IS THERE
AN ELEPHANT IN OUR FUTURE?

... we hope so, and we are working at it. For over a year we have been on the track of a mastodon skeleton unearthed long ago in Farmington. It has seemed appropriate to place on display at our Center some part of the skeletal remains of a species of ice age mammal which was the quarry of Paleo-Indian big game hunters. Moreover, it seemed almost too good to be true that such remains might be available and that the animal might have been found in Connecticut.

A series of telephone calls and letters has finally located the remains of this particular mastodon in storage at the Peabody Museum in New Haven. Through the kindness of the Connecticut Geological and Natural History Survey, we hope soon to visit the unassembled skeleton of the late Pleistocene proboscidian, variously referred to as the Farmington Mastodon, the Pope Mastodon (it was found on the A.A. Pope estate), the Hillstead Mastodon (the Pope mansion called "Hillstead" is now the Hillstead Museum of Farmington) and even, in one published account, "Old Longtooth."

We have no real assurance that the State, which is now the legal owner of the mastodon, will entrust all or part of the remains to us, but with faith which grows out of logic and reason, we predict that the next issue of Artifacts will carry an announcement of this exciting new addition to our exhibits. In optimistic anticipation of the event, and, in recognition of the intrinsic interest in the fact of such a rare and little known event in the history of Connecticut archaeology, we take pleasure in reprinting a 1914 account of the actual find.

It would be fortuitous, indeed, if we could say that Clovis points or butchering tools had been found in association with the skeleton but we cannot. The circumstances of discovery and exhumation were, at first, such that some important evidence may have been lost. Moreover, in 1913, when the event occurred the antiquity of man in North America was not fully understood and there almost surely was no search for such associative evidence as intense and as thorough as would be conducted in similar circumstances today. More recent examination of the remains seems to have indicated no telltale butchering marks on the bones.

The single fact of major importance is that this mastodon is direct, visible contact with one aspect of the environment experienced by the first humans to inhabit what is now our neighborhood. There is not much else we can point to, and say with certainty, "this is what it must have been like." We are confident that men must have been here 8,000, 9,000, 10,000 years ago; they were in New York State, Massachusetts, Pennsylvania, even Newfoundland; but we cannot prove it - not yet. The Hillstead mastodon is one of those extremely rare organic remnants of that time, so very long ago that almost all bone and other organic material has long since disappeared from Connecticut, and even the lack of man-made charcoal precludes accurate dating.

All the information and quotations that follow are taken from Volume XXXVII of The American Journal of Science, dated continued on page 3

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preference for specific kinds of instruction. We have received requests for classes in basket weaving, mask carving, porcupine quill work, bead work, and corn husk doll making. Other possibilities include birch bark containers (some elm bark may also be available), leather work, and items woven from corn husks. Interested members may have special requests not mentioned here. Please call them in and we shall see if Miss Logan will be able to accommodate them all.

There will be two classes or sections. Ideally we hope people will elect all morning classes, 9 A.M. to 11 A.M. on Saturday, April 30, Sunday, May 1, Saturday, May 7, and Sunday, May 8; or all afternoon classes, 2 P.M. to 4 P.M., on those same days. Some amount of shuffling may be possible to meet individual schedule conflicts. Enrollment in each section will be limited to 20; preference will be given to members and because of the method of instruction, requiring the ability to work independently, we are not encouraging participation by very young children. We hope for full and early enrollment by members, but if places are still open by April 15, we shall invite others to participate. The cost for the full eight hours of instruction is $25.00 for each enrollee.

As we pointed out in the first announcement, last December, this series of classes represents a rare opportunity for members of AIAI. The skills Del Logan is prepared to teach are but imperfectly known to the mass-produced, interchangeable, stamped, extruded, packaged, and artificially flavored society in which we live. To learn these skills is to derive personal satisfaction in creating something traditional, something linked directly with America’s ancient past; it is also an act of historic preservation.

To learn them from Del Logan is even more than this; it is to experience, through her almost mystical, poetic interpretation of even the simplest acts of creation, something of the unity of man with his environment and the reverence felt for this unity by the native people of America. The series of crafts programs in April and May provides our members with an opportunity, which may never again be available, for a brief but close association with a unique human being possessed of a rich cultural heritage fast disappearing from our world.

It is an opportunity not to be lightly disregarded.

**Spring Course Offering**

The course in Introductory Anthropology will be taught by Ms. Sharon Wirt, Staff Anthropologist for the Institute. It will be concerned with basic anthropological concepts as they pertain to religion, marriage practices, kinship structure, child rearing, political organization, and subsistence patterns of pre-Columbian North American Indians.

There were over 100 Indian cultures in pre-Columbian North America, markedly different in many lifeways and yet identical to all cultures the world over in dealing with confrontations, ambiguities, and riddles of life with philosophies of Being; in their systems of acquiring and distributing foods and goods; in their humor and esthetics; in ideas about the universe, nature, and Man; and in their concepts about the proper way to be human. In seminar fashion, the class will discuss these and other aspects of culture with respect to such peoples as the Iroquois, the Navaho, the Kwakiutl, the Inuit (Eskimo), and the Maya. Further, they will be compared with contemporary "American" culture - one which viewed from an anthropological perspective, may hold some surprises. The latter part of the course will focus on European and Indian Contact and processes of culture change.

The schedule of Ms. Wirt’s classes will be at the convenience of a majority of those interested in enrolling. The first meeting will be in the first week in April, the day to be announced. Please call the Institute Center early to express a preference of day in the week and time of day or evening.

The cost of each course is $30. for members of the American Indian Archaeological Institute, $35. for non-members. The content of this course and Ms. Wirt's enthusiasm for the subject suggest that this may prove one of the most interesting and popular courses yet offered by AIAI.
Elephant continued from page 1

April, 1914. The article was titled 'Mammuth Americanum in Connecticut,' by Charles Schuchert.

"The unearthing of good mastodon bones anywhere is worth noting, and when a fine skeleton is found, and especially in Connecticut, the discovery is all the more important. In addition, the latest find can be somewhat directly connected with the vanishing of the Wisconsin ice sheet, the last glacial episode of the Pleistocene. During the past century mastodon bones have been discovered in Connecticut but five times, the last one found preserving more of the skeleton than all the previous ones combined...."

"Previous finds. (1) The earliest record of the finding of mastodon bones in Connecticut dates from previous to 1828, when 'some remains of the mammoth were found in Sharon,' Litchfield county, near the New York State line. Nothing more is known of this discovery nor of what has become of the bones.

(2) Stillman states that while excavating the Farmington canal in the summer of 1828 there were found near Cheshire 'three or four large molar teeth of the mammoth' in gravel but a few feet under ground. Some of the teeth are said to have been much worn and therefore were of an old animal. It appears that all of them except one were broken up at the time of their excavation, and that the remaining tooth was presented to Yale College.... This is an uncertainty lower molar of Mammut americanum.... The three crowns are well preserved and but a little mineralized as the tooth was found in a more or less dry gravel.

(3) In 1833, while a canal was being dug for the New Britain Knitting Company in New Britain, through a pond which then covered what is now the corner of Elm and Church streets, there was found, according to Stillman, a nearly complete dorsal vertebra of a mastodon. The dorsal process was 17 inches long, the centra 5.5 inches in diameter and nearly 3 inches in thickness, while the neural canal was 3.5 by 2.75 inches in height and breadth respectively. The bone had a dark chocolate color and was 'not mineralized in the least.' It was taken out of mud or clay 3 feet beneath the surface. Associated with the bone were freshwater shells...."

(4) A second mastodon was discovered in New Britain in September, 1852, and the bones were for many years on exhibition there at the State Normal School. What became of these bones after 1885 is not known.... While excavating in a soft swampy soil for a pond on land belonging to Mr. William A. Churchill, the workmen came across a considerable portion of a mastodon skeleton, the thigh bone, humerus tibia, several of the ribs, and two or three teeth. Some of the bones, on being exposed to the air, crumbled. This locality is now in the city of New Britain back of the Young Women's Christian Association, or near the junction of School and College streets.

(5) Professor Edward Hitchcock got in 1871 a mastodon molar that was taken 'out of muck bed on the farm of Elias Bardwell' in the town of Colerain, which is near the north line of Massachusetts. This was then the first occurrence of mastodon in that state.

"The Farmington or Pope mastodon.... Late in August, 1913, Italian workmen, while digging a trench to drain a small upland swamp on the beautiful estate of the late A.A. Pope, near Farmington, reported to the superintendent, Mr. Allen B. Cook, the finding in the bog of a 'black devil.' Mr. Cook, a graduate of the Massachusetts Agricultural College, soon saw the significance of the find and reported it to Mrs. Pope, who was much interested in the remarkable discovery and through Attorney Charles T. Brooks brought the information to the writer. The trench at the time of the latter's visit revealed a number of large bones of one of the fore limbs and the back part of the skull, which had unfortunately been greatly damaged before the Italians became aware that they were removing bone and not a prostrate tree.

The exhumation of the skeleton was undertaken by Mr. Hugh Gibb, assisted by three other preparators from Peabody Museum at Yale, and by the Italians. So careful were these 'bone diggers' that all the clay immediately around the skeleton was dug out with their hands, as they felt their way through the thick clay down to find the bones. The greater part of the skeleton was taken out in two weeks' time. Subsequently it was decided to enlarge the shallow hole and to make of it a water reservoir for the estate, and during this excavation the workmen late in November came upon one of the large tusks, lying alone, 23 feet away from the skull, and in perfect preservation.

"The skeleton of the Farmington mastodon consists of all of the essential parts, minus most of the small bones of the feet, a few of the smaller leg bones, most of the caudal vertebrae, and one of the tusks. The greater part of the animal lay together with the bones more or less jumbled, but in the main there was still considerable natural skeletal arrangement: the head at one end and the pelvis less than 10 feet away. Scattered about and often many feet away from the central mass lay single bones of the feet, tail, vertebrae, ribs, and one scapula. The recovered tusk lay furthest away and on a level about 2 feet higher than the main mass of bones, which were in the lowest part of the swamp. Fig. 1, drawn to scale by Professor Lull, shows the general disposition of the bones of the mastodon as they were found.

Fig. 1. Diagram of the Farmington swamp showing the bones "in situ" and the trench that led to their discovery. Drawn in augmented size, from descriptions, sketches, and photographs, by Richard S. Lull. Approximate scale 1:8 inch to 1 foot.


"Geologic position of the Farmington mastodon.... The Farmington skeleton lay in a shallow trough directly on powdery clay (sic.), a thin covering of ground moraine that originally mantled the adjacent hills and valleys alike and was deposited by continental glaciers during Wisconsin time.... The Farmington highlands had not become much covered with vegetation when the proboscidean under discussion died, for not a trace of organic matter or of oxidized till was found beneath the skeleton, and but very little vegetable matter is seen in the slightly modified or oxidized powdery clay surrounding the bones, nor was there a trace of the organic matter of the animal left.... Further, there was no permanent lake with an abundance of vegetation formed at this time or later, for no freshwater shells (shell marl) were seen.... The animal does not appear to have been mired where it was found; it probably died and lay decomposing in the marsh, where occasional carnivorous or scavenging animals came and dragged about some of the bones, though why one of the tusks should be about 23 feet away from the skull and on higher ground by 2 feet is hard to explain. On the other hand, the body could not have lain thus exposed many years, even in a cold climate, for..."
most of the bones immediately above the till have well-preserved smooth and glossy surfaces. Nevertheless, nearly all of the skeleton of the feet is absent, while some of the other small bones, and especially those of the tail, were so rotten that they could not be lifted and preserved. The absence of these smaller bones may be due either to carnivores or to oxidation, or to both causes. Some of the parts, and especially the pelvis and top of the skull, lay so near the turf that the percolating waters with their humic acids and the penetrating roots of the plants had done considerable damage. It would seem, however, that the skeleton must have soon become buried, and this is suggested by the embedding clay, which is almost unaltered glacial till devoid of all bowlders. In other words, the clay of the general ground moraine on either side of the little valley, was then being washed from between the bowlders into the lower land, rapidly covering the skeleton......

The Farmington mastodon was covered in the course of time by 5 feet of ground, 4 feet of which is modified glacial clay. The animal was therefore buried by the in-wash of about 4 feet of glacial clay, since which time about 18 inches of turf has accumulated. As the skeleton was entombed short after the vanishing of the Wisconsin ice sheet in the highlands about Farmington, one gets from the evidence given a hint of the recentness of these two sets of phenomena. The washing of the clay into the depression could have occurred in a few hundred years, and the stringy turf apparently did not take much more time to form. Then, too, the skeleton shows no mineralization nor petrification and is but little discolored to a light brown by the waters of the swamp....

"Did man and Mammut americanum live together in America? - Can it be that Mammut americanum vanished from Connecticut within a thousand years, or at most a few thousand years, and yet was unknown to the North American Indians? If the prehistoric Indians knew and helped to exterminate these animals, and as they were the makers of neolithic implements, why do we not find ivory in their graves?"

"In this connection it should not be forgotten that John M. Clarke in 1887 dug up at Attica, Wyoming county, New York, bones of Mammut americanum associated with pottery and charcoal. Not much of the skeleton was present and the bones lay but 2.5 feet beneath the 'natural surface.' Associated with them (ribs) were 'four small fragments of charcoal' while in another part of the diggings beneath all (4 feet) of the vegetable muck and lying upon 'compact laminated clay' was found a fragment of pottery, and from beneath and around it were taken about thirty fragments of thoroughly burned charcoal. These traces of ancient man were found fully 12 inches further down from the natural surface of the ground than the deepest of the bones taken from the other (there were two) sink-hole. The pottery indicated a thick coarse vessel about 8 inches across, while the 'thoroughly burned' charcoal varied in size from two inches in diameter down. All in all, the evidence appears to show that the Wisconsin ice sheet vanished from Connecticut and New York not many thousands of years ago. Further, the associated human evidence found with or beneath the Attica mastodon bones is a positive hint that should open our minds to the possibility that man was associated in America with Mammut americanum. There is still further paleontologic evidence suggesting the existence of man even earlier than the occurrence in New York. Professor Williston states that on a small tributary of the Smoky Hill river in Logan county, Kansas, Mr. Handel T. Martin found beneath in contact with a right scapula of the extinct Bison occidentalis a arrowhead. The bones of the eight animals present and the human implement were not surface finds, but were secured by digging away several feet of the 'upland marl,' a deposit that originally covered the fossils at least to a depth of 20 feet. In this marl also occurs Elephas primigenius, an animal well known to ancient man of western Europe."

The Role of the American Indian Archaeological Institute in Connecticut Archaeology

Dr. Moellner delivered this talk last November at the annual meeting of the Eastern States Archaeological Federation, in Richmond, Virginia.

Most of you are probably familiar with the American Indian Archaeological Institute (AIAI) from hearing Ned Swigart speak of the 7-year growth of a small local chapter, with a few members, to a fully staffed museum with 1200 members. One of the original goals was to develop a local chronology in western Connecticut. While this is still one of the goals, we have greatly expanded and diversified from pure research to the point that we have been developing educational programs which will inform the public about nearly all topics of archaeological interest.

Excavations are now being conducted under five separate, but complementary programs, tailored to fit people with varying degrees of interest. The afternoon archaeology program I am directing has six students from The Gunny, a local private high school. Most students come into the program with no archaeology background at all. They have gotten interested for a variety of reasons and want to try it. We spend several hours a day, weather permitting, doing survey work. This gets a necessary job done, while providing the student an insight to the scope of archaeology. When the weather turns cold or wet, we go into the lab for other work.

The majority of the students discover that archaeology is simply not for them. They have obtained an appreciation of the work, but wouldn't want to make it a profession. A few students get really excited and can't wait to continue with more intensive work.

The AIAI has an independent study program to accommodate such requests. Students have come singly and in groups for 1 week, 1 month, and several month programs. They start with lab work to gain proficiency in artifact sorting and identification. From here they may move on to assisting the cataloguer in labeling, checking, and shelving artifacts. At this stage they have gained a first hand knowledge of how the cataloguing procedure operates and they can start working with the school tours. This increases their self confidence and the questions they are asked lead them into other fields. Although our library is small, it has many basic works which provide the student with the answers to the most asked questions. These independent programs require that the student have a lot of initiative. There are no formal classes, but the student learns by working with the staff in areas of high interest. This inevitably leads them into areas in which they thought they had no interest at all.

The second excavation program is that of free volunteer excavations conducted in the summer. Ned has run these digs in the past and will continue to do so. These are specifically designed for the person who thinks he may be interested in archaeology, but isn't sure; or for the person who has always wanted to dig and never had the opportunity. These digs have a very high
and we never know how many to expect on a given day.

This sort of excavation program has drawbacks: because most people feel no commitment to come regularly, it is difficult to develop a cadre of trained workers for future excavations.

To overcome these difficulties I started the training sessions. These are five consecutive half-day sessions offered for a moderate cost. The first day is an orientation of goals, procedures, techniques, tools, and culture history. The remaining four days are spent digging, with emphasis on learning all of the basic procedures: gridding, transit work, flotation, mapping, profiling, troweling, sifting, etc. The individuals feel a commitment to be there, to pay attention, and to learn. Sessions are quite small (5-10 people) with at least three experienced supervisors.

The fourth research program is the more expensive full-scale field school. We conducted three two-week schools with 40 hours of digging, 4 hours of classes, and 4 hours of lab a week. By alternating training sessions and field schools at the same site, we were able to utilize the students much more efficiently and yet have the same training situations present for each of the groups. Our first field school season attracted 46 students from Seattle, Los Angeles, Huntsville, Chicago, Boston, Boulder, Urbana, and even towns in Connecticut.

All of these programs feed our ongoing survey and contract archaeology work. Many of the participants have volunteered to work on these tests or excavations. Others have shown such promise that it is likely that they will be hired when we work in their area.

In addition to the excavation programs, we have large numbers of people coming to us to report sites, to examine artifacts, and to evaluate collections. While we have a policy against placing monetary values on specimens, we do record all provenience information and locate the sites on quadrangle maps. Currently we have a great backlog of reported sites which have to be field checked. This work will be done on a priority system by the afternoon archaeology program, training sessions, or field schools.

Tour groups always request a visit to a site. In the spring and summer we can accommodate with a real site. In the fall, when all the sites were backfilled, we still got the requests. The solution was to dig a simulated site near the Institute. There are four 1.5m squares with a deep test pit excavated by 6cm levels, a cross-sectioned feature, postmold patterns, a hearth, and a mapping frame illustrating how we make the scale drawings. The tour leaders have a brochure which explains how the "site" was selected, how it was laid out, and what the importance is of each feature. This brochure will be distributed when we have determined that the most asked questions are answered.

Our new building addition contains a section of a longhouse made from saplings and complete with sleeping platforms and racks. In the longhouse are tanned hides, dried vegetables, corn husk mats, corn husk dolls, a wooden mortar and pestle, and other Indian crafts made by Del Logan, an Onondaga Indian. Children can feel the furs, grind corn, peck stone and soon will be able to practice primitive fire making at the indoor hearth.

Another aspect of our teaching program is the adult evening archaeology classes in method and theory and in culture history of the Eastern U.S. and the comparative cultures course in anthropology.

However, not all of the educational activities are conducted in the museum. In addition to the exhibits at the Institute there are traveling exhibits of artifacts, displays arranged for special interest groups, and school assemblies followed by visits to individual classes for questions and answers.

The AIAI has the policy of accepting
Petroglyph and Pictograph

by Dr. James L. Swauger

Dr. Swauger is Senior Scientist in Anthropology at the Carnegie Museum of Natural History in Pittsburgh, Pa. This original article was prepared expressly for publication in Artifacts.

"In common with many other groups of mankind, American Indians often decorated rocks with figures of various kinds. These were executed by sculpturing and painting. Those figures developed by sculpturing—carving, pecking, rubbing, or a combination of these techniques—are termed petroglyphs; those developed by painting are termed pictographs. No general term is in current use for figures developed by use of a combination of carving and painting although they are usually called pictographs in recognition of the fact that they were painted (Swauger: 1974, 13)."

"Rock art, a term applied to both petroglyphs and pictographs, is found all over the world.

In the United States rock art sites occur in nearly every state. The area of my particular interest is the states east of the Mississippi, and Ontario and Quebec in Canada. Of these twenty-nine states and provinces, seven lack sites according to most reports, but we are learning that these reports are not accurate.

Alabama, for instance, has been empty of rock art sites, but not long ago we were told three have been found there (King: 1975). * Connecticut has been said to have no rock art sites, but recently I received some photographs and a description of what might be an American Indian petroglyph at Riverside. I can make no judgment from the photograph, but it is possible that the carving in question is an American Indian petroglyph.

Lack of professional knowledge as to occurrence and distribution of rock art sites is due in large part to the fact that historically rock art has attracted little interest among professional archeologists. Petroglyphs were man-made. They are artifacts. As artifacts they should have excited the curiosity and demanded the attention of professionals, but they have not, and the resources commanded by trained investigators have not been applied systematically to the country as a whole.

To quote again from an earlier work of my own: "Because of all the kinds of physical evidence left by American Indians, none are more intriguing or more baffling than petroglyphs and pictographs, it would seem that professionals would address themselves wholeheartedly to puzzling out the meanings of rock art designs and sites. Such has not been the case. Professionals have been repelled from such studies...by the sort of intemperate romancing of many early and contemporary enthusiasts that attends speculation about such sites as the Dighton Rock in Massachusetts... There is understandable reluctance to associate one's name with a subject replete with fantasies."

"The principal reason for the American professional's neglect of rock art, however, is the context in which he works. He sees himself as an anthropologist who specializes in the recovery of data by means of the techniques of archeology and who interprets that data in the light of anthropological theory. Professionals are more interested in investigations that add to knowledge and meaning of cultural content, process, and change, and in establishing reliable chronologies within which to assess the meaning of the rate of change... American Indian petroglyphs and pictographs have been largely disappointing in providing information on which to base conclusions in these matters, and professional archeologists have naturally placed (little) emphasis on study of rock art..." (Swauger: 1974, 17, 18).

More than thirty years ago Robert M. Tatum published "Distribution and Bibliography of the Petroglyphs of the United States." He believed little had been done in the way of petroglyph studies (Tatum: 1964, 22). Even today many professionals embrace this attitude, which is false.

I believe the misconception due to the fact that except for a brief period during the late teens and early 20s of this century (Stern and Bohannon: 1970,9), until very recently, most petroglyph studies were by non-professionals whose reports appeared in newspapers, popular magazines, and local amateur historical and archeological journals, not in major professional outlets. Rightly or wrongly, these were viewed with jaundiced eyes by professionals. Today non-professionals continue their interest and their flood of articles, but the number of professionals engaging in rock art studies is increasing, and many professionals are learning that a good number of non-professionals in the past as the present perform admirably in recording and even in interpreting.

This is not to say that professionals have never taken an interest. In the 1930s excellent work was published by a number of such people. There was a hiatus of sorts until the 1950s, and particularly the late 1950s, when professional articles again began to appear in some numbers, and the interest and production has continued on into the 1960s and 1970s (Swauger: 1974, 17, 19).

Most of these scholars and their reports were and are concerned with sites in the western states. Western sites include spectacular rock paintings and intricate carvings beyond what one usually finds in the east. From the beginning professional interest has been devoted largely to western sites where investigators have been able logically to suggest use of sites as hunting magic centers and to establish reasonable lines of cultural descent from pictograph painting people to living Indian groups. In the east such interest and such deductions have been slower to develop.

What I believe to be the first symposium concerning rock art in the eastern United States was chaired by me in Virginia in November 1970, at the thirty-seventh annual meeting of the Eastern States Archeological Federation (Swauger: 1971). The composition of the panel, three amateurs, three professionals, recognized the fact that petroglyph studies are one of the few remaining scientific disciplines to which amateurs can still make significant contributions.

There is an increasing number of such gatherings devoted to rock art not only abroad, where there has always been..."
considerable professional interest, but in the Western Hemisphere as well. The subject was on the agenda of the International Congress of Americanists in 1970. The Canadian Rock Art Research Association founded in 1969, and the American Rock Art Research Association which came into being in 1975 as a development from the Rock Art Symposium of 1974, hold annual meetings whose subject is, of course, rock art. Perusal of the speakers lists of these meetings proves an ever greater number of professionals are working with rock art as their percentage of people presenting papers mounts.

The impetus is fostered by university anthropology departments that consider rock art a worthy subject for professional study. The University of Utah, for instance, published on petroglyphs and pictographs in Glen Canyon, Utah (Fowler: 1959), and Montana State University on rock art sites in central Montana (Arthure: 1961). From the Colorado State College Museum of Anthropology came George R. Mead’s valuable annotated bibliography of rock art sites north of Mexico (Mead: 1968). The University of California at Riverside offers a course in the rock art of Baja California (La Pintura, 3, 2, 1976, 7).

This growing interest is due to the probability that petroglyphs and pictographs can contribute to understanding the anthropological imperatives of cultural content, process, change, and rate of change. Garrick Mallory, the late-19th century “grandfather” of United States petroglyph studies, made extensive and intensive studies of American Indian petroglyphs, pictographs, and sign language only to conclude that except in rare instances it would be impossible to establish reliable chronological and cultural hypotheses concerning the artists who produced the rock art (Mallory: 1886, 15, 16).

Although as suggested above this is not true for some western sites and people, I found this attitude the belief of nearly all authors whom I consulted before I began to concentrate on petroglyph (we may have no pictographs) research in the Upper Ohio Valley. I believed it. I believed I could learn where petroglyphs existed in the region of my field work, how they got to where they were when I saw them, how they were made, and what was their content, but I did not believe I could determine when they were made, or who made them, or why they were made, or what they meant to those who carved them. To my surprise, I did evolve hypotheses concerning their chronological and cultural associations, but I still don’t know why they were made.

Drs. Joan and Romas Vostokas worked with one site in Ontario at Peterborough and from it derived a splendid and complicated explanation relating it to Algokian magico-religious practices (Vostokas and Vostokas: 1973).

Sound interpretations of rock art sites
are not easy to reach, although, heaven knows, fanciful interpretations abound. One finds on rock art sites carvings of humans, other mammals, birds, reptiles, fish, tools and the like, and geometric designs that may have been so designed but also may be all that is left of a carving of one of the other classifications after most of it had worn away. The identifying, describing, and classifying of these carvings is the first step in establishing a reference base from which to develop reasonable theories of chronology and culture and meaning.

The process I embrace at present as most likely to bring results is one of recording the physical content of numerous sites and comparing them in order to determine whether or not there are recurrent figures, whether or not these figures recur always in company with other figures. If there be such patterns, they will enable us to establish boundaries of usage that may be able to equate with ethno-historical information, particularly with known tribal distributions and ceremonial paraphernalia and content. If not, we will have to proceed with single figures alone, and that will be more difficult.

At the moment I’m developing a plan on which to base a request for funding to permit me to assemble information concerning all reported rock art sites in the United States east of the Mississippi, and a few west of that river whose general “feel” is like those in the east. The thought is that by use of computer magic it may be possible to organize what will be a large number of figures from rock art sites to discover whether or not there are patterns of distribution of individual figures and groups of figures from which reliable associations with ethno-historical and archeological data can be determined, and if so, the way is open to deductions concerning chronologies, cultures, and meanings.

* A recent article in the journal of the Alabama Archaeological Society says there are at least 20 such sites in Alabama.

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"Parker’s Landing Petroglyphs Site, 36 CL 1, on the Allegheny River."
Credit: author

Role of AIAI
continued from page 5

local collections with good provenience, especially if they would otherwise be sold or distributed piecemeal. Because of this and our excavations, we have a tremendous curatorial backlog. There are thousands of specimens which must be washed, sorted, catalogued, and shelved for ready retrieval. To help alleviate the situation, we advertised for volunteers to do the washing. I was very surprised when 12 people began coming on a regular basis. To me, washing artifacts is one of the less exciting things. Watching caterpillar races could be more thrilling—but people love it. The volunteers are actually doing more than just washing artifacts. Some are interested in flotation picking, labeling catalogued specimens, or conducting school tours of the museum.

Although washing artifacts is a necessary function, we are getting more from the volunteers than their time. We are getting their attention. They see
firsthand how the museum operates and what archaeology is all about. Most of the volunteers have or will be taking courses in archaeology here or elsewhere. Many are doing the work to see what archaeology is all about and whether or not there is a place for them.

All of our efforts in the field of education, displays, and research would be wasted if nobody ever heard of them. Our quarterly newsletter, Artifacts, is mailed to all members to keep them informed about what we are doing and what is happening in related areas. This is not meant to be a technical publication, but rather an informative one. There are plans to publish a more technical research bulletin once a year.

In summary, the AIAI has greatly expanded and diversified its goals to include not only a reconstruction of the local culture history, but also to inform the public on the importance of archaeology and how it is done.

After Hours

Edmund K. Swigart, President

It seems scarcely possible that another six months has passed since I last had the pleasure of sharing with you the story of our continued rapid growth and the resultant financial challenges which our Institute faces. So many exciting things are “in the wind” that, if realized, will significantly help us to achieve our goal of truly becoming a Regional Resource Center, but they will all bring on additional financial responsibilities as well. Needless to say we shall eagerly keep you informed in this and subsequent quarterly issues of Artifacts of each exciting development as it becomes a reality.

To review briefly our financial picture at the end of our last fiscal year by way of background information, we once more managed to do the impossible. Our operating budget rose from $48,470 in 1974-75 to $103,723 in 1975-76—a 100% increase for the 5th straight year. Yet we managed with considerable effort, thanksgiving, and pride to balance it, also for the 5th straight year.

Our best estimates, back in September, for our operational needs for 1976-77 was $151,000, or a projected 50% budget increase for this current fiscal year. It would appear at this time, four months into our new year, that we have once again underestimated the meteorically increasing demands for our services—as we also have done, inadvertently, with the best advisers we can find—for each of the previous five years.

Current projections of financial needs would now appear to be closer to $165,000. It is not inconceivable that we could finish this fiscal year on September 30, 1977, with a budget expenditure of $175,000 or higher, thus approaching a sixth straight year of a 100% increase in operational expenses.

How do we propose to balance this incredible budget? That is a good question with which your staff, Finance Committee, and Board of Trustees are constantly wrestling—and successfully, we trust. At the $151,000 figure, under which we are currently operating, here is a brief progress report.

As of the end of January, we have already received in gifts, pledges or payments: $48,500 of the $63,000 budgeted for dues; $700 of the $5,500 for Admissions/Donations. (Ah, the winter months!); $35,000 of the $44,350 for special grants; $8,600, (+$15,500 if enrollments hold up) of the $20,000 budgeted for tuitions; and $2,000 of the $8,000 for store sales. Current expectations are to have an endowment income nearer the $10,500 mark ($10,000 was budgeted) if current interest figures continue for the remainder of the year. Thus in four months we have accounted for $120,000 of the original, 1976-77 budget of $151,000. We already have 19 paid Patron members ($1000 or more), one more than all last year, and our membership, after a little over four months is currently 625, or approximately 56% of last year’s entire membership. This includes 84 new members. The only membership category that may not do as well as last year is the $25 family membership which is currently lagging 5% behind other renewals, but it is early in the year to make this prediction.

Items currently being added to the budget beyond the $151,000 figure will all, hopefully, be self-supporting, with the exception of a 4-wheel drive, 9 passenger van which we must buy to be able to transport our growing staff and field research crews and equipment. This will cost at least $8,000, unless we can find a kind soul who will give us a considerable discount, or unless we can somehow locate a second-hand vehicle in good repair. HELP!

However, lest this generally optimistic financial picture lead to any complacency on the part of our membership and friends, I must hasten to add that the first quarter of each year is, customarily the time when we account for the bulk of our known income, pledges and contracts. For the rest of the year it is much more difficult to develop additional sources of revenue. Thus we are in a strong, but not a safe position at the present time.

Listed on p. 11 are currently unfunded operational budget needs amounting to $24,027 of the $30,000 we must find for the remainder of this fiscal year, and additional capital funds which we must raise to meet our facility and program responsibilities.

If you can help us to meet any of these specific obligations, or know of any individual, foundation or corporation whom we might approach for aid, we would greatly appreciate hearing from you.

In the meantime, please come and see our lovely new Indian Dwelling/classroom, or attend our annual May dinner meeting, or our August craft festival. We will all look forward to seeing and welcoming you.
Fission Tracks:
Invisible Clocks for the Archaeologist

BY DAN MOUER

Mr. Moyer, a doctoral candidate in archaeology at the University of Pittsburgh, has written the following article expressly for this issue of Artifacts. This summer he will teach an archaeology course at Dickinson College for the department of sociology and anthropology.

Nuclear reactions are something we have come to fear and respect in recent years. Since man first learned how to induce radioactive nuclei to break down and to emit enormous amounts of energy, we have come to think of nuclear processes as if they were a new, as yet unknown, technology. For man, they are. But for nature, they underlie the basic processes of the universe. The sun burns with the light and heat of a nuclear furnace. The solar system was produced by a spectacular nuclear chain reaction. In nature, nuclear decay goes on constantly. On the earth, most atomic nuclei are stable—that is, they don’t break down by nuclear processes into new products. Iron remains iron, gold remains gold. But in the cosmos, and in the heart of nuclear reactors, true alchemy takes place as one substance continually succumbs to internal stresses and becomes some other substance.

On the earth, there are a few unstable substances, however. By unstable I mean that the nuclei of the atoms are not settled down into a comfortable ratio of weight to size, or protons to neutrons. The nuclear “glue” which holds an atomic nucleus together is not firmly set. Most of these unstable, or radioactive substances are leftover since the formation of the solar system. Some, however, such as Carbon-14, are formed when high speed particles or radiation from space collide with stable nuclei in the outer atmosphere. One property that all these unstable nuclei share is that they decay at a constant rate, depending on the species. That is, we can predict, statistically, how many nuclei in a large collection will disintegrate into something else in a given period of time. This rate is called the decay constant. A related number is the so-called half-life. The half-life of a radioactive substance is the length of time it will take half of a given quantity of that substance to decay into new substances called daughter products.

On the earth, the substances which remain radioactive since the formation of the solar system are few in number, and quite rare. The most common of these are Uranium and Thorium. While it is rare to find a chunk of material containing lots of Uranium or Thorium, it is not difficult to find a few million atoms of these substances. In fact, they can be found almost anywhere. The walls of your room contain small amounts of radioactive Uranium. The paper you are reading contains some as well. In the fiery ball which produced this earth, these elements were mixed up with all the other elements, and can be found chemically or physically bound up in nearly every solid substance on earth. Continually all around you, hundreds of thousands of nuclei of Uranium are disintegrating. Eventually, they will all be transformed into something else, and there will be no more Uranium—except for that which man produces in reactors.

The decay constant is so unchanging that we now use nuclear decay to time our most precise scientific clocks. Some substances have very, very short half lives, while others have relatively long ones. It is those with long half lives which make radioactive dating possible, because they are the ones which hang around long enough. Carbon-14 has a short half-life when compared with Uranium. While Uranium has a long half-life, as a whole, there are actually different rates for different kinds of nuclear decay of Uranium. When an unstable nucleus of Uranium can’t keep itself together any longer, it may decay by a number of different means. One of the most common ways is by emitting large particles from the nucleus, called alpha particles. Still another way is to emit smaller particles, or radiation, called beta. Rather than losing any mass, the nucleus may just dislodge some excess energy in the form of gamma radiation, which is related to light, heat, x-rays and other types of electromagnetic radiation.

On rare occasions something far more dramatic occurs. That is when a Uranium nucleus just rips apart at the seams and turns itself into two new nuclei. This process is called nuclear fission. A Uranium nucleus is very large compared with most other atomic nuclei, and when one of these fissions occurs, an enormous amount of energy—on an atomic scale—is unleashed. The two fission fragments race away from each other, barreling through their surroundings like bulls in a china shop. As one of these fission fragments charges through a solid material, it disrupts the nice, neat orderly arrangement of atoms in its neighborhood, much as a tornado rips a path through a neatly laid out country town.

The path that results from this fission fragment tornado is called a fission track. Other nuclear products also leave damage ...

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Exhibit Planning

N.E.H. REPORT #3

As this March issue of Artifacts goes to the printer, the long period of consultation and discussion which constitutes the main thrust of our National Endowment for the Humanities Planning Grant has climax in an exciting two-day symposium. Meetings on February 25 and 26, held at the Inn on Lake Waramaug, were for the purpose of extracting from all the ideas, facts, and theories of seven previous meetings the essential purposes or themes of our exhibits of the future and the evidence from archaeology and history which best illustrates them.

THE PERIODIC CONFERENCES

The December issue described the first meeting in September with our chief archaeological consultant Dr. Stuart Struever, the October meeting on the “Transitional Period” with Herbert C. Kraft and William A. Lauer, and the November meeting with W. Fred Kinsey and James A. Tuck on the “Woodland Period.”

These were followed by a December meeting with Dr. James Deetz of Brown University and Plimoth Plantation, Dr. Wilcomb Washburn of the Smithsonian Institution and Dr. Fred Warner of Central Connecticut State College, and the Connecticut Archaeological Survey on the “Period of Early White Contact.” Participating in that conference and making a uniquely helpful contribution were Eric and Ella Thomas/Sekatu, native American people of the Niantic/Narragansett tribes.

The January meeting was with Dr. Dena Dincuize of the University of Massachusetts and Dr. William Fitzhugh of the Smithsonian Institution on the “Archaic Period,” and in February, after a second major conference with Dr. Struever, our discussion of the “Paleo-Indian Period” was led by Dr. William Gardner of the Catholic University in Washington, D.C., and Dr. James Adovasio, of the University of Pittsburgh.

THE SYMPOSIUM

It may be that no museum has ever had the advantage of such high level discussion by men and women better qualified to talk about fact and theory in Northeastern prehistory. What was then required was a forum and a force for organizing the essence of all that information and pulling it into a recognizable usable form as a structure for the creation of exhibits.

The forum was the two-day Symposium;
the force most instrumental in bringing order out of the plethora was Stuart Struvever, who as chief archaeological consultant proposed the major themes of our exhibits and then with the contributions of all, helped to array the evidence to illustrate the themes.

Symposium panelists were, in addition to Dr. Struvever, Dena Dincauze, Herbert Kraft, William Gardner, Fred Warner, and Fred Kinsey. Representing the Institute and their own particular areas of interest and competence were Miss Adelphena Logan, Roger Moeller, and President Ned Swigart. Other interested and involved listeners and observers were Sharon Wirt, staff anthropologist; Susan Payne, coordinator of school programs; Sharron Turner, director of public relations; Steve Post, teacher and research assistant; and Dick Davis, director.

Another active participant and a key person—particularly in the next phase of the undertaking—was Dr. Chandler Screven, Professor of Psychology at the University of Wisconsin, Milwaukee. He has, from almost the inception of the project, maintained a watchful eye on its progress and direction, and has guided us carefully in our planning for the actual exhibits which will eventually result from all the talking.

The Symposium began with a reception for the consultants, trustees, and staff members at the AIAI Center on Thursday evening, February 24, followed by dinner at the Inn on Lake Waramaug.

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Fission Tracks
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paths in solid materials, but since fission tracks are much bigger, they are much more easily seen. They were first detected in mica crystals by an electron microscope. Further study showed that they existed in many materials, as well as in amorphous solids (glasses and plastics). Not all solids have fission tracks in them, and those that do don’t retain them equally well. However, many of the more important rock-building minerals—feldspars, micas, garnets, etc.—retain tracks very well. Whether or not a track is retained in the solid depends largely on how rigid the solid is. As an analogy, we know that the path, or wake, of a boat in water doesn’t last very long, because the water closes back on itself and “heals” the damage done by the boat’s passing. If the boat were to go through thick mud, however, the wake would remain much longer. For the same reason, we can’t expect to find fission tracks in liquids—unless they are “super-cooled” into glass. Likewise, some solids can “heal” their tracks more rapidly than others.

As time goes on, more and more Uranium nuclei will fission within a crystal or glassy material such as volcanic obsidian. Thus, the number of tracks is a function of the amount of time that passed since a piece of rock was formed. Likewise, the more Uranium nuclei there are in a rock, the more tracks there will be in any given span of time. The total number of fission tracks we can find at any given time, then, is a measure, or function, of the total number of Uranium nuclei in the nearby neighborhood (close enough to have sent a track across the surface we are looking at) and the length of time since the rock was formed.

I mentioned that fission tracks were first seen in an electron microscope. Of course, if they could only be seen in this way, then fission track dating would not be very practical. Everyone who wanted to do any dating would have to buy himself a piece of very expensive equipment and learn how to use it. Besides, the extremely small areas scanned by an electron microscope would make it very impractical to try to date a substance which had a very low density of tracks. Geophysicists have known for a long time that tiny defects in solids could be enlarged by etching. They have used this method to study, for instance, microscopic bubbles in glass, inclusions and dislocations in crystal lattices, etc. So it happens that fission tracks can also be enlarged by etching. Etching simply means that we subject the material to a chemical which attacks or dissolves it. The damaged portion of the solid is dissolved more rapidly than the surrounding material. The roughed-up, damaged surface is attacked much more quickly than the surrounding smooth surface.

If we wanted to find fission tracks in a piece of volcanic glass, for instance, we would subject a smoothly polished surface to attack by some chemical containing the fluoride ion, which dissolves glass. Hydrofluoric acid is usually used (HF). We could then look at our piece of glass under 400-500x magnification and we would see various shapes, from nearly straight lines to ellipses, which represent etched fission tracks. The resulting tracks are generally about twenty microns long. If our sample were very old or contained a great deal of Uranium, we would see literally thousands of tracks. If, however, our sample were young or contained very little Uranium, we might have to look for hours to find a single track.

One of the first major uses of fission track dating, of concern to the archeologist, was the dating of the volcanic ash which overlies Bed I of Olduvai Gorge. A potassium-argon date of nearly two million years on the level containing Australopithecus boisei (Zinjanthropus) had been disputed by many who doubted that a tool-using hominid could be that old. The date was nicely confirmed by the fission track method, however.

We are not always interested in the date at which a rock was formed, however. In archeology, we would be restricted to very old paleolithic events, or else to those rare events when a volcanic ash happened to cover a more recent site: a volcanic ash with high Uranium content at that. We are fortunate, however, because the processes which erase fission tracks in minerals are dependent on heat. As mentioned before, many tracks are quite stable at ambient, or “normal” temperatures. If, however, a mineral becomes heated highly, the track erasing process is sped up considerably. For many minerals, a temperature of around 400 degrees C. will erase all tracks. When the mineral cools, Uranium continues to fission, but our track clock has been zeroed to the time of the heating event.

If a woman making a pot happened to incorporate some sand temper into her ceramic clay, and if this sand contained minerals which have considerable Uranium content—such as zircon—then we can separate out these mineral grains and count the tracks that have formed since the pot was fired. Likewise, it might be possible to date fire-cracked rocks, burned hearth floors, fired clay figurines, heat-tempered stone tools, etc. Obsidian artifacts which were badly burned in a fire (when the Neolithic house they were in burned down) have been dated. I have found fission tracks in calcite crystals

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Meetings

As the March issue of Artifacts goes to the printer, three regular members’ meetings deserve comment. One has passed into history, one lies in the future but will be over by the time these words are read, and the third will still be available to all—a gala spring event no member should miss.

1

THE DECEMBER MEETING. On December 2, a brave, determined, discriminating and lucky group struggled through early snow, cold and wretched weather (harbingers of things to come, had we but known!) to enjoy one of our most interesting recent talks. Dr. Kurt Deuschl spoke with comfortable appealing informality about his experiences as Senior Assistant Surgeon and Physician in Charge of the Tuberculosis Program at the Navajo Medical Center, Fort Defiance, Arizona, and, later, as Director of the Navajo-Cornell Field Health Research Project. An AIAI member, and part-time Washington resident (Wykeham Road), Dr. Deuschl is now Director of the Community Medicine Dept. at Mount Sinai Hospital.

The talk was on culture conflict as reflected in health care on the Navajo reservation shortly after World War II. Even that recently, a great many Navajo people lived a life directed largely by traditional beliefs and customs-suprisingly isolated from many of the predominating influences of the common culture of the United States at mid-point in the 20th century.

Medical Science made dramatic progress in combating tuberculosis and other physical problems common among the Navajo. Sensitive, intelligent leaders had been quick to recognize that to achieve such progress, modern medicine would have to make an accommodation with tribal ritual, Shamanism, and ancient, spiritual beliefs. Accommodation was made and we have a positive example of the processes of acculturation. The negative was quick to follow, for in the post-war years, fast-profit commercial enterprises proliferated at the edges of reservation land. Quick food places, bars, taverns, and many less sinister influences took their toll or left their mark on people ill-prepared economically and culturally to discriminate between what would serve their best interest and what would be destructive.

Dr. Deuschl’s sensitive and sympathetic description of the impact of Anglo culture, both deliberately benign and heedlessly exploitative, on his Navajo friends was evocative of the clash of cultures that has marked the 400-year long history of ignorance, and inhumanity in the treatment of America’s native people by White Europeans.

2

MARCH 3, 1977. The regular March meeting held in Bryan Memorial Hall, Washington Depot, will be remembered as an evening of “salvage ethnology.” Nicholas A. Shoumatoff, curator of the Trailside Museum in the Ward Pound Reservation of Lewisboro, New York, and speaker of the evening, spoofs archaeologists with his terminology. It is, however, an entirely accurate description of his work last summer.

With a grant from the National Endowment for the Arts, Mr. Shoumatoff, accompanied by Aurelius Piper, better known as Chief Big Eagle of the Golden Hill Band of Paugussets, set out last July for Wisconsin, Ontario, and Oklahoma. His goal was to find some of the remaining groups of Indian people who are direct descendants of the Delawares, the Algonquian nation inhabiting southeastern New York, New Jersey, and parts of eastern Pennsylvania at the time of White contact. Linguistically and culturally the Delawares, or Leni Lenapi, were closely related to the tribes of western Connecticut, and in the general movement of Indians away from the encroaching White Settlements, Paugussets, Tunkis, and other Wappingers, joined with the Munsee and other Delawares. Thus, in all likelihood, some of the people visited by Mr. Shoumatoff are descendants of the Connecticut Indians.

The expedition may justifiably claim to have been a practical example of “salvage ethnology” for it has disclosed genealogical ties previously only suspected and information about Indian language long since considered lost irrecoverably. Mr. Shoumatoff’s work has resulted in 1500 slides, 27 hours of tape, and 600 pages of notes. He found 25 people who still speak the Delaware language and twelve who know and regularly practice their tribe’s traditional medicinal uses of plants.

So successful was his summer field work that Mr. Shoumatoff expects to return to the West this coming summer to record additional ethnological information. His sense of urgency to preserve these cultural remnants of the Eastern Algonquian people parallels closely the efforts of archaeologists to discover and record, before it is lost forever, what remains of the material evidence of the lifeways of these and earlier people.

3

THE ANNUAL MEETING, MAY 5, 1977. Every member is urged to mark this date on family and office calendars. For the second time, the Institute’s Annual Meeting will be celebrated with feasting, song and dance.

The Place and Time

Again, the place will be The Inn on Lake Waramaug, the time, 6 P.M., with a cash bar open before dinner. Immediately following dinner, at about 8 P.M., there will be a brief business meeting and then the feature of the evening, a program of Eastern Woodland Indian dance and song. We are fortunate to have been able to engage Mr. and Mrs. Avery Jimerson, Seneca Indians from Salamanca, New York, and three other dancers for this special occasion.

The Jimerson group is well known for the purity and authenticity of their music and dances. They received high praise for their appearance last year at the annual meeting of the Society for Ethnomusicology, and we are told none are to be found better than they at interpreting their traditional art in the traditional way. The Jimersons will also have engagements at four public schools in the area.

The dinner cost will be $6.50 for adults and $4.50 for children under 14. We must ask all who plan to attend to call or write us at the AIAI Center (868-0518 or Box 85, Washington, Conn. 06793) as soon as possible, sending a check for the full amount and indicating the number of places to reserve. A reservation slip will be returned to you at once.

We should give The Inn an accurate count by April 30, and although a few dinner places will be available for purchase at The Inn, it will be safer to send us word well in advance.

Members who plan to attend the meeting at 8 P.M. but not the dinner are, of course, invited to do so, but we ask you to notify us of your intent to ensure adequate seating. We hope all who can possibly do so will come for this unusual program.
within burned limestone pieces in a Late-archaic/Transitional horizon. Likewise, I have found tracks in a glass formed on the inside of a ceramic pot used to smelt copper in the Andes. Although I have been unsuccessful so far, I eventually hope to find fission tracks in opalized regions in heat-tempered flints used by paleo-indians.

The fission-track method is straightforward, although it requires a certain amount of equipment, training and patience. A complete how-to of fission track dating is in preparation, and I hope to have it published within the year. In the meantime, there are some good references available. The best is probably chapter 4 of Fleischer, Price and Walker’s Nuclear Tracks in Solids, published in 1975 by University of California Press. Dr. Charles Naeser, U.S. Geological Survey, Denver, also has an excellent (but as yet unpublished) manuscript with many details for those who want to do dating themselves. I must emphasize, however, that this access to a good lab equipment is a necessity.

Although it is theoretically possible to date a solid object as young as twenty or fifty years and some high-Uranium historic glassware has been so dated, most archeological specimens will raise problems. There must be enough tracks to enable the counter to separate them from other etched defects in the material under study. A clean, flawless specimen is far superior to one that contains too many inclusions or flaws. High Uranium minerals, such as zircons and apatites, are numerous in some places, while being rare in others. My attempts to date objects younger than ten thousand years have been very frustrating, although given the right specimen, it might have been quite easy.

The question is: what is the right specimen? It is almost impossible for a layman to know. After a while, however, one develops the expertise to tell, with a minimum amount of lab work, whether or not a specimen will prove to be dateable. As a rule, the older the specimen, the more easily it will be dated. Fission track dating, therefore, holds the greatest promise for dates in the range between the outer limits of C-14 (about 40,000 years) and the younger limits (usually 1-200,000 years) of the potassium-argon method. Furthermore, since fission track dating can be applied to a wider range of materials than can potassium-argon, this method can be useful for dating Pleistocene sites which couldn’t be dated previously. Fission tracks may also prove to be good independent checks on dates obtained by other radiometric methods.

Fission tracks may be counted to date the formation of obsidian used in trade, and therefore, to help pin down the volcanic source of the stone material. Even where dates aren’t obtainable, a search for fission tracks may be helpful in determining whether or not a substance had been burned in the past, or in determining the temperature at which an ancient potter fired her ceramics.

A method of dating which has not yet been fully tested, but which holds some promise, is that of alpha-recoil track dating. As previously mentioned, one of the more common methods of decay of an unstable nucleus is the emission of an alpha particle. Although tracks of alpha particles are too small to see, the recoil of the nucleus under alpha decay leaves a substantial track. When an alpha particle is emitted, the nucleus recoils just like a rifle firing a bullet. We may not be able to see the bullet’s flight, but we can see the rifle—and the rifleman behind it—move perceptibly. Alpha recoil tracks are considerably smaller than fission tracks, but they have a major advantage. There are many, many alpha recoil tracks to every fission track.

Alpha recoil tracks are problematical, however, in that there are many natural processes which can create them in nature. Fission tracks, on the other hand, are only created by the fissioning of a single, rare isotope of Uranium. Some workers are now attempting empirical studies to see if there are constant rate relationships between age and alpha recoil tracks. If this proves to be the case, I don’t think it would be too bold to say that, eventually, every site which has any form of heated rock, pottery or sand will be a possible candidate for quick, reliable dating. When that day comes, we can quit being hung up with dates, and get on with the study of ancient cultures.

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through historic and prehistoric times have been the products of his interaction with those environments. Third is the somewhat more obvious fact that man’s cultures have evolved from the simple to the ever-more-complex.

Around and through these themes will be woven age by age, time period by time period, such sub-topics as food procurement, shelter, clothing, social relationships, political organization and others. The Institute has as part of its collections the artifactual materials required for the exhibits. Those few things we lack should be easily obtainable. The task ahead, in which the story we now have will be told promises to be one of the most exciting, creative, and exciting activities in our short institutional history. Graphic design, materials, spatial relationships, multimedia interpretations—all these and many more fundamental structural issues will be among our major concerns. We shall have professional design assistance and the continuing counsel of Chandler Screven.

There is no question we shall need the help of you our members, for despite the professional involvement we shall require, those of you who read this publication and are intrigued by the task may well find a needed and appreciated place for your willing hands.

Be assured we shall keep you closely informed of our progress and our need for your talents and your support.

Dr. Stuart Struener, Chief Archaeological Consultant for N.E.H. Planning Project.

N.E.H. consultant James Deetz, Assistant Director, Plimoth Plantation.
SUMMER COURSES FOR CREDIT

This summer, for the first time, The American Indian Archaeological Institute will offer courses in Field Archaeology in association with universities in the State of Connecticut. The courses will carry three semester hours of credit, granted by the individual institutions, but with the possibility of transfer, depending on the enrollee’s “home” institution. The first is offered with the University of Hartford and will begin Monday, June 20, ending Friday, June 24. The second, offered with Fairfield University, begins Monday, July 11, and ends Friday, July 15; and the third, a Fairfield University graduate credit course, begins August 1 and ends August 5.

The courses will be taught by Dr. Roger Moeller, curator of AIAI, assisted by Stephen Post, Institute staff member, and other qualified summer field assistants. The five-day courses will be intensive, starting at 8:30 A.M. each day, and lasting, on Monday, and Wednesday, until 8:30 P.M. Those evenings will be taken up with laboratory instruction and classes in the culture history of the northeastern United States.

ON TUESDAY AND FRIDAY THE HOURS ARE 8:30 A.M. TO 5 P.M.

The graduate program will be offered as part of the Fairfield University Teacher’s Center program in Environmental Studies. It is designed especially for teachers, study group leaders, and others responsible for education programs for both children and adults.

Registration and enrollment for these three courses will be through the two Universities. Inquiries may be addressed to The American Indian Archaeological Institute, Box 85, Washington, Connecticut, 06793 (866-0518), or to The University of Hartford and Fairfield University.

VOLUNTEER DIGS

Institute President, Ned Swigart, will direct the volunteer digs again this summer. From June 29 through August 6, four days per week, Saturdays through Wednesdays, the serious amateur or the totally inexperienced novice will have the opportunity to learn field procedures under supervision on an actual site. In addition to providing members with the opportunity to dig, this project is designed to obtain archeological information for research purposes.

All AIAI members are entitled to participate in the volunteer digs, but those who wish to enjoy the fullest appreciation of the problems and promises of archaeology are urged to enroll in the training session or, if possible, a two-week field school. The background thus acquired ensures greater satisfactions in the volunteer experience.

Volunteers should meet at 8:45 a.m. in front of the Congregational Church on Washington Green.

EARTHWATCH

For the second time the Institute has been asked by Educational Expeditions Incorporated (Earthwatch) to conduct a series of field schools in archaeological field and laboratory techniques. The purpose of the two week sessions, of which there will be three, is two-fold. They are to assist our staff to conduct their continuing survey of known and suspected sites in our area of the State and to provide instruction in scientific field and laboratory procedures for interested people of all ages and from every part of the country. Last summer the two week program alone had people from as far away as Seattle and California, who ranged in age from 16 to 68.

Inquiries may be addressed directly to Earthwatch, Box 127, 10 Juniper Street, Belmont, Mass. 02178; all enrollments are through Earthwatch. Enrolees live for the two-week period and take their meals at The Gunnery School. Credit for these courses is available through Earthwatch. Those interested in obtaining academic credit should make that interest known at the time of application to Earthwatch.

TRAINING SESSIONS

Again this summer the Institute will offer a five-day training session for serious amateurs wishing a program of concentrated instruction more structured and intensive than the Volunteer Digs but with less time commitment than the credit courses described above. The scheduling is especially planned to accommodate people with other obligations as well.

Sessions will cover a one-week period. There will be a morning session and an afternoon session, each lasting four hours. An interested person may register for any combination of five sessions, morning or afternoons, as long as they are on different days during the week. Each day the two four-hour sessions will cover the same material. Thus it will make no difference whether the student attends morning or afternoon sessions.

Monday classes will be for orientation, explanation of purpose and procedure, and an introduction to field and laboratory techniques. Tuesday through Friday will be spent on local sites in actual excavation.

The group will be limited to no more than 10; supervision will be close and instruction highly personalized. These sessions, consisting of sixteen hours of field experience, provide an excellent professional introduction to the science of archaeology; they do not result in a proficiency sufficient to allow an individual to carry on unsupervised or to instruct others.

The Training Session dates are:
August 22 to August 26
Mornings 8 to 12; Afternoons 1 to 5
Tuition: $50 for non-members of AIAI
$35 for members

N.E.H. consultant Frederic Warner,
Professor of Anthropology,
Central Connecticut State College.
News and Notes of AIAI

OF PLIMOTH PLANTATION AND THE GREAT AMERICAN DESERT

Since our last issue of Artifacts several staff members of the Institute have paid visits to museums and visitor centers in far corners of the country. At the invitation of Dr. James Deetz, one of our National Endowment for the Humanities consultants, Sharon Wirt and Steve Post, accompanied by Judy Herrick, our former membership secretary, went to Plimoth Plantation, Plymouth, Massachusetts. There they observed for two days one of the most interesting and successful of all historic reconstructions in the country. They returned with first-hand information on research techniques, exhibition methods, multi-media presentation, and visitor reactions, all of which will prove invaluable as we begin to translate the fruits of our N.E.H. Planning Grant into new exhibits of our own.

The Institute Director went West in December, to visit the Denver Art Museum and the Buffalo Bill Historical Center in Cody, Wyoming. Each institution has one of the most important collections of American Indian artifacts in the country. The former exhibits materials from almost every North American culture area, while the latter, in addition to its Whitney Collection of Western Art, its Buffalo Bill Museum, and its incomparable Winchester gun collection, specializes in Plains Indian material culture. It is hardly conceivable that there exists in any other single center such a concentration of Northern Plains beaded garments, weapons, utensils, and paraphernalia of all kinds.

Information acquired on both trips, East and West, about display, preservation, acquisition, publicity, and support should prove of continuing value to the Institute.

FOUNDER’S DAY

We ask all our members to look ahead to August - the 27th of August, to be precise. On that day, from 1 to 4 p.m., we shall have our second annual special observance to celebrate the life of Joan Hardee, and that special celebration shall henceforth be called “Founder’s Day.” Details of the precise nature of the day’s activities are still in the planning stages and will be announced in part, at least, in the June issue of Artifacts. We anticipate the presence of native American people and the preparation of native American foods. We do not anticipate the crushing heat of that first day of celebration last August.

Please mark the date on your calendar - August 27, 1977 - and plan to spend it at the Center on Curtis Road. It will be another Day to Remember.

“HORIZON FIVE”

In the midst of growth and expansion there is remembrance of things past - smallness, beginnings, loyalty, old friends. With a membership of 1400 and striving for more, the American Indian Archaeological Institute remembers—and wants to honor—those staunch supporters who have continuously, for five or more years, through their membership, helped to lift a small, amateur society to one of the foremost Centers of Northeastern archaeological research and education in Southern New England.

We hope all those who qualify will make special note of that August 27 Founder’s Day described above. From 1 P.M. to 4 P.M. there will be events and activities for all members; but at 11 A.M. on that same day there will be a special luncheon for all who have been members of this Society/Institute for five years or more. Look for more details in the next Artifacts, and anticipate a special invitation in due time. For the present, please just save the day and be prepared for something nice to happen - beginning at 11 A.M.

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