

EASTERN STATES ARCHEOLOGICAL FEDERATION



ALABAMA
CONNECTICUT
DELAWARE
FLORIDA
GEORGIA
MAINE
MARYLAND
MASSACHUSETTS
MICHIGAN
NEW HAMPSHIRE

NEW JERSEY
NEW YORK
NORTH CAROLINA
ONTARIO, CANADA
PENNSYLVANIA
QUEBEC, CANADA
RHODE ISLAND
VIRGINIA
WEST VIRGINIA

BULLETIN NO. 16

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HIGHWAY SALVAGE ARCHEOLOGY

By IRVING ROUSE

The Federal-Aid Highway Act of 1956 authorizes the appropriation of additional sums by the Federal Government for the states to use in improving their Federal-Aid highways and for the building of roads on Federal lands. In addition, it establishes a 41,000-mile National System of Interstate and Defense Highways and provides for an average appropriation of \$2,000,000,000 annually over the next thirteen years in order to construct the System. From these appropriations, each state is to receive at least 90 per cent of the money needed to complete the part of the System within its borders.

Section 120 of the Act permits the authorized funds to be used for archeological salvage in any state "to the extent approved as necessary by the highway department" of that state. The Society for American Archaeology has established a committee to publicize this section and to obtain support for it from highway officials as well as from archeologists. The work will have to be carried out on a local level, though, since the money will be in the hands of the state highway departments. Such a local program is already in operation in the State of New Mexico and provides an example as well as a precedent for the other states to follow.

In order to obtain Federal-Aid money in any state, it will be necessary first to persuade the highway department that archeological salvage is worth doing and that it can be done without disturbing construction schedules. There will also have to be an archeologist in the state who is able to co-operate with the highway department in locating sites in advance of construction. This archeologist will have to obtain construction plans from the department as soon as they are prepared, go over the rights of way to locate sites for excavation, and arrange with the department for these sites to be dug. He will have to proceed to this point on his own funds, but as soon as the highway department has assigned Federal-Aid money for excavation, he or another archeologist designated by him can go on the highway payroll for the purpose of carrying out the excavations. Judging from the experience in New Mexico, he should also be able to obtain labor and equipment from the highway department. In New Mexico, too, the department has provided money for publication of the results of excavation.

The New Mexico experience may be difficult to duplicate in the East, where sites are less spectacular and highway officials are not so likely to be interested in archeology. Whatever the success of the project, however, it constitutes another step in the gradual acceptance by government and industry of the principle that construction agencies have an obligation to recover archeological remains before they are destroyed in the course of construction.

OPENING REMARKS

NEW JERSEY MEETING—OCTOBER 27, 1956

By C. A. WESLAKER, President

It is with considerable pride and satisfaction that we officially open this Annual Meeting which is being held in the 23rd year of the Federation's history and on the 25th anniversary of the formation of the Archeological Society of New Jersey. The Federation has held four previous meetings in Trenton: 1940, 1942, 1945, and 1948. We are always glad of the opportunity to meet here, to visit the fine State Museum, and to socialize with the enthusiastic members of the local society.

New Jersey was not only a charter member among the seven original societies who participated in establishing the Federation, but on its roster are a number of individuals who have been prime movers, so to speak, in keeping the Federation moving ahead. The first President of the Federation was a resident of New Jersey and a non-professional member of the New Jersey society, Colonel Leigh M. Pearsall. Other officers and members of the Eastern States Archeological Federation Executive Board have in the past, as at present, hailed from the Garden State.

Our Annual Meeting at New Haven last November established a high-water mark in attendance at a Federation meeting. There were actually 125 registrants, with the Connecticut Society leading with 51 members registered. New Jersey was represented by 18 persons, but now that we are on its home grounds there should be no question as to who will have the attendance record. Our aim for this meeting, incidentally, is a registration which will substantially exceed the New Haven attendance record.

There are sound reasons why archeologists, both professional and non-professional, should attend Federation meetings, and if we labor the matter of attendance it is only because we feel that the program is worthy of the best and largest audience that can be assembled. As I have said before, the Federation stands alone as a forum where all the member societies have an equal voice and where they can all be heard at one meeting. In fact, it is solely responsible for having prompted and encouraged the organizing of a number of the member societies.

The present administration has pursued the objective of encouraging more active participation by the member societies in all phases of Federation business. I urge all of you to attend our Business Meeting this afternoon. Although voting is restricted to six delegates from each society, our Constitution states clearly that "All members of the member societies may attend Federation meetings and speak on all issues." At this Business Meeting each society will make its individual report through its official Representative, and each will file a lengthier written report for later publication in our Bulletin. This procedure enables us to keep abreast of what is happening in neighboring fields.

I am happy to report to you that we are continuing to make progress in the direction of serving the member societies, which are the wheels on which the Federation moves. Unless the member groups remain active and mobile the Federation will stand still, and that must not be allowed to happen. As the member societies become more active, the Federation shares that activity. Without such activity it cannot be progressive, for by definition it is, I reiterate, but a confederacy of the state societies.

The Federation could, I am sure, be of far greater and more tangible service to its member societies if its income were not so pitifully limited. Income is derived principally from the dues paid by the member societies. Yet, in 1956 the cost of the Bulletin published by the Federation, which is supplied in quantity to each society for its members, was 20 per cent more than the dues that were collected. Thus, in this one area alone the Federation returned to the societies 20 per cent more than it received from them. The problem of finances is one that has been receiving our most thoughtful attention.

This is an election year—both for the country and the Federation. On Sunday, Charles F. Kier, Jr., Chairman of the Nominating Committee and a very active member of the New Jersey Society, will submit to you for vote the names of five individuals to represent you during a two-year term, 1956-1958: a President, Vice-President, Recording Secretary, Corresponding Secretary, and Treasurer. The President will then appoint six Staff Directors. The five elected officers, the Staff Directors, and the Representatives from each society will constitute the Executive Board. This board establishes policies and transacts Federation business, as provided in our new Constitution, which was adopted last year at New Haven and which guides all our actions. I can assure you that the members of the 1955-56 Executive Board have given generously of their time, and, indeed, their personal funds, to discharge their duties efficiently. I want to take this opportunity to thank each one of them for the contributions made by his office during the past two years. All of these individuals will make a final report to you this afternoon.

Following the Business Meeting this afternoon we have planned a workshop discussion which is listed in your printed program. This is a new feature on our agenda which will permit an exchange of ideas on a problem that all the member societies face to varying degrees; namely, that of raising funds to support local activities. In scheduling this topic for discussion we feel that another step has been taken in the direction of helping the member societies.

In concluding these brief remarks, may I, on behalf of all the member societies, extend our sincere congratulations to our New Jersey associates on their Silver Anniversary; we are hopeful that the program which unfolds today and tomorrow will be sufficiently worthy to commemorate the occasion.

Next year our meeting will be held in Baltimore, by invitation of one of our junior societies, The Archeological Society of Maryland. On their behalf, and on behalf of the Federation, may I extend a warm invitation to all of you to join us in 1957 for another Annual Meeting, this one south of the Mason-Dixon Line.

MINUTES OF THE ANNUAL MEETING

The 1956 Annual Meeting of the Eastern States Archeological Federation was held Saturday and Sunday, October 27th and 28th, at Trenton and Princeton, New Jersey.

Registration for members and guests began at 9:45 a. m. at the Stacy-Trent Hotel, Trenton.

C. A. Weslaker, President, opened the General Meeting at 10:45 a. m. by introducing Charles A. Philhower, President of the Archeological Society of New Jersey. Mr. Philhower welcomed the delegates and guests, paid tribute to the local people who had contributed their time to the meeting arrangements, and briefly described the program, itinerary and special activities. Mr. Weslaker then presented his opening address which is printed on page 3 of this Bulletin.

The following papers were presented: "Conservation of an Important Archeological Site in New Jersey: the Abbott Farm," by Dorothy Cross, New Jersey State Museum, Trenton, New Jersey; "West Jersey Proprietary [Soil and Government]," by Dr. Henry H. Bisbee, Archeological Society of New Jersey; "Field Impressions of the Archeology of Russell Cave, Northern Alabama" (illustrated), by Carl F. Miller, River Basin Surveys, Smithsonian Institution, Washington, D. C.; "A Unique Punched Portrait in Massachusetts" (illustrated), by Frank Glynn, Archeological Society of Connecticut.

A luncheon at the Princeton Inn, Princeton, New Jersey, was partly subsidized by the Archeological Society of New Jersey as part of its twenty-fifth anniversary celebration. Following the luncheon, four members of the Geology Department, Princeton University, presented a panel on "The Princeton Campus in Antiquity." Professor Glenn L. Jepsen introduced the speakers and talked about the paleontological finds. Professor Erling Dorf spoke about the climates of the past, Professor Paul MacClintock, about the topography and Miss Vilma Hudak, about the archeology of the campus.

The Business Meeting was opened by C. A. Weslager, President, at 3:15 P. M. The minutes of the New Haven meeting, November 12 and 13, 1955, were accepted as printed in the Federation Bulletin No. 15.

For the Executive Board, Dorothy Cross, Recording Secretary, recommended to the meeting at large: that the membership dues of the Federation be continued as of last year with a \$7.50 minimum for societies of 100 or less members and \$7.50 for each additional 100 members or fraction thereof; that the petitions of the Archaeological Association of Quebec, the Alabama Archaeological Society and the Michigan Archaeological Society be honored and said societies be admitted into the Federation; that the 1957 Annual Meeting be held Saturday and Sunday, November 9 and 10, at Baltimore; that the invitation from the Archeological Society of Delaware to hold the 1958 meeting in Wilmington be accepted tentatively. The recommendations were accepted.

Kathryn B. Greywacq, Corresponding Secretary, reported that she arranged for the typing, mimeographing and mailing of special Federation bulletins and correspondence to Secretaries, Presidents and the Executive Committee during the year, and of the Annual Meeting correspondence and follow-ups. She also took care of inquiries and the general correspondence, made arrangements for the printing and distribution of the Federation Bulletin, and prepared for the printer and distributed meeting announcements, cards and letterheads. She also handled sales of Bulletins and the Bibliography, turning the money over to the Treasurer, and revised, at intervals, the directories of Federation membership.

James L. Swanger, Treasurer, reported a cash balance on hand of \$139.00 as of October 15, 1956. Receipts during the year included \$260.00 dues from member societies, \$5.00 from sale of Bulletins, \$16.07 from sale of Bibliographies, \$107.00 from registrations at the 1955 Annual Meeting, \$283.50 from 1955 Annual Dinner receipts, and \$70.00 from the return of Weslager advance for the 1955 Annual Meeting. Expenditures included printing and distribution of Bulletin 15 (\$311.18), 1955 Annual Meeting programs (\$23.75), Constitution reprints (\$4.25), letterheads and envelopes (\$22.50), the purchase of stamps (\$7.37), advance to Weslager for the 1955 Meeting (\$75.00), 1955 Annual Dinner charges (\$293.82), badge holders (\$4.89), rental for Committee Room (\$15.00), and bank charges (\$6.08).

John Witthoff, Editorial Director, reported that the supplement to the Bibliography was still unfinished business. At the

present time cards are being typed and he hopes the supplement will be ready for the printer in a few months.

Arthur G. Volkman, Director of Public Relations, reported that judging by the responses to the annual questionnaires, archeology obtained an unprecedented amount of advertising during the past year. The Connecticut Society members and chapters had exhibits in their respective areas, including state fairs, and gave talks to schools and other organizations. In addition to the Society's slide library some members used their own slides for illustration. These activities were reported in local papers, one of which carried a feature story concerning archeologists. The Delaware Society had notices of meetings, information about a new site being excavated by the Society, and some pictures of speakers published in the Wilmington papers. The Massachusetts Society is more fortunate than most of the others in having a museum, located in Attleboro, which is devoted exclusively to the American Indian. This is open daily and each winter a series of lectures on archeology is given there. Members of the museum staff are available for lectures, and chapters also furnish speakers to various organizations. A number of lectures were given during the year to church societies, lodges, Scouts, etc. New Hampshire Society members gave talks to many groups in the State and furnished papers for historical publications. The New Jersey Society sponsored exhibits at the Trenton State and Morris County fairs. Metropolitan papers of New Jersey, Pennsylvania and New York, together with local newspapers throughout the State, gave special publicity to the burials and artifacts found at the Steppel site, Morris County. This site was also the subject of radio broadcasts. The Pennsylvania Society members and chapter members had many and varied activities. Several excavations were started and reported by the newspapers. Several towns and cities displayed exhibits. These resulted in increased membership for existing chapters and formation of a new one, with several others in prospect. The Virginia Society members lectured on archeology at schools, colleges and churches. The *Richmond Times-Dispatch* carried a feature article of one of their meetings, which included the picture of a non-professional archeologist who not only searches for Indian artifacts but also fabricates them. The West Virginia Society members had varied activities. The Rev. Clifford M. Lewis, S. J., gave a half-hour program on WTRF-TV, Wheeling, covering archeology of the Upper Ohio valley, and was pictured in a news broadcast over the same station with a collection of artifacts. The Federation compiled and distributed to the member societies a list of speakers available for meetings and sent out a sample news release for publication in local papers covering the present meeting.

William J. Mayer-Oakes, Director of Membership, reported that he had tried to contact agencies in Vermont and South Carolina, the remaining coastal states not yet represented in the Federation. In the former he was unsuccessful, but in the latter he has corresponded with E. L. Stone who has a background of activities in the Tennessee Archaeological Society. Mr. Stone and several friends seem to be the best possibility for a nuclear South Carolina Society and they have been encouraged to take steps in organizing a local society. Dr. Mayer-Oakes then presented petitions for Federation membership with accompanying data such as constitutions, lists of officers and membership lists from the Archaeological Association of Quebec, the Alabama Archaeological Society, and the Michigan Archaeological Society. It was voted to receive these organizations into the Federation. Dr. Mayer-Oakes described the workshop on the problems of local societies which was held at Lincoln, Nebraska, last May as part of the program at the Society for American Archaeology Annual Meeting. Results of this workshop are being prepared for possible publication. One of the most immediately

useful results is expressed in a paper by Richard E. Johnson of the Tarrant County (Texas) Archeological Society, entitled "The Local Archeological Society—An Outline Guide to Its Formation, Organization, Function and Problems." Copies of this paper were sent to the Presidents of the Federation member societies last May. The widespread, generally enthusiastic response to the workshop is an encouraging sign of activity in nearly all local areas of the United States. There is, in addition, an appreciable measure of positive feeling about the need for integrative, larger-area or nation-wide groups concerned with problems of the local society.

Alfred K. Guthe, Director of Exhibits, reported that Charles Sofsky was exhibiting some pottery from northeastern Ohio, and the publications of the Archeological Society of New Jersey were on display at the meeting. In addition, Bernice Jamieson of the New Jersey State Museum headed a committee which prepared two special exhibits at the Museum in honor of the Federation meeting and the twenty-fifth anniversary of the New Jersey Society. One is entitled "New Jersey's Place in Cultural History" covering the period from 16,000 B.C. to 1625 A.D. The purpose of this exhibit is to present the development of the aboriginal cultures of New Jersey through time and by showing selected materials to give some idea as to what was concurrently happening in other parts of the world, particularly with reference to the development of civilization. In other words, this presentation views and symbolizes the culture history of the world with the time periods of the New Jersey Indian cultures serving as the means of organization. Also exhibited are several of the original paintings from the Life Magazine series on the Epic of Man. The other exhibition consists of thirty portraits of North American Indians by George Catlin. These are original paintings from the Smithsonian Institution collections. This is accompanied by selected objects pertaining to the paintings. Dr. Guthe explained that the series of photographs promised for circulation among the member societies have been made, but no captions have been prepared as yet.

All of the above reports were accepted.

The reports of the state societies by their Representatives were then presented. (These are printed later herein.)

The Business Session was brought to a close at 4:15 P.M. and Irving Rouse presented a talk on "Highway Salvage Archeology."

A workshop discussion on "How a State Archeological Society Can Improve Its Financial Position" was chaired by William J. Mayer-Oakes. The discussion opened with society members explaining what their organization did to raise funds. The following were included. The Pennsylvania Society sells membership pins. The Massachusetts Society published a special number of their Bulletin composed of extracts from previously published articles entitled "Preliminary Classification Outlines." The Ontario Society made contact with a local conservation authority and submitted to it a preliminary report containing a list of sites to be investigated. They asked for a grant and received \$100.00 as a starter. The Warren Archaeological Society, Warren, Ohio, works up enthusiasm among its members for donations to purchase special equipment. It was suggested that this could be done on the chapter level. The New York Society has its publications on sale at Fort Ticonderoga and Fort Henry. The West Virginia Society derives a good income from its Grave Creek Mound Museum through admissions and sale of gifts. It was suggested that all societies have an institutional membership on the sustaining level which New York now has. It was also suggested that a corporate membership might not be out of the question.

While the Business Session was being held, persons not interested in attending were taken on a conducted tour of the Princeton campus. The itinerary included a visit to the Museum in Guyot Hall.

The Archeological Society of New Jersey entertained the registered delegates and guests at a social hour preceding an informal dinner at the Stacy-Trent Hotel. At the dinner, the local society continued to celebrate its twenty-fifth anniversary. A number of honored guests were introduced by Charles A. Philhower, President of the Archeological Society of New Jersey, after he gave a brief account of the growth of that society. Dr. J. Alden Mason, an honorary member and Editor of the local society, introduced the dinner speaker, Froelich Rainey, Director, The University Museum, Philadelphia, who spoke on "Archeological Research and Public Interest."

Sunday morning, October 28, at 9:30, there was a viewing of the Anthropological Exhibits at the New Jersey State Museum.

The General Meeting was resumed in the Main Hall of the Museum at 10:45 with Irving Rouse presiding. Five papers on the New York area were presented: "Excavations in 1956 on Archaic Sites of Long Island" (illustrated), by William A. Ritchie, New York State Museum, Albany, New York; "Preliminary Report on the Lithic Traits of Muskeeta Cave—OYB 2-3," by Edward D. Patterson, Nassau Archeological Society, Sea Cliff, New York; "Some Notes on Interior Cord-marked Pottery from Coastal New York" (illustrated), by Julius Lopez, Archeological Society of Connecticut; "A Possible Seneca House Site 1600 A.D." (illustrated), by Alfred K. Guthe, Rochester Museum of Arts and Sciences, Rochester, New York; "An Iroquois Sequence in New York's Niagara Frontier" (illustrated), by Marian E. White, Rochester Museum of Arts and Sciences, Rochester, New York.

Charles F. Kier, Jr., Chairman of the Nominating Committee, presented the following slate which was elected unanimously:

ELECTED OFFICERS FOR 1956-1958

(Members of the Executive Board)

C. A. WESLAKER	President
WILLIAM J. MAYER-OAKES	Vice-President
DOROTHY CROSS	Recording Secretary
KATHRYN B. GREYWACK	Corresponding Secretary
JAMES L. SWAUGER	Treasurer

President Weslaker then appointed the following Staff Directors:

STAFF DIRECTORS

WILLIAM J. MAYER-OAKES	Research
Ontario Archeological Society	
FRANK GLYNN	Editorial
Archeological Society of Connecticut	
ARTHUR G. VOLKMAN	Public Relations
Archeological Society of Delaware	
J. ALDEN MASON	Membership
Society for Pennsylvania Archaeology	
ALFRED K. GUTH	Exhibits
New York State Archeological Association	
DOROTHY CROSS	Program
Archeological Society of New Jersey	

The afternoon session was opened at 2:15 at the Stacy-Trent Hotel with John Witthoff presiding. Five papers on the Pennsylvania area were presented: "The Oscar Leibhart Site—A Susquehannock Village of 1650-1675" (Illustrated), by W. Fred Kinsey, Pennsylvania State Museum, Harrisburg, Pennsylvania; "An Early Nineteenth Century Graveyard Near Fort Necessity, Pennsylvania," by James L. Swauger, Carnegie Museum, Pittsburgh, Pennsylvania; "Projectile Point Typology of the Beaver Valley" (Illustrated), by John A. Zuckius, Beaver Valley Chapter, Society for Pennsylvania Archaeology; "Ceramic Developments in the Beaver Valley" (Illustrated), by Charles Sofsky, Warren Archaeological Society, Warren, Ohio; "Preliminary Notes on Some Pottery Types in Bradford County, Pennsylvania" (Illustrated), by Catherine McCann, Tioga Point Museum, Athens, Pennsylvania.

It was voted to extend appreciation and sincere thanks to the Archeological Society of New Jersey, The New Jersey State Museum and the Geological Department of Princeton University for their hospitality and cooperation.

The meeting was adjourned at 4:45 p.m. A total of 183 members and guests attended the meetings. The 162 who registered were from the following areas: Connecticut—7, Delaware—11, Florida—1, Maine—1, Maryland—5, Massachusetts—6, New Hampshire—1, New Jersey—85, New York—21, Pennsylvania—19, Ontario—3, Washington, D.C.—1, West Virginia—1.

Respectfully submitted,

DOROTHY CROSS,
Recording Secretary.

REPORTS OF THE STATE SOCIETIES

Connecticut—Frank Glynn reported that the Archeological Society of Connecticut has 330 members.

Two state-wide meetings were held. The 1956 Annual Meeting and biennial election of officers was held at the Connecticut Agricultural Experiment Station, New Haven, May 19. In addition to the business session, Dr. J. Louis Giddings, Brown University, presented a talk on "Flint Techniques and the Making of Stone Tools."

Two Newsletters were issued by Acting Editor, Irving Rouse. The eagerly awaited reprint of Bulletin 3 was published with a new index contributed by Eva L. Butler. The principal component of this Bulletin is "A Compilation of Historical Data Contributing to the Ethnography of Connecticut and Southern New England Indians," by Froelich Rainey. With this re-publication there is again in print an adequate general description of Connecticut's Indians.

The Danbury, Middlesex, New Haven and Niantic chapters continued their regular meetings. Renewed interest appeared in the Hartford area.

Excavations at the Grannis Island site were continued by the New Haven Chapter. Minor finds were reported along the path of construction of the new Greenwich-Killingly highway.

New projects in the planning stage include: an intensified Public Relations program; regional symposiums on chipped stone materials; establishment of teams capable of stepping into situations calling for quick salvage or cooperation with curio-collecting diggers.

Delaware—Elwood S. Wilkins, Jr., reported that the Archeological Society of Delaware has 99 members.

Five public meetings were held during the year with the following talks and speakers: "Excavation Technique," by Donald D. Hartle; "Stone Tools and Their Manufacture," "Techniques and History of Pecked, Ground and Polished Artifacts," by J. Louis Giddings; "The Buri Site," by Jacob Gruber; "Pottery Classification by Temper and Paste," by Clifford Evans; "Robert Morris and the Treaty of Big Tree—1797," by Norman B. Wilkinson.

One number of the Bulletin and four numbers of the newsletter, *Inksheds*, were published during the year.

A field trip was made to the steatite quarries at Christiana, Lancaster County, Pennsylvania. The excavation at Minquawan has progressed steadily and about one-third of the area is completed. This site promises to be more fruitful than originally expected.

An award has been established for distinguished work in archeology by a member of the Society. This award is named the Archibald Crozier Memorial Award in honor of the late Archibald Crozier, one of the founders of the Society and much-loved peer of Delaware archeology.

The Society has adopted a new constitution.

Florida—Frederick W. Sleight reported by letter that the Florida Anthropological Society, established in 1948, has 267 members.

The Society now has two chapters: Tampa Bay Chapter, Tampa, Florida, and the newly formed South Florida Chapter, University of Miami, Coral Gables, Florida.

The Society holds an Annual Meeting each year in various parts of the state. Winter Park, in central Florida, will be the scene of the next meeting on February 2, 1957. Chapter groups meet more frequently according to local schedules and projects.

During the 1956 season the Quarterly publication, *The Florida Anthropologist*, Vol. IX, Nos. 1 and 2, were published. Nos. 3 and 4 are scheduled to appear before the close of 1956. In addition to the regular series, Florida Anthropological Society Publications, No. 4, became available. This major contribution in anthropology, *The Europeans and the Indians*, by Dr. Hale G. Smith, Department of Anthropology, Florida State University, outlines in one hundred and fifty pages current knowledge concerning European and Indian contacts in the states of Florida and Georgia.

The Society does not conduct field work. However, projects have been carried out through both chapters. The South Florida Chapter is conducting salvage archeology on a site being destroyed by commercial interests. This Chapter also plans a site survey in southern Florida.

Georgia—Arthur R. Kelly reported for William Tate by letter that the Preservation of Early Georgia History Society has a membership of 150.

Meetings are held once a year but as this is not adequate for an active society, a meeting will be held in the fall of 1956 to discuss reorganization and plans for the future.

The official organ, *Early Georgia*, still exists, but needs a new set-up. Volume I with four numbers and the first number of Volume II have been published. This magazine will be

pushed more vigorously as a medium of communication in which various archeologists can make known the results of current field work. Georgia has been one of the most active southeastern states in the amount of field work done. River Basin archeology, with cooperation of the University, Smithsonian, National Park Service, and U. S. Corps of Engineers has been and is a fruitful source of field work. Just now we are contemplating plans for initiating salvage archeology in the Hartwell Basin, northeast of Athens, where a number of important Lower Settlement Cherokee sites are threatened by inundation.

The Society has sponsored no field trips of its own. Archeological work in Georgia is carried out by the University of Georgia, the Georgia Historical Commission, and various local history bodies who collaborate with the University or Historical Commission on special projects.

Maryland—Robert W. Hale reported that the Archeological Society of Maryland has a membership of 64.

Meetings are held monthly and topics and speakers have been: "An Interglacial Site at San Diego, California," by Dr. George F. Carter, Johns Hopkins University; "The Pre-ceramic Period in Virginia," by Carl F. Miller, Smithsonian Institution; "The Indian Graves and Ossuaries in Maryland and Virginia," by T. Dale Stewart; "Excavation of Indian Sites along the Potomac River," by Ralph Fout, Frederick, Maryland. At other meetings films showing the mode of life of various primitive peoples, from the large collection of the Enoch Pratt Library of Baltimore, were shown. Others were general discussions of members' work and finds.

A newsletter is published monthly. Material is now ready for our first Bulletin and plans for its publication are under way.

Four field trips were made, two to Selden Island, one to the Potomac, and one to Nottingham on the Patuxent River.

Massachusetts—Maurice Robbins reported that the Massachusetts Archeological Society has a total of 618 members, of whom 495 are entitled to receive publications.

The Society meets in October and April each year. These meetings consist of a morning business session, an afternoon session at which members present papers, and an evening session. In April the evening speaker was Dr. Elmer Harp of Dartmouth College who gave a very interesting, illustrated description of his work in the Northwest Territory. At the October meeting the evening session was devoted to a round-table discussion of the spatial and temporal distribution of the use of red ochre by the aboriginal peoples of New England. This type of program was well received and will probably be repeated in the future.

The Society is further organized in nine chapters which meet monthly during the winter season. Two additional chapters are now in the process of formation.

Quarterly Bulletins are published containing papers of archeological, ethnological and historical interest. A special number was published this year in which an artifact classification was described. This publication has enjoyed a wide demand by both members and non-members of the Society.

Field work has been carried out by several of the chapters and all report considerable success.

The society-operated museum, Attleboro, has expanded its collections during the year just passed. Three private col-

lections have been acquired as well as a number of single items of especial interest. This museum is open to the public three days each week and is available by special arrangement for meetings of local organizations. Speakers are provided for service clubs, historical societies, Boy and Girl Scout organizations, and local chapters. The course in archeology which has been offered on alternate Sunday afternoons during the past three seasons will be continued again this winter. This course has been well attended and seems to have been of considerable interest to all who have participated.

New Hampshire—Eugene D. Finch reported by letter that the New Hampshire Archeological Society has 95 members, an increase of 36 over last year.

At our Annual Meeting, in Keene, October 20, we heard Dr. G. E. Wright, lately returned from Palestine, talk on "New Horizons in Pre-historic Archeology of the Near East." Howard Sargent reported on our second year of work at the Burke site at Pickpocket Falls, and on a colonial site in Hanover.

Two newsletters have been issued during the past year and a "Proposed Artifact Classification for Identification Purposes," the work of our Editor, Professor J. Frederic Burt, has been published. Howard Sargent is now preparing a handbook on archeological method which we hope to have in the hands of our members before our next season's work.

Field work was more extensive than ever before. Work continued on the Pickpocket site over much of the summer. Many digs were held at the Grimes site in Hanover, and our newly formed Monadnock Chapter held a dig on Lake Contoocook in Rindge.

Much of our time this year has been spent on the problems involved in organizing chapters. We have a Monadnock Chapter of some thirty members who have been meeting regularly and conducting investigations in the field.

New Jersey—Charles F. Kier, Jr., reported that the Archeological Society of New Jersey has 351 members, 51 more than last year.

This year marks the Silver Anniversary of the Society and the accomplishments have been outstanding.

Four regularly scheduled meetings were held during the year with the following papers and speakers: "Diffusion of Primitive and Folk Music in the Americas," by Donald D. Hartle, Hunter College; "The Excavation at the Buri Site in Burlington County," by Ronald Mason; "Ancient Cities in Middle America," by Jeremiah F. Epstein, Hunter College; "Caughnawaga," by Very Rev. Father Thomas Grassmann, O. F. M. Conv. A film entitled "In the Beginning" was also shown. The last meeting, October 6, was devoted to final plans for the twenty-fifth anniversary celebration to be held in conjunction with the Eastern States Archeological Federation Annual Meeting.

The year 1956 has been outstanding insofar as publications are concerned. Newsletters 35, 36 and 37, and Bulletin 11 were issued. Noteworthy is the publication of Volume II of *The Archaeology of New Jersey*. This publication has been long awaited by students of archeology throughout the United States. As a monumental work in archeology, the time and funds that have gone into its compilation may never be surpassed insofar as eastern archeology is concerned.

The anniversary year also marks an all-time high in field activities. In addition to many individual surveys by its mem-

bers, the Society has, with the cooperation of the New Jersey State Museum, tested nine sites in central and southern New Jersey with possible future excavations resulting therefrom. Society members participated in two digs during the year: the R.C.A. site in Mercer County under the direction of Ronald Mason, and the Steppel site at Hanover in Morris County, directed by Donald Hartle and Ronald Mason. Both sites yielded considerable material that will add substantially to our knowledge of the prehistory of New Jersey.

The Society's two chapters, the Unalachtigo and the Manta, continued to function throughout the year, by continuing their extensive site surveys in the southern part of the State.

The Lending Library and Kodachrome Slide Library continued to be in great demand by Society members, schools and other organizations. Also, the Society has provided speakers for many functions throughout the year. An official exhibit of the Society was set up at the New Jersey State Fair, held at Trenton in September.

New York—Alfred K. Guthe reported that the New York State Archeological Association has a membership of 252.

The Association consists of six chapters, each of which carries out its own program. A new chapter—the Susquehanna Chapter—has been accepted in the Association, although it is not yet paying dues in the Association. These chapters meet once a year as an Association.

The Annual Meeting was held April 14, 1956, at the New York State Education Building in Albany, New York. In addition to the business meeting during which constitutional matters were considered, several short papers were presented. These were: "Recent Work at the Fort Hill Site near Le Roy, New York," by Alfred K. Guthe; "Archeological Evidence of the Mask Among the Seneca," by Charles F. Wray; "The Snook Hill Site, Saratoga Co., New York," by William H. Rice; "Two Possible Coeval Lumokoid Sites near Ossining, New York," by Louis A. Brennen; "Seventeenth Century Graves at Montauk, Long Island, New York," by Roy Latham; "A Program of Archeological Research on Western Long Island," by Ralph Solecki. These were followed by a discussion of "Practical Ways of Achieving Cooperation Between Professional and Non-Professional Archeologists." Marian E. White served as chairman of the discussion. The annual dinner was followed by an informative talk by William N. Fenton on "Ethnological Sources on the Beginnings of the Iroquois Confederacy."

The 1957 Annual Meeting of the Association will be held at the Rochester Museum of Arts and Sciences in Rochester, New York, on Saturday, April 6.

During the past year Bulletins 5 through 7 were published. Bulletin 8 is now in press and will be devoted to the proceedings, reports and some of the papers presented at the Annual Meeting. During our 1957 fiscal year we expect to issue another *Researches and Transactions*. This will be a report on the Stony Brook site on Long Island by William A. Ritchie. Other manuscripts are being considered and will be issued when ready provided sufficient funds are available.

Ontario—G. Ruth Marshall reported that the Ontario Archaeological Society has 75 members.

Speakers and topics presented during the monthly meetings of the past year were as follows: "A Visit to Some Cities of the Ancient Maya," by E. H. Craigie, at the annual banquet; "An Archaeological Reconnaissance in Quebec Park," by

Robert L. Dailey; "Life in a Hunting Camp, 110,000 B.C.," by George Lechler of Wayne University; "New York State Archaeology With Ontario Overtones," by Alfred K. Guthe; "The Archaeology of the Delmarva Peninsula," by C. A. Weslager, President of the Eastern States Archeological Federation; "Serpent on the Hill," by E. S. Carpenter.

Publications consisted of the Society's monthly Bulletin "Arch Notes"; Research Guide No. 1—"Castellation Development Among the Iroquois," by J. Norman Emerson; and "Understanding Iroquois Pottery in Ontario," also written by Dr. Emerson.

Members were active in the field, participating in the Society's spring "dig" at the Robb site, in its fall "dig" of an ossuary located not far from Toronto, and in a supervisory capacity at the University of Toronto's large-scale "student dig" which was held in October. During the summer season members assisted at the "dig" on Sheek Island in the St. Lawrence River, headed by Dr. Emerson, and jointly sponsored by the University of Toronto and the National Museum of Canada, in Ottawa, at the excavation of the "Serpent Mound" by Toronto's Royal Ontario Museum, and at an earthworks site in southwestern Ontario, under the direction of Thomas E. Lee, of the National Museum of Canada.

Special projects included: the incorporation of the Society under the laws of the Province of Ontario; a survey of Indian sites in the Rouge Valley Conservation Authority, partially financed by that Conservation Authority; a display at the McLaughlin Public Library, Oshawa, Ontario; the continuation of a colour documentary of field and "lab" work.

Pennsylvania—P. Schuyler Miller reported that the Society for Pennsylvania Archeology has a membership of 797.

The Society held two very successful meetings during the year, an early Spring Meeting in Pittsburgh on April 7, and the Annual Meeting in Harrisburg, at the Pennsylvania State Museum. At the Spring Meeting the following illustrated papers were presented: "The Mosquito Lake Sites," by Charles Sofsky, Warren Archeological Society; "The Graves at Ravencraft's," by James L. Swanger, Assistant Director, Carnegie Museum; "The George Mound," by Charles O. Fobes, Jr., Beaver Valley Chapter; "Archeological Manifestations in Lawrence County, Pennsylvania," by Marco M. Hervatin, Beaver Valley Chapter; "The Jones Quarry Cave Investigation: A Progress Report," by Jack A. Leppla, Allegheny Chapter; "The Leiphart Site: A Susquehannock Town of 1675," by W. Fred Kinsey, Pennsylvania State Anthropologist; "Utilization of Geological and Soil Weathering Evidence in Archeological Studies of Early Man," by William E. Edwards, Assistant Professor of Anthropology, University of Pittsburgh. The illustrated dinner address was "Paleo-Indian Complexes of the Northern Allegheny Mountain Region," by John Witthoft. At the Annual Meeting the following illustrated papers were presented: "The Wyandot Town of 1748," by William A. Hunter, Associate Historian, Pennsylvania Historical and Museum Commission; "An Early Fishing and Hunting Station in the Lower Delaware River Valley," by Charles F. Kier, Jr., Southeastern Chapter; "Weekend Archeology in Alabama," by Dr. Michael W. Bowser, Lower Susquehanna Chapter; "Ceramic Analysis at the Varner Site," by William J. Mayer-Oakes, Upper Ohio Valley Archeological Survey. J. Louis Giddings, Jr., gave the illustrated luncheon address on "Arctic American Archeology and Circumpolar Culture Problems." Discussion at the Spring Business Meeting centered on the question of salvage excavation in its relation to the proposed Federal Highways Act and a resolution was adopted.

In the past year, one double number (Vol. XXV, Nos. 3-4, pp. 149-199, December 1955) and two single numbers (Vol. XXVI, No. 1, pp. 1-56, June 1956 and Vol. XXVI, No. 2, pp. 57-124, August 1956) of *The Pennsylvania Archaeologist* have been published. The double number was of special importance in that it consists of indexes by titles and authors to the first 25 volumes of the journal, plus a title index containing names of counties, the Constitution of the Society, and a membership roster. The two numbers published thus far in 1956 have contained 11 papers and 38 pages of plates and figures, including a full report of the Upper Ohio Valley Archeological Survey excavation of the Watson Farm site in Hancock County, West Virginia, by Don W. Dragoon of the Section of Man, Carnegie Museum.

The five active chapters carry on their own programs. The Allegheny Chapter began salvage excavation on the Bunola site, a Late Prehistoric (Monongahela) village which will be destroyed by industrial construction. Members of the Chapter also assisted the Pittsburgh Grotto of the National Speleological Society in investigation of Jones Quarry Cave near Falling Water, West Virginia. During the winter months, Dr. Mayer-Oakes supervised regular workshop sessions at the Carnegie Museum, in which many Chapter members took part. Individual members continued field work in the area. The Beaver Valley Chapter continued its exploration of mounds along the Pennsylvania-Ohio border. A particularly important development in the Beaver Valley area has been the recent location and probable identification of early 18th century documented sites. The North-Central Chapter has continued its intensive site survey and held its first Chapter excavations on the Brock Farm. This Chapter makes workshop sessions a regular part of each meeting. The new Lower Susquehanna Chapter has aided State Anthropologist W. Fred Kinsey in his work on the Leibhart site. Members of the Southeastern Chapter are carrying on field work at a site near Kinston.

Rhode Island—William S. Fowler reported that the Narragansett Archaeological Society of Rhode Island has a membership of 76.

Monthly meetings held during the winter months have been well attended. Speakers were drawn from Society ranks, and their talks dealt with archeological subjects pertaining to the New England area.

Excavation of the Sweet-Meadow Brook site in Apponaug was completed with the entire occupational area excavated. An illustrated report appears in the current October number of the Massachusetts Archaeological Society's Bulletin. This account, which occupies the entire Bulletin, presents a stratified record of pottery making through the first three stages of ceramic development; the fourth and last stage, unfortunately, is missing, probably because the site was abandoned before historic times. Included in the report is perhaps the first well-documented evidence in this area of the stone pipe industry. It presents some pipe style changes which took place during the periods in which the site was occupied. Associated stone artifacts of many kinds have been realistically illustrated in their respective horizons, so as to form a worthwhile contribution to the archeology of this region. This report is the culmination of two seasons' work and, with several new features added, it seems to support previously held concepts concerning the development of ceramics in the central-southern part of New England. The Society is at present excavating a small hunting site on Runnins River.

Virginia—Col. Robert P. Carroll reported by letter that the Archeological Society of Virginia has 130 members.

Nine meetings were held during the year. The following papers were presented: "Excavating Williamsburg's Past," by Moreau B. C. Chambers; "Pent House Dwellers in Ancient America," by Miss Ethel Smith; "Trip to Ecuador" (illustrated), by Fred Morgan, Jr.; "The Fluted Point Complex in the East," by B. C. McCary; "How the Indians Made Their Stone Implements and Weapons" (with on-the-spot demonstration), by Herndon Loving; "Glassmaking at Jamestown—1608 and 1957," by J. C. Harrington. At one meeting a moving picture in color depicting the story of the Pueblo Indians was shown, and a resume of summer archeological experiences of members was given. Another was a field trip to Williamsburg at the invitation of Colonial Williamsburg, Inc., to visit the Museum and inspect the archeological workshops.

West Virginia—Sigfus Olafson reported that the West Virginia Archeological Society has 79 members.

One meeting has been held during the current year, at Wheeling College, Wheeling, October 13, 1956. Speakers and topics presented were: "Cave and Rock Shelter Sites in West Virginia," by Jack A. Leppia; "Recent Developments Relating to the Adena Culture," by Reed Hallock; "The Present Status of Archeology in Virginia and Maryland," by Howard A. MacCord; "The Paleo-Indian in the Appalachian Region," by John Witthoft; "The Paleo-Indian in Ohio," by Arthur George Smith; "The Position of West Virginia in Eastern Archeology," by William J. Mayer-Oakes; "Remarks on Inscribed Tablets from West Virginia," by Delf Norona, Sigfus Olafson, and Herbert Moore.

Two newsletters were issued during the year. A publication of another society, dealing with a West Virginia site, is being distributed to members and the expense is being borne by the West Virginia Society.

The Society has not sponsored any field work in 1956. As special projects the Society maintains a small museum at Moundsville, West Virginia, continues the work of mapping and recording West Virginia archeological sites, and in 1957 expects to excavate a presumed Adena mound which is scheduled for destruction by industrial expansion.

ABSTRACTS OF THE PAPERS DELIVERED AT THE MEETING

CONSERVATION OF AN IMPORTANT ARCHEOLOGICAL SITE IN NEW JERSEY: THE ABBOTT FARM

By DOROTHY CROSS

The Abbott Farm, two miles south of Trenton, was one of the first sites in the eastern United States to command international attention. It has been excavated sporadically since 1872, and intensively from 1936 to 1941 with WPA funds. Although it was better known in the past in its relation to the problem of glacial man and a distinct argillite culture, the bulk of the material found presumably is Middle Woodland in date. It is one of the few sites in the State with physical stratigraphy. The topography is ideal for an aboriginal site—a high bluff for protection, and protected lowlands traversed by meandering navigable streams by which the bluff area is connected with the Delaware River, 0.9 miles distant. It would be a picturesque site to preserve.

A few years ago, the entire area was threatened with destruction: part was being used as a dump for garbage and ashes; apartment houses were contemplated, etc. Most of the bluff now has been converted into housing developments, but much of the lowlands, referred to as the "Trenton Marshes," is still untouched. In fact, it is the only "natural" area left in the vicinity of Trenton.

To combat the encroachment of various projects, including industrial ones, a number of local people formed the Broad Street Park Civic Association in June, 1953. In attempting to create interest and to secure funds for purchasing at least part of the site, the Trenton Marshes Preservation Committee was formed in January, 1955. This body was filled with more good will and intentions than money, and has ceased to function.

Last August, the Broad Street Park Civic Association purchased the site of the old White City Park, which flourished as an amusement park and natural area from toward the end of the last century until after World War I. This consists of 77 acres and includes part of the bluff and lowlands surrounding man-made Spring Lake. Spring Lake Park was dedicated October 6, 1956. Although this purchase does not include land excavated some 20 years ago, it is part of the extended Abbott Farm site. The Association plans to acquire, in the near future, an additional 250 acres which include a portion of the bluff and a wide strip of the lowlands. This will contain the stratified area and certainly the most picturesque part of the archeological site. The Association plans to clear a few paths and institute nature trails; otherwise the tract will remain as a wildlife sanctuary. Nature trails should have wide popular appeal in an area which is fast becoming a city.

The problem will be to determine how, if at all, the archeological site should be preserved. Would it be feasible to open a section of the site as part of a nature trail? This question and many others will have to be met in the near future.

WEST JERSEY PROPERTY [SOIL AND GOVERNMENT]

By HENRY H. BISBEE

In the latter part of the 17th century the western half of the present State of New Jersey was acquired by a group of Quakers who controlled both the government and disposal of the land. Through a series of circumstances, some of the descendants of this religious group, or their assigns, still control the disposition of all unappropriated land in West Jersey. This situation is peculiar to New Jersey.

At the beginning of Proprietary Government in West Jersey, titles to land were confirmed by the government. In fact, so much of the Assembly's time was involved that in 1687 this body suggested that the Proprietors appoint a special group to handle land matters. It was this suggestion, more than anything else, that caused the peculiar land situation in New Jersey today. On February 14, 1687-8, the Proprietors met at Burlington and made an agreement to establish a Council to handle land matters. The ownership of unappropriated lands was vested in the Proprietors. The control of the disposition of land was governed by a "Grand Council" elected by the Proprietors. Byllinge, in whom right of government lay, named himself Governor and appointed Deputy-Governors who came to the colony. Upon his death his shares were purchased by Dr. Samuel Coxe. On March 4, 1691, Coxe conveyed his rights and titles to forty-eight persons who formed the West Jersey Society. This Society appointed the governors until 1702.

At the beginning of the 18th century King William's lawyers advised him that the original grant of government by the Duke of York to Berkeley and Carteret was void. Their argument was that under English law only a king has right to grant powers of government, which right could not pass to grantees, heirs and assigns. The Proprietors decided that the most sensible thing to do was to surrender their government to the Crown. However, with good business acumen, they retained their rights to the soil, thus controlling all unappropriated lands in West Jersey to this day. A somewhat similar condition existed in East Jersey, and the Proprietors of that Province also surrendered their rights to government but retained their rights to the soil.

Today, as of old, any individual holding at least 1/32 share of a "propriety" is a Proprietor. Business is conducted through a duly chosen council called the "Grand Council of Proprietors of the Western Division of New Jersey." Membership to the Council is gained in the following manner. Qualified Proprietors meet annually in two different places to elect members to the Grand Council. By traditional custom, at High Noon, on April 10, the Burlington group gathers at the northwesterly corner of High and Broad streets in Burlington and elects five members. A similar meeting is held at Gloucester Green on April 13th; they elect four members. These nine people, plus an appointed Surveyor General, comprise the Grand Council and hold their organization meeting at Burlington on the first Tuesday in May.

Thus the present West Jersey Proprietors continue to enact an annual ceremony that extends from the 17th century.

FIELD IMPRESSIONS OF THE ARCHEOLOGY OF RUSSELL CAVE, NORTHERN ALABAMA

By CARL F. MILLER

As described in my recent article in the October, 1956, issue of the *National Geographic Magazine*, the present archeological assessments are based purely upon field observations within Russell Cave, Alabama.

The cave lies three-quarters of a mile south of the Tennessee-Alabama state line and approximately two miles west of the Georgia-Alabama line. In other words, it is in the extreme northeastern corner of the State of Alabama and about seven miles north-northwest of Bridgeport, Alabama, up Dorens Cove.

Russell Cave is part of twin caverns. It measures 107 feet across the mouth, penetrates 270 feet on a horizontal plane, and has a ceiling, at the present time, varying from 23 to 28 feet.

In front of the cave, and flowing into the adjoining cave, is Dry Creek. This stream flows under Montague Mountain for a distance of around two miles and emerges as Widows Creek which soon joins the main waters of the Tennessee River.

The cave has been known for a long time and it has been plotted on various maps. The archeological potentialities were discovered by members of the Chattanooga Archeological Society who drew my attention to the cave. A grant of money was secured from the National Geographic Society making possible the partial excavations of this past spring. The results of this work are being rapidly scanned at this time.

An area 35 feet long by 27 feet wide was excavated down to about 14 feet by taking off six-inch layers. In so doing, we cut through a number of artifact-bearing strata bearing heavy

charcoal deposits. Samples of charcoal were salvaged from all these layers for radiocarbon testing. To date only a single sample—one from the 12- to 13-foot level—has been tested. This was performed by the Lamont Laboratory who submitted a date of 8, 160 plus or minus 300 years. A similar sample from this same deposit has been submitted to the U. S. Geological Survey for testing and another to the Harrison M. Randall Laboratory of Physics, Ann Arbor, Michigan.

We found that the top five feet of the deposit contained the remains of pottery types some of which were recognizable, while others represented a number of new forms. Associated with the pottery remains were bone and stone artifacts as well as some carbonized vegetal material.

Below this layer were strata devoted to the lithic or Archaic cultures. Pottery was nonexistent. Artifacts of bone and stone occurred all through the deeper deposits. The charred remains of a coiled basket, together with its contents of charred seeds, were noted from the nine-foot level.

At the six-foot level we came across our one and only human burial. This was the remains of an adult male, 40 to 45 years of age at the time of death, who was flexed and placed into a shallow depression or hole in the floor level and the surrounding soil and rubbish scooped over the remains. No artifacts were found in direct association with the burial but a number of projectile points, resembling the Savannah type, were found within the fill.

Slightly to the west and a foot lower were the articulated remains of a small dog placed inside of a rock-lined tomb. It, too, was devoid of burial objects but there was a partially chipped evert knife (?) lying near one of its hind feet.

Recently, other charcoal samples have been submitted to the Harrison M. Randall Laboratory of Physics in Ann Arbor, Michigan, to be tested by radiocarbon methods. These samples were derived from the six- and the eight-foot levels. If these two samples, plus the one from the lower level, signify that a chronological placement exists, samples from other levels will be submitted so that we will eventually have complete coverage of the various levels represented within the deposits of the cave. Results from the Harrison M. Randall Laboratory of Physics will be expected early in February, 1957.

A UNIQUE PUNCHED PORTRAIT IN MASSACHUSETTS

By FRANK GLYNN

The existence of artificial decorations on an exposed ledge beside an old trail leading off Westford Hill in Massachusetts has been a matter of written record since at least 1883. Search and inquiry have failed to produce evidence of other than the one native tradition printed in 1883, that the inscription is of Indian origin and represents a twenty-inch long, stick-figured "Old Indian" looking out across a wide panorama of open country to the northwest. The presence of additional, uninterpreted decoration has been recognized locally.

In 1946, W. B. Goodwin published two photographs and a line drawing. He interpreted a central portion of the subject as representing an 11th century Norse "broken sword." In 1950, Goodwin's publication came under the eye of Prof. T. C. Lethbridge of the University Museum of Archaeology and Ethnology, Cambridge, England, a weapons specialist. He recognized that the type of sword-hilt portrayed was the large, hand-and-a-half wheel-pommel sword of the 13th and 14th centuries. The type, therefore, could be nothing but Mediaeval European, post-dating the events of the Norse sagas by at

least two centuries while clearly predating the Columbian voyages.

Lethbridge urged upon the writer, a pen friend, the importance of relocating the site. This was finally accomplished in 1954. The inscription has been intermittently studied since, moss and earth having been stripped back to expose the whole working. Valuable advice has been received from Prof. Lethbridge, from Messrs. A. J. Gagne and Robert Beauchop of the John Woodman Higgins Armory, Stephen V. Grimesay of the Metropolitan Museum of Art, and others.

It now appears possible to offer a third interpretation, namely, there exists upon Westford Hill a rough, life-sized portrayal of a late 14th century knight in full-length surcoat. Above the surcoat are features of the knight's face in an open basinet helmet whose pig-nosed visor is thrown up upon the forehead. Camail falls from the helmet over the neck and upper chest. Lower on the chest appears a crest: a hunting hawk or falcon alighting upon a jeweled "cap d'estat." A heater-shaped shield upon the left arm bears charges; right, star and crescent; left, large round brooch; beneath, a lymphad with furled sail and banneret. A sword belt runs over the hips from the centrally placed sword scabbard. A dagger is in the right hand. Charges from the shield are repeated upon the skirt of the coat. Simply worked feet protrude beneath the bottom of the skirt.

In whole and in parts the figure seems referrible to the class of Mediaeval monuments known as Military Effigies.

The execution technique is unique. Essentially it appears to be the use of a metal craftsman's tools and methods upon stone. Punches predominate. Tool-marks similar to those of the inscription have been experimentally reproduced with blacksmith's tools: pointed punches, pee dee hammer, flat-headed hammer with thick, blunt claw. As is well known, these tools are to be found in the kits of many kinds of metal-workers, including the travelling armorer.

THE PRINCETON CAMPUS IN ANTIQUITY

By GLENN L. JEPSEN

It is a great pleasure to help welcome the members and friends of the societies composing the Eastern States Archeological Federation to Princeton for this part of your Annual Meeting, and we hope that you will find things of interest in the town and the University. We especially hope that you will visit the museum in Guyot Hall to see the exhibits of fossils and artifacts.

To express our pleasure in having you here we have devised a panel of four brief talks, by members of the Geology Department, about the local campus in antiquity. Dr. Paul MacClintock, physiographer, will tell you about the development of the local landscape and its relationship to the aboriginal inhabitants; Dr. Erling Dorf, paleobotanist and stratigrapher, will trace the roots of our present climate; and Miss Vilma Hudak will report upon a recently acquired collection of artifacts from the campus.

One of the earliest of the notable episodes in the history of this area was its occupation, about 175 million years ago in Late Triassic times, by millions of small lobe-finned fishes. The remains of these 6-inch fish were recovered by the hundreds a decade ago in the excavation for the new Firestone Library. They represent an evolutionary stage related to the remarkable coelacanth recently caught off the coast of Africa, and also very distantly related to man's own remote ancestors.

CLIMATES OF THE PAST

By ERLING DORE

Evidence is now clear that the earth's climates have actually been changing during the past 50 years. There is further evidence that during the more ancient geologic past, extending back to eras more than half a billion years ago, climates have undergone major changes from conditions warmer than today to conditions much colder.

The determination of past climatic conditions has been made chiefly on the basis of fossil plants and marine shellfish, with the aid of diagnostic types of sediments such as glacial deposits. From such studies it is evident that: (1) we are still in a glacial climate; (2) we are in an inter-glacial stage during which there have been several minor variations ranging from the warmer episode of around 1000 A. D., to the "Little Ice Age" of a hundred to three hundred years ago; (3) our present position in the climatic cycle appears to be one of increasing warmth which may continue for at least several more centuries; (4) during most of the geologic past the earth's climates were considerably warmer than they are today, producing ice-free polar regions and extending the tropical and temperate zones poleward about 10 to 20 degrees.

TOPOGRAPHY OF THE PRINCETON CAMPUS

By PAUL MACCLINTOCK

The Triassic rocks were faulted and tilted up toward the northwest and then etched by fluvial erosion into northeast-southwest valleys and ridges. During the early (Tazewell) substage of the Wisconsin glaciation loess was blown from the valley train in the Delaware Valley to form a blanket over this terrain. This episode was followed by tundra conditions during the Cary substage of the Wisconsin glaciation when the ice-edge stood at the Delaware Water Gap. The frost action which accompanied the tundra climate caused a blanket of frost-riven rubble (known as "congeliturbate") to move downward from hilltops out over patches of the loess sheet and bury it locally with a few feet of this material. In this way we can date the landscape of the Princeton region as of middle Wisconsin age.* In other words, it had reached its present aspect when man came upon the scene.

ARCHEOLOGY OF THE PRINCETON CAMPUS

By VILMA HUBAK

The Princeton Campus site is represented by a collection of Indian artifacts donated to the Geology Department by Mrs. George H. Shull. The material was collected over a period of years by her late husband in the fields south of Guyot Hall, which were plowed for his botanical experiments. Thus, all of the material is from the humus level.

The Millstone River, Stony and Bear brooks are natural waterways in the Princeton area, while Carnegie Lake is formed by a dam. The raw material for the artifacts very likely came from the stream beds and banks, as many of them are fashioned from quartz pebbles.

It may be presumed that the stratigraphy of the Princeton Campus site is not unlike that of the RCA site at Princeton Junction; however, it is no longer possible to confirm the stratigraphy in the locality of the collection, as it has been made into playing fields. A portion of it near the 1887 Boat-house is still undisturbed and holds promise for future excavations. The artifacts are of quartz, shale, argillite, flint, sand-

stone, granitic sandstone and basalt. No bone tools or pottery were in the collection, though there might be some in the field. The artifacts suggest a time sequence overlapping the Late Archaic and Early Woodland periods, with an inventory of projectile points, large, crude choppers, a variety of scrapers, several knives, hammerstones, celts, adzes and a single broken pestle. A sizable portion of the material is workshop refuse, namely, unfinished artifacts, flakes, split pebbles, and cores. A working technique with respect to the quartz pebble material was noted, including stages from the natural pebble to the finished artifact. This manufacturing process has been seen in other collections in the northeast, and suggests that the working method for quartz followed a prescribed pattern.

If an excavation can be made in the undisturbed portion of the Princeton Campus site, more specific information on stratigraphy would be available for comparison with other sites.

EXCAVATIONS IN 1956 ON ARCHAIC SITES OF LONG ISLAND

By WILLIAM A. RITCHIE

The archeological materials and other data obtained through the New York State Museum and Science Service's excavations on eastern Long Island in July and August, 1956, are now undergoing cataloguing and evaluation. Consequently, it is impossible to give a definitive account of the full significance of the investigations. This will appear in my detailed report which, with the necessary funds for publication, will be submitted next spring for the *Researches and Transactions* series of the New York State Archeological Association. This report will comprise the first systematic study of the pre-ceramic cultures of Long Island, a vital segment of the pre-history of this region which was not included, for want of adequate data, in Carlyle Smith's *Archaeology of Coastal New York* (1950).

Supplementing the New York State Museum's data for the eastern half of the island, derived from our excavations of 1953, 1955 and 1956, is the pertinent information being accumulated on the western half of the island and in the adjacent New York City area by members of the Nassau Archeological Society.

Our principal researches of 1956 were done with two crews, on three major sites, all threatened with early destruction by building operations, situated respectively near Stony Brook and Wading River on the north shore, and Shinnecock Hills on the south shore.

The Stony Brook dig was a continuation of work which we began last year, and this season it was subsidized, together with publication, by Mr. Ward Melville of Stony Brook. I summarily state that Stony Brook was an extensive, stratified, habitation site with Orient culture materials in a thick shell midden overlying a Laurentian component, from which hearth charcoal was obtained. This has been sent to the University of Michigan for Carbon 14 determination.

Except for Muskeeta Cove, near the western end of Long Island, which seems to have a similar component, this is the first recorded definite habitation site of the Orient culture, previously depicted only by four burial sites on eastern Long Island. As such, it sheds important new light on the manner of living during the stage of transition from late Archaic into Early Woodland times. According to a recently received radiocarbon determination from the University of Michigan Memorial Phoenix Project Radiocarbon Laboratory, based upon a charcoal sample supplied to us by Roy Latham of Orient, Long Island, from the Orient No. 2 cemetery (sample M-494), this culture was flourishing around 2900 ± 250 years ago, or about 944 B. C.

*Note. 1953—Tedrow and MacClintock, "Loess in New Jersey Soil Material," *Soil Science*, Vol. 75, pp. 19-29.

Near Shinnecock Hills we conducted further excavations on Sugar Loaf Hill, one of the four cemeteries of the Orient culture explored by Mr. Latham and other members of the Long Island Chapter, New York State Archeological Association, in 1937, finding another and smaller grave pit with characteristic offerings of a "killed" steatite pot, "fishtail" type projectile points, eelt, hematite paintstone, hammerstones, fire-making kit, and other artifacts. Burned material scattered over the pit contents yielded charcoal, which has been submitted for radiocarbon dating.

The Wading River site, consisting of shell middens, like the upper level of Stony Brook, produced predominantly narrow stemmed points of Lamoka type, together with simple notched bannerstones and implements of lesser diagnostic value. The evidence here suggests an early Archaic occupation, probably antedating the lower (Laurentian) level at Stony Brook.

Thus it would appear that our explorations of the past season have brought into perspective major segments of the total span of the Archaic sequence on Long Island, and in relating this sequence culturally (and temporally when the charcoal samples are dated) to the well-established Archaic series in inland New York.

SOME NOTES ON INTERIOR CORD-MARKED POTTERY FROM COASTAL NEW YORK

By JULIUS LOPEZ

Vinette I has been frequently mentioned as the earliest known pottery in central New York State. Its most diagnostic feature is complete interior and exterior cord-marking. This extends from the lip, which is generally round or sometimes almost pointed, to the conoidal bottoms of simple, elongated vessels. The inside cord imprints are horizontal to the rim, and are often fresher looking than those on the outside, which usually run vertically or diagonally. Vessels of this type are coil constructed. The clay is porous, often contorted, and contains a rather liberal amount of angular rock fragments, chiefly quartz, or other crystalline rock, over 3 mm. in diameter. There are no decorations on Vinette I.

Similar pottery has been reported from Ontario, Canada, New England, New Jersey, eastern Pennsylvania, and coastal New York. As a general class it seems to have been an offshoot from a common ancestral trunk which also branched into Marion Thick and early Crab Orchard in Illinois, Fayette Thick and Half-Moon Corded in the Adena of Ohio and contiguous areas, and in other types east of the Rockies.

Recent developments in the New York City area disclose at least four different types of Interior Cord-marked ware. These, based on excavations at the Pelham Boulder and Schurz sites, Bronx County, and a re-examination of other local site materials, may be summarized as follows:

1. Complete Interior Cord-marked—The most characteristic feature is a complete corded of both surfaces.

2. Modified Interior Cord-marked—This pottery indicates an attempt to erase the interior cord impressions by scraping, brushing, or wiping. The paste is gritty and porous but can be compact. Temper is usually grit with particle sizes ranging from fine to 3 mm. Shell is occasionally present as an aplastic. This pottery type has been established for the western half of coastal New York; it also appears in New Jersey.

3. Decorated Interior Cord-marked—External design work is present. Known examples come from four sites in Bronx, Queens, and Nassau, and have a dentated application executed by rocker-stamping, by pressing a toothed instrument into the

clay to produce linear rows, and by using the "drag-and-stamp" technique to create lines (some of which look incised), and broad trailing bands. Interiors are completely cord-marked, or modified. Temper and paste are the same as for the modified pottery.

4. Pottery represented by fragments of one vessel, found at the bottom of the shell heap at Pelham Boulder, has a conical appendage, or knob, a unique feature for this area. The paste is extremely crumbly. Temper is crushed grit with most particle sizes 3 mm. or less. A flat lip fragment is 7 mm. thick; body sherd is 8 to 10 mm.

The only other coastal occurrence of knobs on early ceramic pottery is in the Orient Focus of eastern Long Island which produced soapstone vessels which were also imitated in clay, complete with lugs. One Orient rim sherd, however, has a knob an inch below the lip. Whether the Pelham knobbed specimen is related to this focus in some way will have to await further developments at the Pelham Boulder site.

Knobbed pottery is not shared with Vine Valley and other early clayware to the north, but there are mammiform appendages on some Adena pottery such as Half-Moon Cord-marked from the Ohio Valley. It is interesting that Orient involves a "steatite tradition" which, though it occurs in diverse forms, is present in New Jersey and other areas in soapstone vessels, and "stone-like" pots of clay, tempered with or without steatite. Mayer-Oakes sees in Half-Moon Cord-marked, some Vinette I, but more so, some Fayette Thick features, and general form characteristics similar to the steatite-tempered pottery from Maree Creek and Selden Island. The Pelham specimen might have come, not from the north, but from a westerly or southerly source of inspiration, trade, or migration.

The Modified and Decorated varieties are probably later than components yielding just Complete Interior Cord-marked pottery. They seem to represent a closing phase of the North Beach Focus, Windsor Aspect. There are reasons for suspecting, however, that they may have lingered somewhat beyond this era, though with diminishing frequency.

A POSSIBLE SENECA HOUSE SITE: 1600 A. D.

By ALFRED K. GUTHS

The Rochester Museum of Arts and Sciences excavated an area in the village portion of the Factory Hollow site during the 1956 field season. This site is recognized as that of an historic Seneca occupation between 1595 and 1615 A. D. This site is near West Bloomfield in Ontario County, New York.

Our work revealed 746 possible post molds in an area 75 feet by 40 feet. The molds which were cross-sectioned revealed a tapering base suggesting they were driven into the ground. The depth below present surface was 20 inches and their diameters ranged between 2½ and 8 inches, although the majority were 3 inches in diameter.

No clear line of post molds was revealed, but it is believed the north and south walls of a dwelling unit were in evidence. Apparently, the structure was repaired during the years it was occupied. The floor pattern indicates the structure was 23 feet wide and oriented along an east-west axis. The dwelling was at least 56 feet long. However, it is not certain that the ends of the structure were located. Two fire beds were observed. These were centered between the north and south walls and at opposite ends of the structure's floor plan. The locations of doors were not discernible.

More work on Seneca house patterns is needed before any definite conclusions can be drawn.

AN IROQUOIS SEQUENCE IN NEW YORK'S NIAGARA FRONTIER

By MARIAN E. WHITE

Since the time of MacNeish's proposal of the "in situ" theory of Iroquois development from an Oswego base, Iroquois archeological research has had as one of its major objectives the testing of this theory. Subsequent research has been mainly directed toward the refining of local sequences. One area which has received little attention is the Niagara Frontier Region of New York, i.e., Buffalo and vicinity. Using collections of local institutions and amateurs, seven Iroquois sites in this area were selected for study.

In order to determine the chronological position of these seven sites, certain assumptions were made: (1) the Niagara Frontier is a single homogeneous geographical area; (2) the differences between the material culture of sites within the area can be viewed as a result of differences in time rather than in space. The differences between sites were arrived at by a comparison of pottery, projectile points and pipes.

The pottery comparisons differed in two ways from those usually made by comparing the frequencies of pottery types: (1) the frequencies of vessels represented by rim sherd were compared instead of the frequencies of rim sherd; (2) a number of attributes were compared singly rather than in combination as in pottery types. The comparisons were made using percentages, Robinson's coefficient of agreement, or phi, a coefficient of association. Then these comparative factors were ranked by Robinson's method for the arrangement of sites from coefficients of agreement or by simple arrangement of percentages.

The treatment of the pottery attributes independently rather than in combination as in pottery types had some advantages in this particular study. Some of the pottery samples were small in number and were very similar to samples from other sites in the frequencies of most of the attributes. It seemed, therefore, that sampling error might be affecting the frequencies to such an extent that the slight differences in percentages of one or two attributes were not reliable enough evidence to rank the sites. By using each attribute independently the case for the best arrangement was strengthened by the accumulation of independent evidence.

Based on twelve attributes of pottery, pipe form and decoration and length and width of projectile points, the best arrangement of the seven sites was as follows: Oakfield, Kienauka, Shelby, Buffam Street, Eaton, Goodyear and Green Lake. This arrangement is considered to be the chronological order from early to late. Once the chronological sequence was established from a consideration of a number of attributes, it was possible to trace the trends in particular attributes which were previously obscured by minor fluctuations in percentages, due at least in part to sampling error.

The Niagara Frontier sequence cannot be identified with any particular historic tribe at this time. Prior to 1655 the area was inhabited by the Neutral, Wenro and Erie, all Iroquoian-speaking groups. Nor can all the sites of this sequence be assumed to be the settlements of a single group of people. These are conclusions to be reached only after the chronological sequence in this and in adjacent areas is more thoroughly understood.

THE OSCAR LEIBHART SITE
A SUSQUEHANNOCK VILLAGE OF 1650-1675

By W. FRED KINSEY

The Oscar Leibhart site is located in York County at Long Level, 6 miles below Wrightsville, Pennsylvania. The known history of its excavation begins in the early 1930's when the Leibharts uncovered Indian graves on their farm. Some 15 to 20 burials were excavated by the father and son between 1930 and 1954. The artifacts were retained as their private collection while the skeletal remains were re-buried. The recovered materials were not made available for study or examination and permission was always refused when attempts were made to dig on this site.

By cultivating Oscar Leibhart's friendship, I was able to borrow his collection for a week for study and photographic purposes. These artifacts included the following: tube or straw beads, the most common form on this site between 1640-1660; crude clay deadeant Susquehannock pots with shell tempering, slight neck constriction, and crude rim decoration, which contrasts sharply with the classic chevron and high collar on Susquehannock pottery of the 1620's and 1630's; kaolin pipe sherd with the French fleur-de-lis, tentatively identified as mid-17th century Dutch; a Dutch candlestick holder of a style of 1640; a brass pistol barrel of the type used by sailors of about 1640; brass arrowpoints; a European trade ax of the mid-17th Century; a dengel-stuck (an anvil used for the cold sharpening of metal cutting tools by hammering); brass trade kettles; European gun flints of the mid-17th century.

It was felt that this site was the last stronghold of the Susquehannock when they were defeated by the Cayuga in 1674, and in order to prove this theory we wanted to excavate. Eventually we received permission. After unsuccessful testing, we began a trench at the highest flat part of the site, which produced a fire pit, 26" deep by 26" in diameter, lined with fire-reddened shale. From this pit we recovered a small shell-tempered, cord-marked sherd, some bone fragments and charcoal. Post molds were encountered which we cross-sectioned and cleaned out, enabling us to get bead samplings *in situ*. Every post mold was numbered, measured, and a cross-section drawing made of it.

The work began in earnest in August, when we discovered a line of post molds indicating the side of a Susquehannock longhouse. The area was then laid out in 10-foot squares and a total of thirty-eight 10-foot squares and one 5-foot square was excavated, giving us a plan of the longhouse. This structure measures 92' x 24'. The sides are clear while the ends are less obvious and somewhat diffuse. There appear to be breaks or openings at the four corners of the structure and two openings on each side. There are several large post molds, 4" to 6" in diameter, down the center of the house. These posts were blunted, not pointed like those on the sides. Since the smaller posts, 2" to 3½" diameter, were pointed and probably driven into the ground, it is suggested that the larger posts were used as props to shore up a sagging section of roof. Inside the house there are paired post-mold patterns which may be reflective of the bedding habits of the Susquehannock. Indistinct pits of stained or fire-reddened soil produced evidence of an Early Woodland occupation, in the form of nondescript cord-marked pottery and Clemson's Island sherd.

The excavations also produced bead types of the 1670's, tube or straw beads, a shell wampum spacer, a beveled brass arrow-point, three Jesuit rings and a pewter effigy.

Members of the Lower Susquehanna Chapter of the Society for Pennsylvania Archaeology assisted with the excavations.

Within the past month, Donald Leibhart has excavated 24 burials, but has prevented note- and picture-taking of his work. Just what his intentions and plans are, I am not prepared to say; however, it appears that our work at this site has drawn to a close.

AN EARLY NINETEENTH CENTURY GRAVEYARD NEAR FORT NECESSITY, PENNSYLVANIA

By JAMES L. SWAUGER

In 1954 and 1955, Carnegie Museum field parties excavated at the Ravenscroft site, CM 36Fa25, an historic cemetery at Farmington, Pennsylvania, near Fort Necessity. Seven graves were dug. From only one was datable evidence recovered. This evidence was a group of eight buttons. Two of these bore a maker's mark, "A. Matthews." They were manufactured at Southington, Connecticut, by Anson Matthews. Since the Matthews factory was not established until 1806, the grave could not have been that of one of Washington's 1754 Fort Necessity garrison as had been conjectured. On the other hand, we do not know the date of manufacture of this particular button, nor of the inception of its style. Nor do we know who were the people buried in the cemetery. At the moment, we feel safe only in calling it an early 19th century graveyard.

The object of this abstract is to describe grave CM#2, the grave from which the Matthews buttons came, and the coffin in it.

At ground level, CM#2 was marked with an uninscribed headstone and an uninscribed footstone. Its long axis was west from the headstone east to the footstone.

Fifty-five inches down from the established base point at ground level on the south side was a floor of six whole slats and traces of a seventh. Their long axes were oriented north and south. In length they averaged 31". The widths of five of the whole ones averaged 6"; the sixth was 17" wide. Their thickness averaged $\frac{1}{2}$ ". These transverse boards formed a loose lid laid from a shelf of clay to another shelf of clay over a body and a coffin in a 20" wide slot underneath. The lid slats were not attached to each other nor to the rest of the coffin. They, and all other boards in CM#2, were Black Oak.

The coffin proper consisted of a bottom board, the "coffin board," and sides of six thin boards. The coffin board was an eccentric hexagon. The head end was 8" wide. The foot end was 7" wide. The length of the board was 73". The leg extending north from the head end was 23" long; that to the south was 19" long. The distance between the distal ends of these legs at the "shoulders" was 16 $\frac{1}{2}$ ". The thickness of the coffin board was $\frac{5}{8}$ ".

The side boards averaged 8" in width. Their thickness averaged $\frac{1}{4}$ ". Their length corresponded to the sides of the coffin board. They were nailed to the coffin board as attested by nail holes from which the nails have rusted out.

PROJECTILE POINT TYPOLOGY OF THE BEAVER VALLEY

By JOHN A. ZAKUCIA

An attempt will be made to delineate some of the prominent forms of projectile points found in the Beaver Valley, which includes two major tributaries of the Beaver River, namely, the Shenango and the Mahoning rivers, whose southward course cuts through the glaciated Allegheny plateau. Only the lower portion of the Beaver River flows through unglaciated terrain.

On the banks of these streams are found numerous stations highly productive in projectile points covering a wide typological range and having a temporal span ranging from the Paleo-Indian to the Historic period.

Evidence for a Paleo-Indian period consists of 17 fluted points highly concentrated on the Big Bend site on the Shenango River (36Me24) and on the banks of the Mahoning River at Edinburg (36Lx3). Both are bottomland sites and have produced components of other cultural horizons. In form, these points resemble Clovis types of the Western Plains. All show edge and basal grinding, with several showing multiple channel flake removal.

Indications for the persistence of Paleo-Indian lithic traditions well into the Early Archaic period are born out by the sporadic distribution on numerous stations of lanceolate forms showing edge and basal grinding, with some specimens exhibiting fine parallel flaking.

Lanceolate and stemmed forms showing an incipient shoulder characterize the Early Archaic period in the Beaver Valley. These have been typed by Dr. William Mayer-Oakes as Steubenville Lanceolate and Steubenville Stemmed. Several stations have produced manifestations of this complex, the most notable being the Mosquito Lake site (33Tr17). Associated with this complex is a scraper industry and possibly a few crescent bannerstones.

By far the largest number of points found in the Beaver Valley are from Late Archaic sites. They are thick, broad-bladed, and are either side- or corner-notched. A majority of the side-notched points show basal grinding. Stemmed points, ranging from an inch to two and a half inches in length, are prevalent. Local stream-pebble cherts were widely used and varieties of Onondaga chert appear in this and the following period. Late Archaic sites show strong affinities with the Laurentian Aspect in New York.

In the Beaver Valley there is no evidence of highly developed Early Woodland complexes. Although Early Woodland traits appear on local stations, the projectile point typology is strongly reminiscent of Laurentian forms. A few new forms appear. Semi-lozenge and pentagonal forms, perhaps, show Point Peninsula influence. Thin, finely chipped bifurcated points, often serrated, show up in complexes of this period, diffusing most likely from the south. Another form, perhaps emanating from the south, is a point with a large heavily ground base, deeply corner-notched, with steeply beveled incurvate edges. A unique form is a point with a wide, truncated base, side-notched, with sharply incurvate, beveled edges. Ritchie's excavations at Muskalonge Lake have produced a similar point as a mortuary offering. Similar forms, but with a convex base and made of choice Flint Ridge chaledony, have been found as part of a Middle Woodland assemblage on local stations.

Projectile point typology of the Middle Woodland period, for the most part, is a continuation of Laurentian lithic traditions with slight modifications. Points are relatively small, thick, and are either side- or corner-notched, or stemmed. Flint Ridge chaledony makes its appearance. A few Flint Ridge chaledony points of classical Hopewell design, exhibiting highly developed chipping techniques, are found in local Middle Woodland contexts and are no doubt trade pieces. Recently a Middle Woodland component on Mosquito Lake produced an assemblage with a high percentage of Flint Ridge points and flake knives. Points are of two types: one closely parallels classical Hopewell design, the other has its counterpart in forms found on the Watson site, being long, narrow, thick, and crudely chipped.

Terminal date for Middle Woodland in the Beaver Valley is marked by the appearance of pentagonal points, thin, side-notched, finely chipped, and made of exotic material. These points have been typed as "Raecoon Notched." They overlap with triangular points which usher in the Late Woodland period and which persist until Historic times.

CERAMIC DEVELOPMENTS IN THE BEAVER VALLEY

By CHARLES SOPNIK

Major ceramic sites are the east central sites of the Mosquito Reservoir, the Edensburg sites, the Morgan site, the West Pittsburgh site and sites along the Shemango near Big Bend. Important, though small, sites are the Byler, North Benton, and George mounds. The Byler Mound lies just outside the geographical area but is linked culturally with the Beaver Valley.

Extensive stratified sites are not known in this region, but by comparing sherds in the Beaver Valley found with associated artifacts, with Upper Ohio Valley site reports and the works of Ritchie, MacNeish and Evans, a preliminary local development pattern has been established.

Steatite sherds have been found at Pymatuning Reservoir, Edensburg, Mosquito Reservoir and Big Bend. All of these sites are noted for extensive Archaic complexes. These are surface finds, but a late Archaic complex is inferred by associated artifacts. One reconstructed vessel from Pymatuning Reservoir has a flat base, a flat lip, and straight sides, with an oral opening of ten to twelve inches. Steatite-tempered pottery has not been found.

Clay vessels of Half-Moon ware are the first to enter the valley. This ware compares with the earliest known pottery in the eastern United States except for the fiber-tempered ware in the south, which is thought by many to be prototypic to this heavy grit tempered, flat-bottomed, interiorly and exteriorly cord-marked ware. Fayette Thick and Vinette I fall into this series, but classical Vinette I seems to be a later development, with the heavy, thick and often fabric-impressed variants, similar to the Legionville type, occupying the earlier phase. Half-Moon development in the Beaver Valley progressed along lines such as these. Pots gradually became thinner, less grit was used in the paste, lips were decorated with a cord-wrapped paddle edge, interiors were corded horizontally, then striated, then smoothed. Punctate designs were added to the neck, leaving bosses on the interior, and pots were better fired. A finer crushed stone temper was added to a better clay. Latest developments show that vessels were conoidal. As a slight constriction was added to the neck, and a globular effect was obtained by giving pots a more rounded base, a descriptive analysis of a new ware is set up. This has been defined by Dr. Mayer-Oakes as Mahoning ware, the type station being the Bolinger site in the Edensburg area.

Paralleling the use of Mahoning ware, a finer grit-tempered Woodland pottery, we have a limestone-tempered ware practically similar in decoration and form. Called Watson ware, it is a very minor type in the Beaver Valley. The temporal position of this ware in the Beaver Valley is the Middle and Late Woodland, but the time span within these periods is not defined as yet. Generally the progressive line of advancement in Mahoning ware found in outlying regions, such as New York and Virginia, holds true for the Beaver Valley. Vessels become more and more globular. Punctate designs on the neck give way to a very deep constriction and the appliqued rim strip with castellations or notches effected by deep notching with a cord-wrapped paddle edge or a cord-wrapped stick. Flaring rims with overhanging lips may be slightly earlier, but are a favorite form that persisted locally

very late. The wide gentle rising castellation was another favorite expression that extended over a long temporal span. The terminal technique employed for this ware in the Beaver Valley is a stylized vessel, very globular, round based, deeply constricted at the neck, cord-impressed exterior, plain interior, fine grit tempered with an applied collar and a pie-crimp notching on the lip. Zone stamping and complicated stamped sherds are not found locally although other borrowed traits of classical Hopewell and Point Peninsula cultures are present. The Beaver Valley seems to have been far enough away from these cultural centers to remain somewhat backward, and therefore one would assume that ceremonialism and artistic or aesthetic levels were below those of more densely populated centers where such an economy might flourish. The people occupying the Beaver Valley seemed to be more occupied with earning their daily bread by a hunting, fishing and gathering economy than their immediate neighbors. The practical traits were readily adopted and thus we find in the utility wares of the pottery industry a reflection of this way of life.

Somewhere near the final stage of the Mahoning ware series we find an extension of the Mississippi Pattern working its way into the area. The Fort Ancient people introduced shell-tempered ware and other traits such as might be necessary to a more fluent maize economy and a village life. This shell-tempered ware is so closely related to well-defined types in the Ohio and Monongahela valleys that separate type names would only tend to complicate the matter. Cord-marking and lip decoration are the favorite expressions. The earlier plain and incised types are very scarce, Scarem Plain being the accepted type.

PRELIMINARY NOTES ON SOME POTTERY TYPES IN BRADFORD COUNTY, PENNSYLVANIA

By CATHERINE McCANN

The earliest pottery type of this area is the steatite-tempered ware. It is not common, but a few sherds are found in local collections. This may be its farthest extension to the northwest.

A few sherds of Vinette I and other early types have been found, but the earliest type to be abundant in this area is the Clemson's Island ware. The Owasco period is well represented by both Canandaigua and Castle Creek types.

The typical late prehistoric ware here is the Proto-Andaste or prehistoric Susquehannock. It is grit-tempered and is decorated with incised lines in opposed horizontal, vertical, and oblique groups on a medium to high collar with castellations. It is usually notched at the lip and/or the base of the collar, and occasionally the rim bears sculptured faces.

The well-known historic Susquehannock, shell-tempered with a very large, high collar, is rather rare here, in contrast with its abundance farther down the Susquehanna.

A NOTE

New lists of sales publications have been compiled by the New York State Museum and are available without charge on request to the Museum at Albany 1, New York. The revised lists include a considerable number of archeological, botanical, entomological, geological, paleontological and zoological bulletins, circulars and handbooks that were formerly considered out of print and have been available only through dealers. The stock of some of these items is small; in such cases, preference will be given to orders from libraries of universities, foundations and other organizations.

WILLIAM A. RITCHIE,
State Archeologist.