nantucket Algonquian Studies* #1–16, and *Nantucket Archaeological Studies* #1–14. These reports cover a wide range of topics pertaining to Nantucket's prehistory and history, and represent years of exhaustive primary documentary research, archaeological investigations, site visits, informant interviews, ecological studies, and collections research on Nantucket. In addition to her NHA services, Betty volunteered considerably with the Massachusetts Archaeological Society, since 1979, acting as Trustee, Chairman of the Research and Education Committee, President, and for ten consecutive years, the Editor of the *MAS Bulletin* (1986–1996). Since 1996, she maintained a steady publishing career as Research Associate of the R. S. Peabody Museum of Archaeology.

For anyone engaged in the business of New England archaeology for any length of time, reference to Betty's published work is inevitable. Although she was a specialist in Nantucket history and prehistory and Native dietary studies, she also produced countless papers on radiocarbon-dating, a subject matter near and dear to all of us. Recognizing these incredible accomplishments, I would like to add a personal note. I count among my most cherished twists of fate, the day back in 1994 that I was assigned my first archaeological project on Nantucket as a supervisor for the Public Archaeology Laboratory, Inc. (PAL). It was in 1995 that I first met Betty, and from then after I had the exquisite privilege of knowing her. I consulted with her regularly and we exchanged archaeological information and new ideas at every opportunity. It was through that common link that I came to realize how lucky I was, because in addition to intelligence, Betty Little possessed and radiated every human quality that a person of good mind and heart could wish for. You could not help but be pulled in by her positive enthusiasm, relentless questioning, and drive for empirical answers. Her exceptional wisdom and knowledge was always tempered with an unpretentious demeanor, maternal warmth, and true grace. She was a gem.

In honor of Dr. Elilzabeth Alden Little's vast contributions to the advancement of New England archaeology, the Massachusetts Archaeological Society and Nantucket Historical Association are co-sponsoring a volume that will include biographical information, new manuscripts thematically linked to her research,

her final manuscript, and a bibliography of her publications. With the support of her husband and family, the project is moving forward and the volume can be expected for circulation in early 2005.

CONNECTICUT

Some Thoughts on Detecting Mid- to Late-Eighteenth Century Native Sites in Southern New England

Brian D. Jones, Mashantucket Pequot Museum and Research Center

Reconnaissance testing over a 100-acre hilly section of Mashantucket Pequot Reservation has resulted in the location of numerous mid- to late-eighteenth century "findspots." These typically consisted of the presence of single fragments of English yellow slip-glazed earthenware, white English salt-glazed stoneware, creamware, case-bottle glass or quahog shell. Upon closer, five-meter interval testing, most of these findspots could be better described as very low-density artifact scatters. Even under data recovery, some of these sites were found to contain overall artifact densities below four per meter. Nevertheless, consistent mid-eighteenth century diagnostics and occasional "domestic" artifacts, such as knife fragments or the rare pewter button or glass bead, suggested that most of these sites were probably the locations of simple domestic structures, such as wigwams or small earthfast framed houses. In no case could evident surface remains of dwellings be associated with these locations, not even low-lying sill lines. Often, however, haphazard stone piles were found in the general vicinity. It is assumed that these piles were the remnants of past field-clearing activity and minimally represent episodes of rather focused human activity on the landscape.

The point I wish to emphasize here is simply that some eighteenth-century sites are about as difficult to detect during initial reconnaissance, as are small Paleoindian sites. In other words, they are typically quite small, with a core artifact-bearing zone of less than 100 square meters, and the overall artifact density may be quite low. When these factors are combined, the overall probability of finding such sites based on the occurrence of a single artifact in a 50 x 50 cm test pit is sadly low, especially at test pit intervals greater than five meters. This means, as in the Paleoindian case, we need to take those single artifact finds seriously, even when surrounding pits as close as five meters away appear sterile. Until one or two square meters are excavated it may be difficult to assess the potential meaning of an apparently stray find. In one case, after excavating about 400 test pits at a five-meter interval, artifacts were found to be dispersed across a broad upland terrace, often with 30 or more meters between findspots. Seventy-seven positive test pits contained just 128 artifacts (an average of 1.66 artifacts per pit) across this 100 x 100 m area. Earlier testing of this landform at roughly 20-meter intervals had resulted in the recovery of a single creamware sherd. I now believe this area could represent the location of an entire mid- to late-eighteenth century Pequot farming community, possibly consisting of a dozen or more wigwams or small framed structures and their associated gardens and fields.

MASSACHUSETTS

Massachusetts Board of Underwater Archaeological Resources

David Trubey, Massachusetts Board of Underwater Archaeology

In 2003, the Massachusetts Board of Underwater Archaeological Resources continued to work with its 12 permittees researching a variety of archaeological sites ranging from potential submerged Native American sites to late nineteenth-century shipwrecks. As part of its regular responsibilities, the Board reviewed numerous marine archaeological surveys, the majority of which were related to utility projects and dredging operations.

The Board continues to work closely with the staff of the Stellwagen Bank National Marine Sanctuary in providing technical assistance in the field and to formulate policy regarding shipwrecks within the Sanctuary. Board staff members participated in an expedition to the site of steamer Portland in September, and are currently part of the Sanctuary's Maritime Archaeology Working Group. The group has been meeting since November 2003, with the task of protecting the Sanctuary's submerged cultural resources and managing public access.

The Board participated in a number of outreach activities over the past year, including presentations at the Society for Historical Archaeology Conference and at the Boston Sea Rovers Annual Underwater Clinic. The Board also co-sponsored a mini-symposium featuring lectures by three local marine archaeologists as part of Massachusetts Archaeology Week

New Bedford Harbor Superfund Site Archaeological Investigations

Joseph Waller, PAL

PAL recently completed the latest phases of archaeological investigation within the New Bedford Harbor Superfund Site in Bristol County, Massachusetts. Cultural resources investigations performed under the direction of Joseph Waller and David Robinson included archaeological survey of approximately six acres of intertidal marsh and mudflats and supratidal uplands along the east bank of the Acushnet River. The survey resulted in the identification of the pre-Contact Native American "Osprey Site" in the low-lying upland of southwestern Acushnet. Cultural materials recovered from the site included stone tool chipping debris, unifacial and bifacial tool fragments, as well as, several Susquehanna Broad and Orient Fishtail projectile points. Subsurface investigation also produced an apparent stone-lined roasting platform within the southwestern limits of the site area. The Osprey Site feature and artifact record are interpreted as being the result of overlapping occupations focused on the acquisition of riverine or estuarine resources from the nearby Acushnet River.

New Bedford Harbor Superfund Site archaeological investigations also included a site evaluation of a very small portion of the Swift III Native American archaeological site located in western Acushnet. Archaeological examination at the Swift III site yielded 270 pieces of lithic chipping debris, two pottery sherds, a small quartz scraper, and a stone-lined roasting pit or earth oven. The archaeological record suggests that one or more of the Swift III Site study area occupations dated from the Middle to Late Woodland periods. Together the cultural materials and feature record are interpreted as representing limited exploitation of the riverine/estuarine resources supported by the Acushnet River and not a substantial domestic settlement, despite the ecological attractiveness of the greater area.

PAL Assists National Marine Sanctuary with Maritime Heritage Planning Initiative

David Robinson, PAL

Since November 2003, PAL Underwater Archaeologist, David Robinson, has been a Private-Sector participant in a 12-member NOAA Working Group comprised of National Marine Sanctuary staff and experts and representatives of various state, federal and non-governmental organizations charged with reviewing existing policies and developing new recommendations regarding the future management of submerged maritime heritage resources within the Stellwagen Bank National Marine Sanctuary (SBNMS). Proclaimed to be "an area of special national significance" when designated in 1992 as the 11th of 13 National Marine Sanctuaries in the United States, the SBNMS encompasses an 842-square-mile area of sea floor some 25 miles east of Boston, Massachusetts.

The "gateway" to Massachusetts' maritime commerce, the Sanctuary is crossed by the main shipping lanes in and out of the historic ports of Boston, Plymouth, Salem, Gloucester, and Provincetown. Submerged maritime heritage resources within the Sanctuary include at least 25 shipwrecks, one aircraft crash site, and, potentially, inundated ancient Native American fishing and habitation sites. Among the most historically significant sites located to date within the SBNMS is the shipwreck of the 1890 steamship Portland, lost with all hands during the Portland Gale of 1898.

Conservation of natural and cultural resources within the SBNMS faces numerous challenges, including threats from pollution, potential offshore mineral and gravel mining, at-sea disposal of dredged materials and sewage effluent, and substantial commercial vessel traffic. The impact of trawling and other forms of bottom fishing on the ocean floor, as well as accidental oil spills, are other issues confronting the SBNMS's submerged maritime heritage resources. Key initiatives being addressed during the review process include submerged site inventory and assessment, site access and protection, threats to the environment, and education and outreach. Completion of a revised management plan for the area is scheduled for 2004. For additional information about the issues to be evaluated through this process visit the SBNMS website at http://www.sbnms.nos.noaa.gov.

ROV Technology Proves Effective During Underwater Survey in Boston Harbor

David Robinson, PAL

In August of 2003, PAL and project partner, Ocean Surveys, Inc. (OSI), examined three submerged remote sensing targets located at the site of a charted shipwreck near historic Fort Independence on the edge of the main shipping channel into Boston Harbor. The investigation was performed under the direction of PAL's David Robinson in advance of the planned deepening of Boston's main channel. Completing the underwater survey of a 60,000 square-foot area in the potentially contaminated sediments and low-visibility, high-current, and relatively shallow (40 feet) waters within the busy shipping lane presented unacceptable risks to PAL's archaeological divers. To accomplish the survey while ensuring the safety of its staff, PAL turned to ROV (i.e., remotely operated vehicle) technology to investigate the underwater targets. Using an ROV equipped with state-of-the-art GPS tracking, video, laser measurement, metal detection, and excavation systems that were linked to a topside navigation-control center and a computer recording the ROV's underwater position in real-time, PAL was able to perform a systematic survey along pre-planned parallel transects, video-document, conduct sub-surface archaeological testing, and map precisely the nature and extent of each of the three targets in just eight hours. A similarly comprehensive survey performed by divers would have been impossible to complete in anything near this amount of time. Although the targets were not an historic shipwreck, valuable knowledge was nonetheless gained during the investigation. Use of an ROV for this study proved to be a safer and more efficient, accurate, and cost-effective method of surveying under challenging environmental conditions than the human alternative. While ROVs are more often equated with and used for high-end, deep water, research applications, their ready availability and proven effectiveness during PAL's underwater archaeological survey in Boston Harbor indicate ROVs should be considered as a viable option for future CRM underwater archaeological investigations of this nature.

The Evergreens in Amherst

T. Binzen, UMass Archaeological Services

An archaeological survey was conducted prior to proposed property improvements at the

Evergreens, historic home of Emily Dickinson's brother and sister-in-law, in Amherst. The house was built in 1856 on a lot adjacent to the Dickinson Homestead, and is a contributing resource in the Dickinson National Register Historic District. The testing provided information about the construction of historic landscape features on the property and the fabric of pathways and steps. Machine-assisted excavation east of the house identified footings of a former carriage house, and a pair of small, dense deposits of domestic refuse. These may be investigated during future archaeological research at the property.

Community-Wide Reconnaissance Survey in Bedford

T. Binzen, UMass Archaeological Services

A community-wide archaeological reconnaissance survey is currently being conducted in the town of Bedford in Middlesex County. The survey has recorded and updated information concerning more than 18 Native American sites of the pre-Contact period. More than 30 early industrial, agricultural, and civic archaeological sites of the historic period have been recorded. The survey report will serve as a planning tool for the community in light of the rapid rate of development that is occurring in the town.

Pocumtuck Meadows Native American Site in Deerfield

C. Donta, UMass Archaeological Services

At the location of a new science building in Deerfield, Massachusetts, a Native American site was identified and then examined for National Register eligibility. The site consisted of a hearth, a series of postmolds, and two storage pits in association with Native American lithics, pottery, and some trade items from the early historic period. Approximately 900 Native American artifacts were obtained, primarily dark gray and black chert debitage, but also projectile point fragments, cores, bifaces, perforators, a graver, a whetstone, pottery fragments, and a hammerstone. The approximately 300 historic items include two pieces of kettle copper, two flakes of English ballast flint, olive-colored blown glass, Jackfield-type ceramics, and a large-bore clay pipe stem. The site appears to represent a camp that was occupied by Native Americans in Deerfield after the initial European settlement, probably in the eighteenth century. Although much of the site has been destroyed by previous construction, surviving deposits may yield information relating to the continued presence of Native Americans in Deerfield after decades of conflict.

Native American Sites on Sconticut Neck in Fairhaven

T. Binzen, UMass Archaeological Services

Recent research has been conducted on Sconticut Neck, a coastal promontory that extends into Buzzards Bay. During the Contact period (A.D. 1500–1620), Sconticut Neck featured one of two summer encampments that were occupied by Native Americans in Fairhaven. Sconticut Neck continues to be a place of great significance in Wampanoag tradition. According to a tribal source, its name may be derived from the word Sqot(am) meaning "door" or "gateway," possibly in reference to its location at the entrance to the Acushnet River. The Wampanoags who remained in Fairhaven after King Philip's War (Metacom's Rebellion) occupied a reservation of about one acre on Sconticut Neck. In 2003, site examination surveys for a proposed recreational trail were completed at three pre-Contact Native American sites. The Taber's Brook site produced 24 lithic artifacts from locations where quartz tools were used. Evidence suggests that a short-term, seasonal encampment occurred at the site during the Woodland period. Locus A of the Nasketucket River Site produced 36 lithic artifacts, and Locus B produced 33 lithic artifacts, from small work stations located away from the central portion of the site. The Little

Bay Site produced 590 lithic artifacts, including quartz and rhyolite chipping debris, edge tools, biface fragments and Small and Large Triangle projectile points. It is believed that a long-term occupation occurred at the site during the Late Woodland period.

Riverside Native American Sites in Lakeville

C. Donta, UMass Archaeological Services

Data recovery excavations were conducted at seven Native American sites on the Nemasket River. The sites were first identified in the late 1980s and will soon be impacted by construction. The excavations produced more than 12,000 artifacts dating to the Late Archaic and Woodland periods, many of which were associated with a wide variety of features at six of the sites. The Riverside 1 Site produced over 4,000 artifacts, consisting mainly of rhyolite flakes, but also Orient Fishtail, Small Triangle, and Brewerton Side-Notched projectile points, along with steatite and ground stone, in association with two large pit features and a lithic reduction area. The Bridge Street II site included one probable habitation structure and one hearth surrounded by a moderate density of lithic artifacts. The hearth dates to approximately 3,800 years ago. Over 800 artifacts were obtained from the site, including steatite fragments and Orient Fishtail and Atlantic projectile points. The Riverside 4 Site contained the highest concentration of features and produced more than 3,700 artifacts mainly dating to the Late Woodland period. The artifacts included pottery, mainly quartz debitage, and Small Triangle, Orient Fishtail, Archaic Notched, Large Triangle, and Woodland Lanceolate points. Radiocarbon dates from features suggest that some occupations occurred between 430 and 970 years ago. Multiple pit and burn features were documented at the site. The Riverside 5 and 6 sites, small camp locations on hills overlooking the river, date to the Late Archaic period, with Small Triangle and Small Stemmed points but no pottery. The Riverside 7 site contained two hearths along with associated pits, and was a small camp site occupied during the Late Archaic and Woodland periods, producing both pottery and a radiocarbon date of approximately 4,000 years ago. The Riverside 8 site contained one shallow pit and one large pit with multiple fill lenses, around which was a high density scatter of over 2,500 artifacts, consisting mainly of quartz debitage, but also including Small Stemmed and Brewerton Eared points and ground stone.

In total, over 12,000 artifacts were obtained from the seven sites, and 46 features were documented, including hearths, burn features, storage pits, living surfaces, and postmolds. Soil samples are being analyzed for floral and faunal remains, and additional charcoal samples are being processed for dating. The materials and information produced by the Riverside sites will be of great value in understanding the Native American use of the Nemasket River wetlands during the period between 400 and 5,000 years ago.

Sargasso Sea Native American Site in Lakeville

C. Donta, UMass Archaeological Services

The Sargasso Sea site was the subject of three surveys conducted over the last two years for the town of Lakeville. Approximately 54 m^2 of the site were excavated, and over 3,300 artifacts were recovered. Portions of at least 12 temporally diagnostic projectile points were obtained, all of which are Small Stemmed. In addition, the single radiocarbon date thus far recovered from a feature at the site was radiocarbon dated to 3,750 years, calibrated to between 4,230–3,990 calendar years. No pottery or steatite was found at the site, nor were there indications that the site was occupied repeatedly with intervening periods of non-use. The site consisted of at least three activity areas, one of which contained the highest density of artifacts, in association with a series of features. Most of

the features were faint and difficult to define, but contained small amounts of charcoal in association with lithic debitage. The site is interpreted as a Late Archaic camp, with remnants of living surfaces, postmolds, fire pits, storage pits, and other evidence of occupation. Samples collected from features will be processed for soil analysis, radiocarbon dating, and faunal and floral identification. The site is of particular interest, as it appears to represent a single occupation by people of the Small Stemmed tradition, with no other Late Archaic traditions or re-occupations in evidence. It is hoped that ongoing analysis of the artifacts and features will provide clues to the lifeways of the people who made Small Stemmed tools between 3,000 and 5,000 years ago.

The Springfield Armory National Historic Site

T. Binzen, UMass Archaeological Services

Research is underway at the Springfield Armory National Historic Site, located on a plateau one mile east of the Connecticut River. The armory was first established as an arsenal for the Continental Army in 1777 by order of General George Washington and his chief of artillery, Colonel Henry Knox. After serving as a warehouse for muskets during the Revolution, the armory developed into one of the world's leading facilities for the design, development, and production of military small arms. In 1786, during Shay's Rebellion, insurgents unsuccessfully attempted to seize the armory. After 1794, the federal government promoted the domestic production of firearms, to reduce reliance on imports. Flintlock technology was replaced by a percussion ignition system prior to 1850. Currently, the Armory Square area features a main arsenal, built in 1847 (now the Springfield Armory Museum of the National Park Service), a Commanding Officer's Quarters, built in 1846, a master armorer's house, and extensive workshops. An archaeological overview and assessment of the Springfield Armory National Historic Site is being conducted for the National Park Service. Unrelated archaeological field surveys have contributed to a feasibility study concerning the adaptive reuse of several historic buildings. Testing at Building 11 (the oldest structure at the National Historic Site, dating to 1804) has produced an unusual assemblage consisting of gunflints, gunflint fragments, and hundreds of pieces of flint shatter. The imported gunflints were manufactured in French material and style. The current interpretation is that the flint debris resulted from the testing of flintlock mechanisms at Building 11 during the early nineteenth century.

Massachusetts Archaeology Week Expands to a Full Month

Margo Muhl Davis, MHC

Massachusetts' annual celebration of our archaeological heritage will expand from a week to a month-long event in October 2004. The change comes in response to requests from event attendees and sponsors who wanted more time to attend the over 60 quality events held each year throughout the state. MHC hopes that the change will make planning of future events easier. Also new this year, MHC will provide teachers with an Archaeology Month preview in June so that more schools can take advantage of fieldtrip opportunities and teacher-enrichment programs. To sign up for the teacher preview, to sponsor an event, or to request a calendar of events, contact Ann-Eliza Lewis at Ann-Eliza.Lewis@state.ma.us.

NEW HAMPSHIRE

Eighteenth-Century African Burial Ground

Ellen Marlatt, Independent Archaeological Consulting, LLC

In October 2003, Independent Archaeological Consulting, LLC (IAC) recovered eights sets of human remains from urban Portsmouth, New

Hampshire, in an area known in historic documents as the general location of the eighteenth-century "Negro Burying Ground." The cemetery may have been in use as early as 1705 in what was then the outskirts of town. Its use was discontinued in the 1790s when the area began to be developed.

Encountered at the intersection of Court and Chestnut Streets during the construction phase of the Court Street Reconstruction project, most of the remains were in fragmentary hexagonal wooden coffins. Although the wet dense clay preserved the coffin wood fairly well, the osteological material inside the coffins was less well preserved. In order to insure the careful examination of the remains, they were removed *en bloc* to a laboratory provided by the city. Five additional graveshafts were located at the edges of the project impact area, but these were left undisturbed and in place.

IAC is now completing the process of extracting the bone and teeth from the clay matrix. This effort will be followed by a full examination by a team of forensic anthropologists in an effort to determine age, sex, stature, health, and possible cause of death. In addition, samples will be sent to Dr. Bruce Jackson at Boston University for DNA analysis as part of the *African-American Roots Project*, which attempts to link DNA from ancient and modern populations in the United States with ethnic groups in Africa.

IAC has been working closely with the Portsmouth Black Heritage Trail since the beginning of the reconstruction project in 2001.

Moat Volcanic Hornfels Workshops

Tim Ives, PAL

PAL is conducting an archaeological survey of a 250-acre parcel in north-central New Hampshire. To date, five Native American stone reduction workshop areas have been identified. They are all located on relatively level terraces at the foot of mountainous terrain, focused along streams and brooks. Sites appear to range in size from single-episode chipping stations, to a relatively large terrace with multiple workshops. All of the chipping debris is hornfels. This hard, fine-grained stone, known as the "Moat Volcanic Hornfels," is black when freshly exposed, but weathers to a gray-tan color. Nearby quarries exist on mountain slopes and the raw material seems abundant in boulder and cobble form across the project area, most readily available in streambeds, where cobbles are highly visible. Following the spring thaw, PAL will return to the project in hopes of recovering temporal and cultural indictors.

RHODE ISLAND

Rhode Island Marine Archaeology Classes to be Offered this Spring

Charlotte Taylor, R.I.H.P.C.

The Rhode Island Marine Archaeology Project will be offering a series of 13 courses this spring, including Introduction to Underwater Archaeology, Ship Construction for Underwater Archaeologists, and Submerged Prehistoric Archaeology. The Introduction is a course required of all divers interested in working with RIMAP this summer on a variety of underwater sites in Rhode Island. For more information, please contact RIMAP at Rhodeislandmap@yahoo.com.

PAL Awarded Grant to Seek Submerged Prehistoric Sites

Alan Leveillee, PAL

For approximately five years, between 1998 and 2003, a local collector named Gallo focused her activity on a small stretch of beach along Greenwich Bay, in Rhode Island. Cedar Tree Point beach juts into the northern reaches of Narragansett Bay. The collector limited her activity to this location, and recovered only materials deposited by wave and tide. She didn't dig, but simply picked up what had washed ashore and was visible in the intertidal zone.

Alan Leveillee lives in this neighborhood, and the collector would sometimes visit to discuss some of her finds. Alan felt the resulting data were important in that the collection was area-specific, and could represent materials from a nearby site or sites, subjected to ongoing erosional and/or coastal processes. In June 2003, the collector's beachcombing days ended as she and her family prepared to move away. She donated her collection to the Educational Programs Department of PAL.

The Gallo collection was the subject of a paper that Alan presented at the annual Massachusetts Archaeological Society meetings last fall. Alan showed slides of the impressive collection and said that the associated data could be important because it would be off this small stretch of beach, for the first time, that southern New England's underwater archaeologists would be able to confirm, document, and begin to systematically study submerged prehistoric in situ sites. David Robinson, Jay Waller, and Alan decided to volunteer time to undertake an underwater survey of the area as a tangential independent research project.

Each year, the Rhode Island Historical Preservation and Heritage Commission (RIHPHC) provides grant monies to municipalities through Historic District Commissions. These Certified Local Governments (CLGs) can apply for funding to support preservation studies in their towns and cities. Encouraged by positive responses on the state and local levels, PAL submitted a proposal to conduct systematic underwater reconnaissance, process and catalog recovered artifacts, and disseminate the results as an Educational Programs Department product, through our web page and in academic papers. The Warwick Historic District Commission and Mayor Scott Avidesian endorsed our project and submitted our proposal to the State. RIHPHC has notified us that the CLG program will provide PAL with $4,000 in 2004 to help support the research project.

PAL's Work on a Rhode Island Project Holds up in Federal Appeals Court

Alan Leveillee, PAL

Last winter, PAL became embroiled in a legal battle between the Narragansett Indian Tribe and the Warwick (Rhode Island) Sewer Authority. PAL is the Sewer Authority's CRM consultant for a number of new sewer line installations throughout the city. Because of federal funding, the Sewer Authority must comply with Section 106 of the National Historic Preservation Act, an element of which is Native American consultation. PAL had conducted a series of archaeological surveys in the vicinity of Buckeye Brook, concluding that no historic properties would be affected in that area. As the project went into the construction phase, the Narragansett Tribe notified the Sewer Authority that a burial ground existed in the sewer route, and took the position that they (the Sewer Authority) and PAL had failed to fulfill Section 106 compliance. The Tribe sued the Sewer Authority in Providence Federal Court and Alan Leveillee was subpoenaed to testify. Following two days of testimony,the court ruled in favor of the Sewer Authority. Shortly afterward, the Narragansetts appealed the decision to the Boston Federal Appeals Court. In a 20-page decision based largely on PAL's testimony, the appeals court upheld the initial decision, concluding that "the Authority's experts did everything right, and they continue to do everything right."

Commenting in the newspapers on the Federal Appeals Court ruling, John Brown, Narragansett Tribal Historic Preservation Officer stated: "Just because they don't see a bloody skull in the ground, they think there are no burials." He said "mistakes were made out there" and promised to continue the issue in the courts warning "this is going to go all the way to the Supreme Court." An article describing these events, and their archaeological implications has

been submitted to Northeast Anthropology and is now undergoing peer review.

Camp Varnum, Narragansett

Joseph Waller, PAL

PAL, under the direction of Alan Leveillee and Joseph Waller, has completed an archaeological survey of the approximately 33-acre Camp Varnum Training Facility in Narragansett, Rhode Island. Cultural resources investigations were conducted within the limits of a former World War II-era facility that includes standing structures associated with Narragansett Bay's Harbor Defense network. Standing structures and features associated with the fort include reinforced concrete bunkers, subterranean artillery sheds, gun mounts, and other World War II-era military features. Elements of the post have been determined eligible for listing in the State and National Registers of Historic Places and recommendation for its nomination have been made.

Archaeological investigations resulted in the reidentification of archaeological site RI 103 recorded in state site files. Cultural materials recovered from the site during our survey included lithic chipping debris, bifacial tool fragments, early-stage bifacial tool preforms or blanks, possible scraping tools, raw material discard debris, and a single Native American ceramic sherd. The lithic artifacts collected from RI 103 primarily include artifacts associated with raw material acquisition and rough tool processing. The pottery sherd represents the only temporally diagnostic artifact collected from Camp Varnum to date, placing at least one of the site's occupations within the Woodland Period (3000 to 450 B.P.). Furthermore, two Native American refuse pits were identified at the site. The features are important in that they indicate Native American in situ activity areas have survived twentieth-century development of the surrounding military installation.

MISCELLANEOUS

REQUEST FOR INFORMATION

Heidi Savery and Tonya Largy request information regarding the distribution of boatstones in New England. We are interested in written references and referrals to museum or private collections where these artifacts are being curated. If anyone has information to share with us, please email Tonya Largy at: tonya.largy@verizon.net or Heidi Savery at: saverydg@yahoo.com.

SINCERE THANKS

CNEA would like to extend a thank you to the Mashantucket Pequot Museum and Research center and Brian Jones for their support and sponsorship of this year's meeting.

CNEA CONFERENCE TITLES

2004 Technology and the Archaeologist: Applications of the New and Re-creations of the Old

2003 Hearth and Home: Foodways and Architecture in the Archaeological Record of New England

2002 Materializing Anthropology: In Memory of Barbara Luedtke

2001 Looking Back—Looking Ahead: Celebrating 20 Years of CNEA

2000 The Settling and Unsettling of New England

1999 Maritime and Coastal Archaeology in New England

1998 The Archaeology of Race and Ethnicity: The Making of Social and Historical Categories

1997 Creating and Interpreting New England's Environments

1996 Creating and Interpreting Cultural Identity

1995 Archaeology and History: Constructing New England's Pasts

1994 Archaeology of Place

1993 Commonality and Diversity in Archaeological New England

1992 Uses of the Past: Community History and Archaeology in New England

1991 Presenting Archaeology to the Public; Retrospective and Prospective Look at New England Archaeology

1990 Marginal Environments

1989 Human Burials

1988 Cores and Peripheries

1987 Archaeological Interpretation of the Structural Form

1986 Trade, Communication, and Transportation Networks

1985 What Cheer Netop?

1984 Constructing the Past

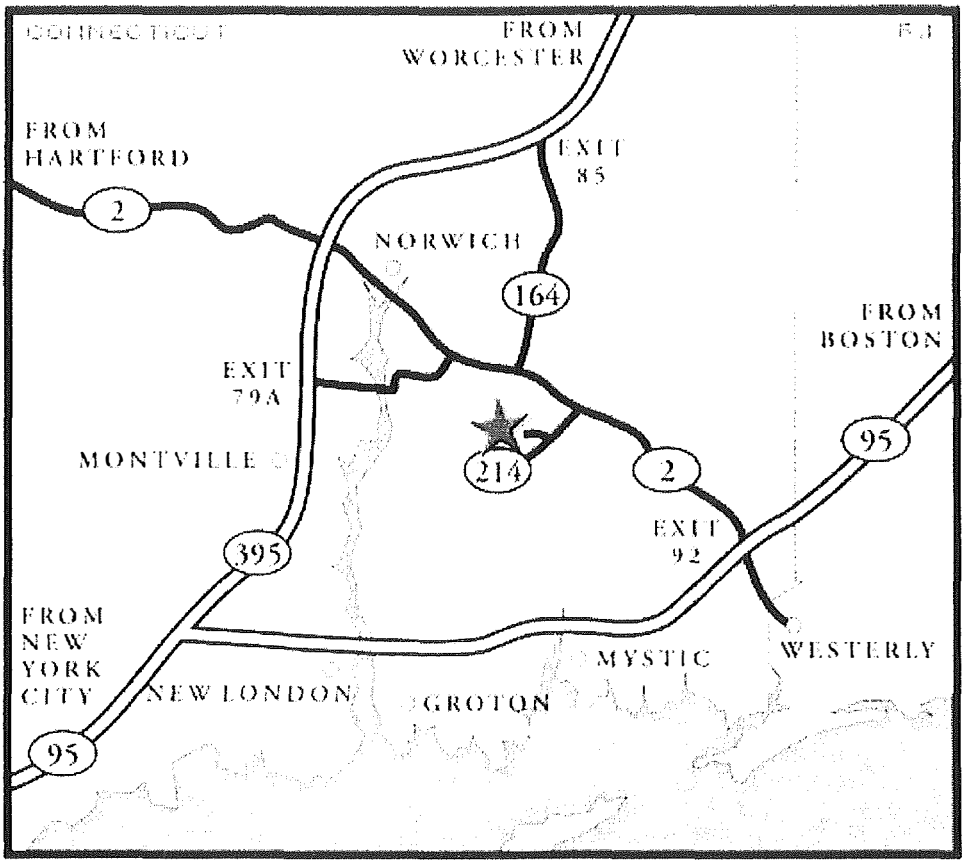
1983 Households

1982 Social Systems

1981 Uplands and Lowlands

NOTES

DIRECTIONS TO THE MASHANTUCKET PEQUOT MUSEUM AND RESEARCH CENTER



From Hartford

Follow Route 2 East, take Exit 28 South to Route 395 South. From Route 395 South, take Exit 79A to Route 2A East, crossing the Mohegan-Pequot Bridge. Continue along Route 2A East, which leads into Route 2 East. Continue past the main entrance to Foxwoods Resort Casino on the right, and take a right at the next traffic light onto Route 214. Drive 3/10 mile and turn right onto the Pequot Trail. The Public Safety Building will be on the left. Continue until you reach the museum parking lot.

From NYC/New Haven

Follow Route 95 North to Exit 92. At Exit 92, take a left onto Route 2 West. Stay on Route 2 West for 8 miles. Turn left onto Route 214, drive 3/10 mile, turn right onto Pequot Trail. The Public Safety Building will be on the left. Continue until you reach the museum parking lot.

From Rhode Island and Points North

Follow Route 95 South to Exit 92. At the Exit, go to the second stop sign and take a right onto Route 2 West. Stay on Route 2 West for 8 miles. Turn left onto Route 214, drive 3/10 mile, turn right onto Pequot Trail. The Public Safety Building will be on the left. Continue until you reach the museum parking lot.

Conference on New England Archaeology
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