EDWARD H. ROGERS: COLLECTOR

He found his first arrowhead when he was seven. It was in his mother’s chicken coop in Truro, Mass.

Was that really the birth of a collector, or had there first been butterflies and beetles, or cigarette cards, or sea shells? There must have been something. Collectors are, indeed, born; the chances are he had tried several kinds of collections by the age of seven. But when he found the stone point there must have been exactly the right conjunction of elements - the boy, the place, the time of day, the time of life, and the kind of object. Edward Rogers had found his first artifact and it changed his life - and possibly some of ours, too. One wonders what kind of point it was, and whether it is still part of the breath-taking collection, now stored and exhibited at our center. Let us hope it is. Let us hope that by some lucky coincidence, it was selected to occupy an honored place in the exhibit room.

Whatever it was - quartz or flint, Levanna or Orient fishtail - it fired the imagination of a small boy, as have other arrowheads at other times in other places. This occasion was different; the interest persisted and grew, and the first artifact expanded into a collection of more than two hundred thousand objects, one of the three largest private collections of Northeastern artifacts ever amassed in Connecticut, and possibly the most important because of Mr. Rogers’ painstaking system of cataloguing.

Edward H. Rogers was born a Cape Codder and remained a New Englander all his life though his collecting instinct and his consuming interest in the American Indians took him to many parts of the country. His travels are reflected in the collection, for this essentially New England, predominantly Connecticut assemblage contains objects from states as far away as California, and two which may even be from the 50th state: a pair of basalt adzes, evidently of Polynesian origin, collected in Ledyard, Connecticut, and probably transported there in the 19th century by a Connecticut seaman, unaware of the consternation this “ethnological erratic” would later cause.

In spite of these, and in spite of pipes and pendants from Arkansas and Alabama, gorgets and gravers from Maine and Missouri, and Birdstones from Ohio to the Ozarks, Mr. Rogers’ main concern and main delight were in Connecticut prehistory. He did much of his collecting and most, if not all, of his excavating within a short radius of his two principal Connecticut residences, New Milford and Milford.

He was a 1914 graduate of New York University, went directly into teaching, and remained a teacher or school administrator until his retirement in 1961. His first post was New Milford, and here, at the age of 21, he seems to have developed to a high degree that interest which first took form and substance in Truro fourteen years earlier. The New Milford area with its nearby sites provided a fertile ground for Edward Rogers the artifact collector, who was rapidly becoming a sophisticated student of Connecticut prehistory. He was also rapidly becoming as familiar a figure in the countryside as he was in the classroom; the routine and pattern of life which he would generally follow for most of the rest of his life were beginning to emerge. Deeply committed to his chosen vocation, the teaching of young people, he developed a balance in his avocation which seems to have fulfilled his other needs and later afforded an essential change of tempo and intellectual direction as the stress and responsibility of his administrative duties increased.

More Than a Hobby

His days and most evenings were the school’s and his students’. The weekends were his and he devoted them to his hobby. His wife, Mrs. Eunice France Rogers, enjoyed her husband’s hobby only vicariously. Not personally interested, but recognizing the joy and satisfaction he derived from his week-end interests, she encouraged and supported him. Alone or with a friend who shared his interests, he rode off on his bicycle into the countryside exploring known sites or searching out new ones. Local farmers grew to know and like him. He sparked enough interest in some to start their own collections and in others to assist him in his Ever conscious of the scientific and historical importance of what he was doing, he was one of relatively few amateurs who were deeply concerned about location and other details relating to the objects he acquired. While his cataloguing was not in any way consistent with methods presently employed by the Institute and other responsible agencies, it was far more than most of his Connecticut contemporaries, and it is this fact, even more than the size, beauty or diversity of his collection that makes it probably the best of its kind in the state.

After a short period of teaching in Meriden, Mr. and Mrs. Rogers moved to the Devon section of Milford in 1921. There he was supervising principal of both the Devon and Walnut Beach schools and, briefly, in 1949, the Lenox Avenue School as well. He also studied and involved himself actively in the rich archaeology of the Connecticut shoreline. From 1953 until his retirement in June, 1961, Mr. Rogers.
The American Indian Nature Trail

"Welcome to a loop walk that should give you a perspective of the Woodland Indians' relation with this land during all seasons. Watch for numbered markers along the path, which is relatively level and dry.

"You are now walking through an Oak Hickory forest typical of upland Connecticut areas. Surrounding you are the tall canopy trees, but also the shorter "understory" trees, the thick shrub layer, and the various non-woody herbs close to a thick moist leafy humus. Living in the midst of this forest are the song-birds, squirrels, rabbits and other creatures familiar to all of us.

"But the first people in Connecticut, probably over 12,000 years ago, saw, heard, felt and smelled a very different environment, and their successors experienced yet others. Each group of people adapted in their own way to the world they lived in. THIS IS THE STORY OF THE AMERICAN INDIAN INSTITUTE TRAIL.

"Ever since the SVAS volunteers first began to unearth the prehistory of western Connecticut seven years ago, one objective has remained paramount in our thinking: how this information might be most professionally, most effectively, and most dramatically passed to a history and ecology-conscious public. Out of this desire to share the excitement and knowledge newly gleaned from horizon after horizon of Indian culture, monthly programs were instituted in 1970, and in 1972 the newsletter "Artifacts" was born. This was followed in 1974 by the 49-page monograph, The Prehistory of the Indians of Western Connecticut, Part I, 9000-1000 B.C. With the completion and dedication on May 10th of the American Indian Archaeological Institute, a new phase of communication could begin. Exhibits in the exhibit hall and courses and programs in Archaeology were instituted.

"With these traditional, basic techniques of communication the heart of the Institute was formed. We have set very high standards for ourselves in these areas. We will accept nothing less.

"We have also wanted, since the very earliest stages of Institute planning, to try something different - even, so far as we know, unique. On the fifteen acres of Institute land we hoped to develop an outdoor laboratory involving a multi-sensory experience through the creation of an American Indian Nature Trail. As excavators exposed each new horizon of Indian Culture, both the history and natural history of the area could be reproduced on the trail for modern man to experience and study.

"This very exciting concept became a reality on January 30th, 1975, when the SVAS received from the Washington Garden Club a pledge of volunteer aid and a grant of $1500 of the $5000 necessary to fund the project. The grant was to cover the remaining costs of the project, planting and construction of the trail.

"During the spring of 1975, SVAS and Eliot Pratt Outdoor Education personnel worked together to draw up a comprehensive plan. A quarter-mile loop trail was staked out, not only to take maximum advantage of the natural topography and vegetation, but also to allow for extensive replanting of all the various habitats the early people experienced in this part of Connecticut for the past 10,000 years.

"This information was determined through pollen analysis, habitat studies, and research of plant and animal remains preserved in Indian fire and trash pits. Into these habitats dwelling plans, heath, work areas, burials, and other cultural information uncovered by the excavation teams would be integrated to give a visitor as total and accurate an approximation of each early American Indian culture as possible.

"Actual construction of the Trail began in the early spring of 1975. Eliot Pratt and SVAS staff plus volunteers from the Washington Garden Club, the Gunny, and Wykeham Rise Schools, and Washington Girl Scout Troop #37 cleared the trail, placed wooden logs and topsoil in key locations, and began the process of clearing and planting the spruce habitat area.

"The Trail itself will wind through six different habitats when construction is finished.

HABITAT #1. THE TUNDRA

The unfolding story of man and his environment is developed on the Trail through a series of numbered markers and a Nature Trail guide available at the Institute sales counter. As visitors enter the Trail they begin to climb a small knoll. They are asked to imagine themselves transported back through time to a period

12,000 years ago when the great ice sheets had finally withdrawn from Southern New England. Connecticut during that period was a vast arctic tundra, broken only by clumps of stunted spruce, alder and willow. To accomplish this re-creation of the Trail, the area will be cleared of all vegetation and topsoil. Gravel will be brought in and superimposed over the sterile subsoil to form the polyhedron shape characteristic of tundra topography. Varieties of arctic plants that can withstand Connecticut's warmer climate, such as the blueberry and mat forming shrubs of the heath family, will be planted along with spruce, alder and willow. Grazing on such a tundra 12,000 years ago were migrating herds of large mammoths - the barren ground caribou, mammoth and mastodon. Living largely on these and other animals, but surely using the abundant berries in season, was the earliest known inhabitant of Connecticut, Paleo-Indian man.

"This habitat is the most difficult and expensive to recreate. While the necessary research and some clearing has been done, this part of the Trail cannot be completed until funds permit.

HABITAT #2. THE SPRUCE-FIR FOREST

As the Connecticut temperatures slowly warmed, cathedral-like stands of black and white spruce, balsam fir and paper birch replaced the vast tundra. The large grazing animals became extinct or moved north, and early man seems to have disappeared along with them. Water-oriented animals such as the beaver and mink became plentiful in the bog-covered lowlands.

Re-creation of this time zone of 10,000 years ago has been nearly completed. Over 500 black and white spruce seedlings were planted adjacent to the tundra section of the Trail this past spring, and some larger spruce were interspersed with the seedlings this fall. The proper understory is already growing naturally in the area. Wild filly-of-the-valley, bracken fern, blueberry and other characteristic plants abound.

HABITAT #3. THE PINE FOREST

The next habitat to appear on the Connecticut scene, some 8000 years ago, was a forest dominated by white pine, with oak, hemlock, birch, alder, bayberry and hornbeam. Grazing animals and early man seem to have returned in significant numbers during this time.

Since many of the desired canopy, understory, shrub and ground plant species were already in the area of the Trail assigned to this habitat, it needed only selective cutting and the planting of

Cont. on pg 3
HABITATS #4, 5 and 6. THE OAK-HEMLOCK, OAK-HICKORY and OAK-CHESTNUT FORESTS.

The last three areas of the Trail represent habitat types still found both on the Nature Trail and over much of southern New England. Oak, hemlock and hickory are plentiful along the Trail. Chestnut saplings are still abundant, although they still die back before reaching maturity because of the recurrence of the chestnut blight. Thus the oak-hemlock forest of 7000 years ago, the oak hickory of 4500 years ago and the oak chestnut of 2000 years ago are currently being developed as funds permit, through minor selective cutting and the planting of key species not immediately adjacent to the Trail. Human culture during these times was changing from a largely semi-nomadic hunting and gathering economy to the more sedentary agricultural one that prevailed when the first white residents appeared in the area in 1641.

FUTURE PLANS

As dwelling plans are unearthed and funds are available, the dwellings will be reconstructed in the appropriate habitats. These will range from small wigwam-shaped dwellings of the earlier inhabitants to the larger multi-family units the white settlers described. A pre-white Indian dwelling, small pond, and family farm are already planned, as funds permit, in the most recent habitat, the oak-chestnut, near the termination of the Trail.

Cultural items such as fire and trash pits, drying and skinning racks, work areas, and appropriate artifacts will be incorporated into the dwelling areas where and where appropriate.

Once the dwelling areas are constructed, it is hoped that student volunteers will attempt to live in them, both to act as guides for the visitors and to do ecological impact studies based on the apparent lifestyle of the people of the period represented.

A second longer trail is currently being planned for sample plot studies where in-depth research on plant succession and human ecology can be conducted.

CONCLUSION

The Trail will thus become a living laboratory where the discoveries of the excavators can be presented and tested under field conditions. In this way, students and visitors alike will experience the sweep of human history and the struggle of man over the centuries to find his place in the natural world.

E.K.S.

Rogers cont. from pg. 1

Rogers was able to devote his administrative attentions to the Devon School exclusively. His collecting interests, it seems, were beginning to be diversified.

It is hard for us to imagine, as we survey the extraordinary collection of prehistoric, northeastern American artifacts, that the man who assembled them, who lovingly described and displayed them, who corresponded and visited, attended meetings, and negotiated in trade and purchase in pursuit of this hobby, could have had time and interest for another. But he did. Even in 1961, at the time of his retirement, when he was honored as Milford's Citizen of the Year, he was known not only as an "expert on Connecticut Indian Artifacts" but also as a collector and restorer of antique clocks.

We do not know when this interest began nor when it began to replace Indian prehistory, but it is a sad and poignant fact that as Mr. Rogers' fatal illness advanced, he was forced to curtail his active pursuit of artifacts, and excavation was no longer possible.

Edward Rogers died in April, 1972. It was his wish that the Indian Collection be kept intact and under the care of an agency which was dedicated exclusively to Indian prehistory and ethnology. He negotiated its transfer to our Society and Institute before his death. Mrs. Rogers lives in the same house she and her husband shared for so many years. The walls of some of the rooms are hung with prints of Indian people and scenes of their lives. The study on the second floor still contains some of the finely crafted storage areas made by Mr. Rogers for his collections. But they're empty now, of course, and the walls where the point-mounted boards were hung bear the tell-tale marks of removal. All those cherished objects are at our Center in Washington. Mrs. Rogers is pleased that the fruits of her husband's lifelong industry and devotion now occupy so honored a place in the Institute's collections. She has her hands full looking after what remains of the clock collection: nine in all, five of them grandfather clocks, all kept lovingly wound, regulated, and accurately set.

Unquestionably the Rogers Collection will always be featured in the exhibits of the Institute Museum, for these are dramatic, visible evidence of lost worlds. The focus of archaeological effort has changed, of course, for now it is soil analysis, flotation, dendrochronology, radiocarbon dating, computer analysis, and other, comparable techniques which are producing most of the essential information, and our scientific efforts will increasingly be devoted to these procedures. But for all but the most sophisticated archaeologist, the essence of prehistory can be found in the exquisite craftsmanship of the porphyry bannisterstone and slate birdstone; the cache of flint blades, so overwhelming in their sheer numbers, and all found in one spot; the mystery of a red paint burial; and the awe-inspiring implications of a single, perfect Clovis point found in New Milford, mutually symbolic of the earliest men in New England and the great, extinct creatures they hunted.

For these and for thousands of objects as beautiful and as meaningful, we are grateful to the man, and to the little boy in Truro, and to the happy series of coincidences that gave birth to the historic Edward H. Rogers collection.

R.W.D.

IN MEMORIAM

CALVIN A. LUDORF
May 11, 1929 - September 20, 1975

On Saturday, September 20, a tragic accident cut short the life of Calvin A. Ludorf of Southbury. Mr. Ludorf was a native of Southbury and took an active interest in the life of the town and his church. He was a man of considerable musical talent, a student of history, and an antique collector.

Mr. Ludorf displayed a quiet but constant enthusiasm for and love of Indian history which led to a happy association with this Society and its Institute. He was ever alert to tell about a likely excavation site, or to share his joy in a new-found artifact. We shall miss his constant interest and spirit of brotherhood for all.

At the request of Mr. Ludorf's family, memorial contributions to the Institute were received from many of his friends - young and old. We are sad but proud to record this remembrance.

MRS. DAVID E. MEEKER
July 11, 1917 - October 15, 1975

The Institute lost another of its interested and concerned members with the death of Mrs. Meeker on October 15. Before her death, Debbie gave to the Institute sets of very beautiful silver Indian Tribal medallions with their accompanying texts. Publication of the series began in 1971 and will continue through 1977, and were subscribed to by her late husband. They are a valued memorial to Mr. and Mrs. Meeker, adding an aesthetic and historical resource to the Institute library.
ICE

Last May Walter Sullivan, science editor of the New York Times, wrote an article about the Antarctic ice sheet that should have caught the interest of every student of American prehistory—and everyone in the world who lives less than twenty feet above sea level! Mr. Sullivan pointed out that some scientists suggest that the great ice sheets of West Antarctica are unstable, rotten and slushy beneath the surface, and could disintegrate, slipping into the ocean. Such a phenomenon would probably raise worldwide sea levels about twenty feet. Between former major ice ages the seas were approximately twenty feet higher than at present. Like living with the San Andreas fault under the living room or with Kilauea at the back door, this revelation about Antarctica certainly makes geology come alive!

We who concern ourselves with early man in North America, and particularly in New England, should not need the constant threat of imminent catastrophe to make us ever aware of the role of geology, the role of glaciers - the place of ice - in the story we are trying to piece together. What follows does not pretend to be comprehensive, nor even to represent all current theory and speculation. It is a review lesson in the basic historical and structural geology of the Pleistocene epoch.

All of us are used to making certain assumptions to guide us in our own understanding of the first human presence in North America and in Connecticut. Most of us understand only the barest outlines, usually reasonably accurate, and we let those suffice without closer investigation: e.g., the first men came to North America at least 20,000—more likely 40,000—years ago; there was a "land bridge" between Siberia and Alaska; "the glacier" covered Connecticut until about 12,000 years ago and then it "melted back" from this region and man might have migrated in at any time soon thereafter. These assumptions are useful and generally accepted as accurate, but they are not enough. Further details are not only helpful and important, but are also, in some instances, among the most interesting aspects of our prehistory.

The glacier which most concerns us and most affects the existence of the first true man on Earth is the Wisconsin, known as the Würm in Europe. It was the last (so far) of a series of four major, world glacial periods occurring during the approximately two million years of the Pleistocene. The others, from earliest to latest, were the Nebraskan ( Günz in Europe), Kansan (Mindel in Europe), Illinoian (Riss in Europe), and, finally, the Wisconsin. All European designations are derived from Alpine sites, and in the case of each glacial stage the name given, whether North American or Alpine, indicates the area in which it was most actively studied.

Although our greatest concern is for the Wisconsin, it is worthwhile to see this and all continental glaciers in the context, not only of the Pleistocene epoch, but also in relation to the known geologic history of the Earth. There is substantial evidence, based on microscopic analysis of sand particles, that continental glaciers occurred as early as the Precambrian period, possibly two billion or more years ago. Again in the Cambrian and in the Permian periods we know there was widespread glaciation, and it is conceivable that glaciers have been present at some time and in some parts of the Earth during most major geologic periods.

Two conditions, easily comprehended, are prerequisite to the birth and growth of a glacier: precipitation and cold temperature. Land must be sufficiently elevated and/or in high enough latitudes to ensure that precipitation will fall as snow and will not melt entirely even in the warmest seasons. Obviously, then, this will ensure a continuous accumulation with resultant compaction at lower depths until the snow is converted to ice. Periods in the history of the Earth in which land masses were at a minimum and ocean areas predominated even more than at present were periods least likely to produce glaciation.

A third condition, not so easily comprehended, seems also to be a prerequisite to glacial expansion and contraction on a continental scale. This is a process called "pulsation." Very simply it implies that solar heat at the Earth's surface varies moderately in an irregular, cyclical pattern through periods of time measured in millennia; periods long enough to be of inestimable importance in the physical and cultural evolution of man but of relatively short duration in geological terms. This latter point is significant, for the only other understood explanation of glaciation would be vast continental drift and the upward thrust of crust plates. Such processes would require the passage of time periods far longer than those known to have been required for the formation and dissolution of the four Pleistocene glaciers.

Mystery

The unanswered, and thus far unanswerable, question is, "what causes pulsation?" This remains one of the great controversial issues—or one of the great mysteries—in the constantly changing, developing, expanding knowledge of the Earth’s history. Like some of the mysteries of archaeology, the evidence must simply be accepted. It happens; this much we now know. Precisely why it happens, in every detail, will surely be known—eventually—but for the present the mystery persists.

The last time it happened our continent was peopled by the genus Homo—almost surely for the first time, almost certainly from the region now known as Siberia, almost certainly in several waves (perhaps "stages of migration" would imply a more accurate description than "waves") at almost surely no earlier than 60 thousand years ago. Later migrations, more recent than 7 or 8 thousand years ago, may well have occurred, but it is doubtful that they
CONNECTICUT INDIAN PREHISTORY PART V

From the first SVAS monograph The Prehistory of the Indians of Western Connecticut, Part I, 9,000 - 1,000 B.C. by Edmund K. Swigart: Conclusion

Part IV, which appeared in the September, 1975, issue of Artifacts, described the Snook Kill culture which appeared around 1715 B.C. and which is remarkable for the use of foreign lithic materials rather than locally available quartz; post mold patterns indicating dwelling sites; carbonized "berries" and shards from coarsely made, thick pottery.

The next projectile point style to appear in the stratigraphic sequence of western Connecticut is the Susquehanna Broad Point. It is found associated with steatite shards. The relative population figure, based on the number of artifacts lost per 100 years of occupation, is only approximately one-third of the Snook Kill which precedes it or the Orient which follows it. This raises some interesting but as yet unanswered questions concerning the identity, longevity, and abundance of this particular phase in western Connecticut.

A large site on a ridge at the confluence of the Still and Housatonic Rivers yielded significant number of these points and will therefore be used as the model for the Susquehanna people in western Connecticut. During the fall of 1971 and spring of 1972, 50 squares were dug by John A. Pawloski in an area that had an obviously significant Susquehanna component. This area was connected to the southeast section of an SVAS excavation during the same year. Ten flint Susquehanna and three flint Orient points were found on this level. The three flint Orient points would appear to be intrusive, coming from a sizeable Orient component some three inches higher in the ground.

Since several hearths from the later Orient, Meadowood, and Levanna levels have been found to be recessed, there is an unanswered question of whether all of the seven hearths recorded in these 50 squares at this level are in fact Susquehanna-related or the result of disguised intrusions from above.

At least four of the seven hearths are probably Susquehanna in origin. They all had Susquehanna material around them, a stone cooking platform, and occasional diagnostic artifacts in them. Two were approximately 30 inches in diameter. One contained no charcoal fragments but was a mottled red and black with a 4-inch thick lens covering a platform of five flat rocks. A cache containing a chipped Connecticut traprock adz, a drill, and a flint Susquehanna point was seven inches south of this hearth. The second firepit was a 4-inch thick black stain on top of and intermixed with a platform of nine flat rocks. In the immediate area of the hearth were a quartzite, cobble hammerstone, a flint scraper, and two flint Susquehanna points. In the hearth were small bone fragments but no sizeable pieces of charcoal. A third hearth was a bowl-shaped charcoal stain ten inches in diameter by six inches deep. Water-rounded cobbles arranged in the pit formed a cooking platform. Small bone fragments, but no datable fragments of charcoal, were present in the hearth. In the same square with this feature were a quartzite cobble hammerstone, a muller, a quartz scraper, a quartz knife, a leached, chipped, traprock adz, and two flint Susquehanna points. The fourth hearth was a very large (6 feet by 4 feet) black lens 12 inches thick and containing numerous bone and acorn fragments. Here, too, water-washed cobbles formed a cooking platform. A cache of Taconic slate material was adjacent to the hearth and a large, flat, thick piece of steatite lay in it. This steatite was typical of the Susquehanna Phase, having pick-caused scratches on the exterior and a smoothed interior.

The other three hearths were all black stains whose diameters and depths were eleven inches by six inches, nine inches by eight inches, and twelve inches by four inches respectively. None of these hearths had rock cooking platforms, nor were any Susquehanna-related materials found in their immediate vicinity. One of the hearths had three flat rocks slanted into it at a 45-degree angle in the northern half of the pit. Since this "reflector oven" type of cooking surface is the exact duplicate of another hearth found in the Orient level three inches above, and C-14 dated at 1115 B.C. by the SVAS, it is likely that this, and possibly the other two pits as well, may be intrusive.

Unfortunately none of the hearths on the Susquehanna level contained enough solid carbon particles to furnish a date for this occupation. In the hearths containing no rocks, the explanation is probably a simple one. Complete combustion took place in the process of the cooking of food or other fire-related activities, and therefore no particles of carbon remained. But in the hearths involving the flat or round stone platforms, this explanation may not suffice. Since the stones were probably heated for cooking purposes, incomplete combustion due to the smothering of the fire by the rocks should have taken place. Particles of solid carbon should have remained among and under the rocks forming these platforms. Since none were found, two possibilities exist to explain this phenomenon. Either cooking was done on top of these platforms or the original sample was leached away over the years by water and chemicals in the soil. Even though no adequate amounts of solid charcoal have been collected for C-14 dating, enough unidentifiable bone fragments have been gathered to give a date.

Two other dates come from the large site at the confluence of the Housatonic and Shetepagan Rivers. The earlier of these two, 1150 B.C. ± 175 years, was excavated by James Callaghan. This too was a recessed, charcoal-filled, ½-inch deep, lens-shaped pit. The most recent C-14 date for the Orient culture, from this 6 LF 70 site, was 1115 B.C. ± 175 years. The bowl-shaped pit was 27 inches in

Plate 19
2 Susquehanna-related Soapstone Bowls
Part V Cont. from pg. 5

diameter, 5¾ inches deep, with a semicircle of rocks across the northern
section. Within it, two large flat rocks were slanted in such a way that they might
have been used as heat reflectors. These three C-14 dates probably bracket the
dates of Orient occupation reasonably well.

Post mold patterns were present at two
major river sites, 6 LF 70 and 6 LF 2. At
site 6 LF 70, approximately 25 feet north of
the 1115 B.C. hearth just described, was
an arrangement of four post molds
forming what might have been a meat-or
fish-drying rack. The four molds, which
averaged nine inches deep, 2¾ inches
wide, and tapered to a point, formed theour points of a rectangle 43 inches long
by 27 inches wide. Each pair of molds was
angled into the ground to cross
approximately 2½ feet above it, thus
making a 4-foot rack 2½ feet high. Five
flint Orient points were found in the
immediate vicinity of the “rack,” together
with a broken, Atlantic Phase, flint blade
possibly found by the Orient people and
used as a knife - and a large expanded
base drill of flint.

Post molds were also found in 51
excavated squares on Terrace 2 of the
Shepaug River site (6 LF 2), on an Orient
living floor some 12 inches above the
Snook Kill level previously described.
Forty-three verified molds were identified
with Feature 1 and 42 with Feature 2.
Both were dwelling plans approximately
16 feet long by 10 feet wide with an
apparent partition across the middle
dividing the dwelling into two 8-feet by
10-feet units. A reverse-flared doorway
was indicated on either end of the
dwelling. Both dwellings ran in an
east-west direction, perpendicular to the
river, with the westward doorway of the
northernmost dwelling some eight feet
north and four feet east of the southern
one.

The post molds outlining the dwelling
areas were similar in size, shape and
angles in the ground, to those of the Snook Kill level below. No definitive hearths
were found inside the dwellings, although
some charcoal and river cobbles were
scattered about the central part of the
dwelling floors. Thus temporary summer
occupation, perhaps for the harvest of
berries, was probable. Six Orient-type
points were found in the immediate
dwelling area - one of quartz and five of
flint. The smaller size (the longest 1 5/8
inches long) as compared to those at 6 LF
70 (2¾ to 1½ inches) might indicate a
fishing-based culture at the Shepaug
River, which, being a tributary of the
larger Housatonic, would have had a
smaller-sized fish population.

Other artifacts excavated in the
dwelling area, and typical of a “tool kit,”
were three stone points, a bi-pitted stone
of mica schist, two axes, a sharpening
stone, flint and quartz knives, scrapers
and hafted scrapers, quartz humpback
scrapers, flint flake tools and flint and
quartz tools.

This was one of several sites where no
steatite was found, even though there
appeared to be a sizeable Orient
occupation present. The percentages of
lost artifacts and debitage found inside the
dwelling circumscriptions indicate that
considerable activity took place there, and
dfell off rapidly away from the south wall.

The variety of Orient tools made with a
typical projectile point base provides a
valuable clue to the cultural traits of these
people. For example, three end scrapers,
two drills, a knife, two shortened forms of
the fishtail point, and an engraver were
found on Sites 6 LF 64 and 6 LF 70. The
knife was an exact duplicate of the one
described by Herbert Kraft as having
“many of the characteristics of a paring
knife: a keen point, a flat back upon which
the thumb might be exerted, and a blade
set at a very acute angle.” The engraver
must have been used to etch marks or
designs into some material such as
steatite, wood or bone. Unfortunately, no
preserved remains of this potential art
work were found on these sites.

Steatite shards of probable Orient
origin (because they had smooth external
and internal surfaces) were found on only
four of the 16 sites where Orient materials
were recorded. One complete Orient-style
bowl from near a soapstone quarry in East
Litchfield was donated to the Society by
William Madden. It is approximately 6½
inches long by 4½ inches wide by 3½
inches deep with small lug handles on
both ends. It is a thin, round-bottomed pot
with smooth internal and external
surfaces. Another pot from the Rogers
Collection has two drill holes to repair an
apparent seam split in the stone and a
hole in the bottom which would seem to
indicate “killing” the pot at a later date.
This is the type of burial offering
described by Dr. William Ritchie for
Orient cremations on Long Island and
therefore may well have been a
Connecticut burial item.

Three post molds were found in Square
46 along with the 10-inch cobble platform
hearth and associated artifacts. These
were 3 inches in diameter and six to eight
inches deep, in a slightly curved line, 12
inches and 16 inches apart. Their potential
configuration and use are unknown. No
other post molds were in any of the
adjacent squares.

In addition to the hearth-oriented
dates and artifacts, two other significant
lithic features were recorded. Both were
evidently work areas and contained
sizeable quantities of red Taconic slate
and flint debitage and very little quartz.

Other artifacts found on the Susquehanna living floor included two additional
pieces of steatite, two broken Susquehanna points that had been reworked into
strike-a-lites, a limonite paint pot, two
hammerstones, two rounded cobbles, and
one large knife of a heavily weathered and
therefore unknown lithic source.

In an area of excavation some 50 feet
northwest of the area already described,
several Susquehanna-related artifacts
were recorded. These included an adz that
was “chipped and partially ground into
shape,” found together with two thick
pieces of soapstone that exhibited
crack-caused scratch marks on the outside
and were smooth on the inside. A third
roughly triangular-shaped, rimshard of
steatite with two horizontal ridges near

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Part V Cont. from pg. 6

the base had been drilled, either to mend the pot or so that this decorative piece could have been used as a pendant.

A bowl, six inches in diameter, two inches high and 3/4 inch thick, with a flat bottom was found upside down, broken into nine pieces. When reconstructed, a considerable area of the rim was missing. Under the bowl was a quartzite scraper.

The presence of a substantial stone cooking vessel has important cultural implications in any assessment of how the Susquehanna people lived in relation to their predecessors. These stone "pots" could be put directly on the cobbled platforms, and more thorough cooking could be done without the constant attention necessary if combustible bark containers were used. Lugs or handles on either end made the pot easy to move.

The location of this Susquehanna component (Site 6 LF 70) which was also occupied by numerous earlier and later cultures was clearly a spot with some unique, desirable, ecological advantages. In addition to the customary - high ground on a navigable river at the confluence of two rivers - there was also a 10-foot falls; hence the Indian name for the site "Matchetawn," meaning "obstruction" or "turning back." Because the falls stopped the progress of large fish, it was formerly one of the best fishing places for shad and herring in the colony.

Fish such as shad, herring (alewife) and salmon returned in large numbers in the spring to spawn after maturing in the ocean. It is reasonable to assume therefore that from the time the Housatonic River flowed through this gorge to the sea (sometime after the glacial dam causing Glacial Lake Danbury had been eroded away), this was a fine fishing area.

Culture after culture of Indians who utilized fish as a food settled at Metchewan for at least the spring fishing season. This was undoubtedly the reason for the Susquehanna and later the Orient occupation of this site, and probably explained the Laurentian and perhaps even the Neville occupations before them.

Unfortunately no concrete evidence in the form of fish bones or scales has been excavated from the poorly preserved hearths at this once-great site. The falls are now flooded by a power dam downriver, and the site has been largely destroyed by a housing development, vandals, and private collectors - the latter not trained, and at times not interested, in proper archaeological procedures. The evidence for why these people lived here in such large numbers over such a long period of time must therefore remain circumstantial, inferred from historical Indian usage and early Colonial diaries.

From evidence gathered in western Conn., the next occupation, the Orient people, would appear to be an in situ evolution of the Susquehanna broad-point tradition. Whereas there appears to be little evidence other than their common large flint blade appearance to link the Snook Kill and Susquehanna phases in this area, there is considerable evidence linking both Snook Kill and Susquehanna to the Orient Phase.

The major Orient settlements appear to have been on the lake and river sites, with some evidence of occupation on three small stream sites. The time of Orient occupation appears to be well documented in Connecticut. While Orient occupation on Long Island has been dated by Dr. William Ritchie as between 1043 and 783 B.C., the earliest of the three C-14 dates associated with the Orient Phase in western Connecticut is 1230 B.C. ± 220 years. This was from a hearth recessed approximately six inches below the Orient occupation level in a pit. It was a bowl-shaped black stain 21 inches in diameter and five inches deep and contained fragments of charcoal, hickory nut shells, and a large Normanskill flint flake.

The comparative scarcity of steatite when the relative population of Orient and Susquehanna people was so high and the quarry sites so near is an interesting phenomenon. With known quarry sites in East Litchfield, New Hartford and Barkhamsted, all within a day's travel of the study area, soapstone (steatite) did not need to be so rare. The few shards, together with the not infrequent pair of drill holes indicative of an attempt to repair a broken vessel, all point toward a rather limited and therefore precious commodity.

The size and weight of these bowls is also of interest. From some Connecticut shards in the SVAS collection, it would seem that these bowls, particularly in Susquehanna times, must have been at least two feet long by one foot wide by 5 inches high and weighed upwards of thirty pounds. Even though the Susquehanna soapstone people were river-oriented and undoubtedly traveled by boat, the size and weight of these bowls must have made them difficult to transport. This may have meant, therefore, that less frequent migrations were being made from place to place by the Susquehanna-tradition peoples than is thought to have occurred during earlier times. These bowls might also have been hidden and left at the various seasonal campsites, however.

Crude tools (picks) were used to construct these stone bowls. Judging from the large amounts of broken shards and tailings from the mining process found on sites where steatite outcroppings were present, the task of stone bowl construction was a difficult one requiring considerable skill and patience.

The Society possesses additional artifacts from the study area and throughout Connecticut (now housed in its American Indian Archaeological Institute), which are thought to be part of the Archaic and/or Transitional period of Connecticut Indian history. A gorget, smoothly finished and rectangular in shape, from the Rogers collection, was found in Sherman. This style is thought to belong to the Susquehanna tradition, but may have been a product of early Woodland times. A pendant made of similar material and similarly etched with designs came from Wethersfield. Pendants have a long tradition. It is possible that this particular style, being so similar to the gorget, may have belonged to the Susquehanna tradition, though this type of ornament was most widely used during the late Woodland period.

With the close of the Orient period of occupation in western Connecticut sometime between 1,000 and 900 B.C., a way of life also began to come to an end. The hunting-oriented society of the Paleo-
Indian and the hunting-gathering society of Archaic man had continued to evolve with the changing environment over 7,000 to 8,000 years in western Connecticut and throughout New England. As time passed, these early Indian cultures are thought to have been more and more skilled at utilizing native plants. As their food supply increased, so did their population and their ability to remain in one locality for longer and longer periods of time.

As the first great cultural change occurred when early man shifted his economy from a largely meat-oriented to a largely plant-oriented diet, and therefore evolved from a completely nomadic to a seasonally nomadic life, so the next great change was to come with the advent of the deliberate planting of wild, and later domesticated, plant foods and the concurrent development of ceramics and village life. This time of great cultural change occurred sometime after 1,000 B.C. and took place at different times in different sections of New England. It has been named the Woodland period by Dr. Ritchie. It is planned that this Woodland period will be the subject of a future monograph, Part II of this report, The Prehistory of the Indians of Western Connecticut.

E.K.S.

RECOMMENDED READING

The books and readings recommended in this column may be ordered through the AIAI museum shop. Members will receive a 10% discount on purchases.

1. Deetz, James, Man's Imprint from the Past, 1971, Boston, Little, Brown, $5.95. This is a series of short, authoritative articles on techniques and theories in archaeology.


4. Ritchie, William A. and Robert E. Funk, Aboriginal Settlement Patterns in the Northeast, 1973, New York State Museum and Science Service, Memoir 20, Albany, $4.50. Illustrations of artifacts, site maps, and excavations in progress supplement the cultural historical discussions of New York Indians from the Paleo-Indian period to Iroquois. Nomenclature, techniques, and culture history are, in general, as applicable to New England and specifically, Connecticut as to New York State.


6. Washburn, Wilcomb E., The Indian in American, 1975, New York, Harper and Row, one of the New American Nation Series, $5.00 (this price is a special: one half list price of hardcover, while available from the publisher). This is an excellent one-volume history of American Indians by the Director of the Office of American Studies at the Smithsonian Institution. Starting with a summary of facts and theories on the origins of native Americans, this account deals with personality, social structure, Indian-white relations, and political, social, military and economic developments to the present.


RESEARCH REPORT

Nov. 16, 1975

Three staff members of the AIAI attended the annual conference of the Eastern States Archaeological Federation in Columbus, Ohio. Mr. Swigart delivered the following report.

The completion and dedication on May 10, 1975, of the American Indian Archaeological Institute and the appointment, July 1, of Dr. Richard W. Davis as Director, and, on September 1, of Dr. Roger W. Moeller as Research Chief and Curator, will result in a greatly expanded research program on American Indian prehistory in the Housatonic River watershed of western Connecticut.

Perhaps of greatest scientific importance, in addition to the publication last November of The Prehistory of the Indians of Western Connecticut, Part I, 9000-1000 B.C., is the work on a continuing series of C-14 dates. Twenty-six samples have now been dated by Geochron Laboratory. These are from fifteen sites in west central Connecticut and date from 1640 A.D. to 4050 B.C., using the MASCA adjustment factor. The greatest gap in time is between 3135 B.C. and 4050 B.C. The remainder represent a sequence of dates separated in all but one case by no more than 4000 years, and in the great majority by no more than 200 years. Thus a good chronological culture sequence from 3135 B.C. to 1640 A.D. is being developed for western Connecticut.

Essentially using William Ritchie's typology, one C-14 date applied to a Vosberg component, four to Squibnocket, five to Sylvan Lake-Wading River, three to an unidentified small stem, two to Snook Kill, four to Orient, one to Meadowood, one to Fox Creek, and five applied to Lewana. Four C-14 dates have been returned with unsatisfactory results. Agents of contamination have been suggested in each case by later site analysis results and Geoarchon Laboratory experience.

In spite of this good record, much remains to be done. In cooperation with Dr. Fred Warner and the Connecticut Archaeological Survey, more intensive site survey work must be undertaken in western Connecticut, including the complete mapping of as many watersheds as possible while the area still remains largely undeveloped.

Second, the C-14 series must be expanded both vertically and horizontally in a time-space dimension to fill in the Paleo-Indian, and the early and middle Archaic sequences and to confirm, over a wider geographic area, the culture phases currently found almost exclusively in a 200 square mile study area.

Third, a concerted effort must be made to utilize the special talents in the field of flotation and computer analysis which Dr. Moeller has brought to the region.

Of major importance during the two most recent digging seasons was the continued excavation of a Late Woodland (1580 A.D.) component occupying a large rockshelter at the outlet of Lake Waramaug. A pH of 8.5, the result, according to Dr. David Hill of the Connecticut Agricultural Experiment Station, of an immense quantity of bone decomposing on the site, has resulted in almost complete preservation of a great quantity of other bone materials. With the expert help of Dr. David Starbuck, recently of Yale University, 697 of the thousands of pieces of bone have so far been positively identified, representing twenty-four animal species. The great predominance (twenty-one species) are mammals, ranging from two human teeth to 449 bones of the white tail deer, (Odocoileus virginianus). One bird, one turtle, one fish and one freshwater mussel species make up the remainder of the identified bones. Deer make up 64.6% of...
of water taken up in the ice. Richard Foster Flint, Henry Barnard Davis Professor of Geology, Emeritus, at Yale, estimates that the volume of ice at its maximum reached 9,000,000,000 cubic miles, resulting in a lowering of world wide sea levels by over 300 feet. It is estimated that the depth of the ice ranged from 5,000 to 10,000 feet, and it is known that while shorelines extended seaward far beyond their present limits in most areas, the lowering of sea levels was partially (but only partially) compensated by a certain amount of continental depression occasioned by the enormous weight of ice.

The advance of continental ice was almost surely not, as popularly believed, a single gigantic wave or wall of ice progressing slowly southward like one enormous blanket. More likely the ice spread from many centers at once, beginning with the northernmost, most elevated points where precipitation and cold temperatures combined in just the right proportion. Thus mountain glaciers spread outward until they joined other mountain glaciers and continued to spread until larger and larger masses were created. In Wisconsin these larger masses, in North America, became two, During farthest advances these two main sheets were joined. The flowing out and down of many glaciers until they joined to form one continuous blanket, with deeply irregular edges, resembles in some respects the pattern of stream flow in a huge watershed, where brooks flow into streams, streams flow into rivers, and rivers flow into oceans.

The irregular pattern of ice advance, the irregular fluctuation of temperatures (pulsation) and the variation in the rate of movement, estimated at from 100 to 120 feet per year to many times that speed, are some of the factors which create almost insuperable problems in understanding man’s migrations which ultimately led him to New England. The peculiar behavior of glacial ice, even in retreat, creates further problems: it is now generally understood that the Wisconsin ice did not simply “melt back” from south to north, as temperatures rose after 12 or 13 thousand B.C., thus opening a broad route for paleo hunters to move in from the southeast. Apparently the ice sheet may have melted more rapidly in patches and corridors to the north of present Connecticut, permitting at least some of our earliest people to enter from the north.

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<tr>
<th>ERA</th>
<th>PERIOD</th>
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The “land bridge” between Alaska and Siberia was more accurately a sub-continent (now usually known as Beringia) 1,000 miles wide, so great was the volume centering about two generally elevated regions: one in the northern Rocky Mountains called the Cordilleran sheet, and the other further east, on the Canadian Shield, called the Laurentian sheet, or the northwest. The presence of paleo sites in Vermont, New Brunswick, and Nova Scotia tends to strengthen such a hypothesis.
Ice Cont. from pg. 9

Summary:
In the final analysis, what we know about geology and ice in particular, does not in any sense define and confirm with precision what we should like to know about the first Americans and the first "nutmeggers." But it helps us to see more clearly the limits of plausibility.

There is at present absolutely no evidence that hominids of any kind preceding Homo sapiens on the evolutionary scale evolved or even set foot in North America. This implies that approximately 50 to 60 thousand years ago is the earliest possible arrival time. Since the Wisconsin glacier, which probably began about 70 thousand years ago, must have been well-advanced by that time, it seems reasonable to assume that an early, accessible migration route was readily available because of a lowering of sea levels.

Although little is known of the effect of the pulsation pattern on Beringia during the first phase of the Wisconsin, it is generally agreed that, during the second phase, the land bridge was open from about 30,000 B.P. to about 15,000, may have closed from about 14,000 to 13,000, was open again about 12,000 and then probably closed and remained closed around 10,000 B.P.

It can be assumed that whenever the arrivals occurred, large portions of the Alaskan peninsula remained ice-free, affording early man a place to exist, but the opening of ice-free corridors from Alaska south or east, to the interior of the continent is an equally vital chapter to the story. We know that one such major passage existed about 12 to 10 thousand years ago, but there must have been earlier ones, too, or did early bands of hunters make their way over vast tracts of glacial ice?

As for Connecticut, we may assume the entire state area was blanketed for a major part of the period from about 20 thousand to about 15 thousand years ago. Precisely when it covered the sites of Hartford or Waterbury or New Haven, would be all but impossible to estimate - or when it uncovered them. By 12,000 years ago it had left Connecticut entirely and probably all of New England except for northern Vermont and New Hampshire and most of Maine. Certainly it was open to human occupation by that time, and we have every reason to believe they were here. There are some bold speculators who suggest that the first presence of man occurred before the second Wisconsin advance - earlier than 20,000 years ago - but few responsible scientists are ready to credit the theory.

One thing we know without equivocation: too little is known about the first man in our region, and too little has been done to find out.

Such investigation is not our only purpose at the American Indian Archaeological Institute, but it is certainly one of the most exciting and one of the most appealing. Discovery of paleo sites has been and will continue to be one of our highest priorities. With our present facilities and programs there is no reason why our efforts may not soon produce the evidence which, in New England, most regrettably, seems to have lagged behind so many other parts of the country.

Sources and references:

R.W.D.

THE USE OF COMPUTERS IN ARCHAEOLOGY

The purpose of this paper is to outline the usefulness of high-speed computers in archaeological analysis. Computers will store, retrieve and perform computations on millions of bits of data in a fraction of the time required by manual processes.

One of the primary functions of computers useful to the modern archaeologist is as a repository for his information. While the museum is a repository for the actual specimens, computers are keeping track of where the specimens were found (provenience), what was found with them (association), how many of a single type were recovered, and what their measurements are.

An inventory of all artifacts and eco-facts from a site by square, feature, and/or level is essential. While it is possible to write out an inventory on sheets of paper, these sheets cannot be used for another purpose. Were you to have selected a different medium of storage, they could be serving other functions as well.

Computer storage media are paper tape, punched cards, magnetic tapes, and disks. Typing an inventory onto sheets of paper on a teletype simultaneously produces a continuous paper ribbon with the same information, but in code. This paper ribbon can be run through the teletype at any time and the machine will read the code and type out what is punched.

If the inventory is quite long, paper tape gets to be too cumbersome. Cards punched on a keypunch will serve a similar function and be easier to handle.

As the information is printed at the top of the cards in English, the keypunch codes the data into combinations of punched holes on the lower portion of the card. The cards can be read one at a time by a person or fed through a card reader at the rate of 500 per minute for typing onto continuous sheets of paper.

Since cards can also become cumbersome once thousands have been accumulated, they are usually read onto magnetic tapes for easier storage and access. These magnetic tapes are similar to recording tapes and store the information from thousands of cards in a vastly more compact form.

A tape reader reads the tape and prints out the desired information onto paper.

When millions of cards are involved, disks are worthwhile investments for data storage. Their appearance and function are similar to that of phonograph records; they require their own special readers to store and access the data. They require

HOLIDAY SCHEDULE

The Institute Center will be closed Wednesday and Thursday, December 24 and 25, and Wednesday, December 31, and Thursday, January 1, 1976.

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Computers  Cont. from pg. 10

less storage space than tapes and hold significantly more data.

The question is now raised - why bother to store information on paper tape, punched cards, magnetic tape, or disk, if the only purpose is to get a list of artifacts? The answers are that the computer can rapidly turn out hundreds of identical copies with no need for collating; the format of the copy can be varied by the way in which the data is stored; and selection can be made of the data in storage. All data need not be printed out, if only a few items are desired.

The retrieval mode can be varied as desired to fit different circumstances. The computer is simply storing numbers to which the archaeologist has assigned names. Feature numbers are stored separately from sherd counts, flint chip weights, and depth measurements. All that is required to obtain any data is to request the information by telling the computer where to look for it in the data banks. When the information is located, it can be retrieved as a visual display on a device similar to a TV set, on punched cards, or typed on paper.

In all three options the format of storage is not necessarily the format of retrieval. An 80-column computer card stores 80 characters by assigning each letter, number, or punctuation mark a unique series of punched holes. When read by the card reader, the holes are translated into letters, numbers and punctuation marks. A change can be made in the spacing between these characters or labels may even be inserted at the tops of columns of figures (see Figure).

The insertion of labels is possible because the same type of information is being stored in the same location on every card. The first 3 columns have been reserved for the feature number, the next 2 for the depth below datum expressed in inches, the next 3 for the pottery sherd weight expressed in grams and tenths of grams, followed by 2 columns for sherd count, flint weight, etc. If nothing is found of a particular category, it is simply left blank.

It is even possible to request a printout of only certain data. Using the figure below, it is possible to request only a list of the sherd weights from all features, or only the contents of specific features. The utility of this is better realized if one considers a site with 100,000 artifacts from 500 features, and 700 levels, and the subject of immediate concern is the lithic remains. A request for the listing of just flakes, projectile points, knives, and scrapers would involve much less paper and time than a complete list of everything. Since all information is always there, it is unnecessary to get everything if only a few data are of interest at one time.

If the printing of lists of artifacts were the only function of computers in archaeology, they might not be worth the trouble. This is not the case. The primary utility of computers lies in their capacity for accurate, high-speed calculations. Once the information is stored, any or all of it can be recalled for mathematical functions.

Returning to the inventory of all features, levels and squares at the site, one might want to know how many of each artifact were found in a single feature. With the data stored by level within the feature, it is simple to write a program which will total each artifact category by feature and print the result in a table format similar to the figure.

To find the total of each artifact category at the entire site only a small change is necessary in the program. All that is required each time a different computation is desired is to change the program. The data remains the same. Once punched onto the cards, the data is readable and can be used any number of times for all sorts of computations. There is no danger of making a mistake by mis-copying the figures. The same figures are used over and over again exactly as they were originally punched and stored in the machine.

Up to now the concentration has been upon storing numbers referring to quantities or measurements of items. Computers can also store words or even complex diagrams.

Cont. on pg. 12

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MEETING PROGRAM

The meetings of the American Indian Archaeological Institute are held in Bryan Memorial Hall in Washington Depot on the first Thursday of the month, October through May, at 8 p.m.

(Special Note: December meeting at AIAI Center, and January 1976 meeting will be on second Thursday of the month.) The programs for fall and winter of 1975 and January, 1976, are as follows:

January 8, 1976: (Note, this meeting will be held on second Thursday.)
Talk, "1975, Summer Dig," President Edmund K. Swigart will report on the 1975 summer dig, showing the major artifacts and discussing the important inferences of the summer work.
February 5, 1976: Talk with slides, "Indians of Colonial Connecticut: Myths Old and New." Dr. James Axtell, National Endowment for the Humanities Fellow and former member of the history faculty of Sarah Lawrence College.
March 4, 1976: Talk with slides, "Tel el-Hesi - A Mound of Many Surprises." Mr. Richard Kuns, Superintendent of Historical Properties of the Connecticut Historical Commission and biblical archaeologist, will recount some of his experiences and reflections as supervisor of excavation at Tel el-Hesi in southern Israel at the northern edge of the Negev. Emphasis will be on the work of volunteers, on camp life at the site, and on the specialized roles of geologists, botanists, ceramicists, and anthropologists, as well, of course, as archaeologists.
April 1, 1976: Talk with slides, "Salmon Ruins." Mr. Jeff Scovil and Ms. Judy Shamosh of New Haven will describe their several seasons of experiences and observations on a pueblo excavation in northwestern New Mexico. Salmon Ruins site is of the Chaco and Mesa Verde cultures and dates from approximately 1090 to 1270 A.D.
May 6, 1976: Talk and demonstrations, "Music and Dance of the North American Indians." Dr. David McAllester, Professor of Ethno-Musicology at Wesleyan University, is one of the most widely recognized authorities in the world on the music of Native Americans, with particular interest in the southwest. Dr. McAllester is both scholar and performer: this will be an unusual opportunity for all members.
Computers

Word storage is handled similarly to number storage. The computer does not understand a word, but merely stores it for retrieval upon presentation of key words. An example of this is an index for a bibliography.

A reference to William Ritchie's *Archaeology of New York State* might be indexed under *Archaeology* and *New York State*. This index card would precede the reference. Imagine that this entry is one of 15,000 books and articles and that you want to locate all references pertinent to archaeology and New York State. You would request these topics by name. The computer would then search the index card preceding each reference for the key words. If they are found, the reference would be printed. If they are not found, the reference would be ignored and the next index card would be read.

This type of index is known as KWIC, key word in context. There is also KWOIC, key word out of context. KWOC requires a complete knowledge of all the topics covered in the book: Paleo-Indian, Archaic, Transitional, cultural lifeways, etc.

Storage of shapes is possible by determining the coordinates of a series of points in a figure. This is used in SYMAP, a program to make a three dimensional map of a site from any desired perspective. Imagine a highly decorated birthday cake, complete with candles, representing the site. The viewpoint of a small child looking up at the cake is different from each person sitting at the table and different still from the person standing to cut the cake.

The dimensions of the cake have not changed, but the cake appears different to every person depending upon his vantage point. The same is true of the site. This program makes a perspective drawing of the contours, features, levels, artifacts, and anything else to be included from the north, south, east, west, northeast, southwest, with each level separated from the previous one, and any other variation or combination imaginable.

The use of computers in archaeology is limited only by the imagination. Their functions of storage, retrieval, and computation of vast quantities of data save the archaeologist hundreds of hours of work. There is only one thing they cannot do, and that is to think. Only man can understand why something happened. The computer merely processes the data necessary for the decision. A wise motto to remember in computer work is GIGO: garbage in, garbage out. If the computer is used to process meaningless information, or programmed to do erroneous functions, it will produce meaningless, erroneous results. Computers cannot tell the good from the bad, they just do as they are told.

R.W.M.

COURSE OFFERINGS

The American Indian Archaeological Institute announces the offering of two eight-week series of classes taught by the curator, Dr. Roger Moeller. The first one, commencing January 12, 1976, and ending March 3, will include various aspects of museology and archaeological data analysis as announced in the September newsletter. Museology topics include the acquiring, cataloguing, storing, protecting, and restoring and displaying of archaeological specimens. Data analysis will include photographic, written and statistical descriptive techniques, and how to write a site report. The degree of class participation is contingent upon the enrollment.

Dr. Moeller's spring class, on the culture history of the Northeastern United States and related, adjacent areas, begins March 29, and ends May 19, 1976. The culture history of the region will be discussed starting with the migration of man into the New World from Asia and his ultimate dispersal into Connecticut. Paleo-Indian, Archaic, Transitional, and Woodland lifeways will be discussed to emphasize the technological innovations unique to each. The culture history of adjacent regions will also be discussed as it pertains to that of Connecticut.

Both the winter and spring sessions will meet Monday and Wednesday evenings from 7:30 to 9:30 P.M. at the Institute.

The Institute is also pleased to announce an introductory Anthropology course on the American Indian, taught by Sharon Wirt. The format of the course will be to discuss the basic anthropological concepts and terms with a detailed explanation of North American Indian life. Descriptions of the religion, marriage practices, kinship structure, political organization, economic behavior, and subsistence techniques are drawn from the reports of trained anthropologists who actually lived with the people, and early accounts written by traders, missionaries, and travellers.

Ms. Wirt holds a Master of Arts degree in Anthropology from the State University of New York at Buffalo, where she has recently taught this course. Classes will be held at the Institute Center from 10 to 11:30 A.M. on Mondays and Wednesdays. The session will commence January 12 and end March 3, 1976.

For information on registration and fees please contact the AIAI, Box 85, Washington, Ct., 06793, or call 203-868-0518.

ARTIFACTS

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