

The Bulletin

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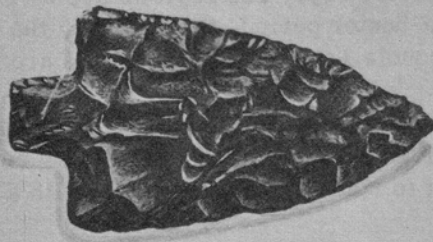


THE BULLETIN

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The Archaeology of New York State
William A. Ritchie



William A. Ritchie

The Archaeology of New York State



Natural
History
Press

Illustrated with 135 Photographs, Drawings, and Maps

THE NEW YORK STATE ARCHEOLOGICAL ASSOCIATION

A SYMPOSIUM OF REVIEWS

THE ARCHAEOLOGY OF NEW YORK STATE by William A. Ritchie. The American Museum of Natural History-The Natural History Press, Garden City, New York. 1965. XXI 357 pp. 12 figures, 113 plates. \$12. 50

The following five papers comprise The Bulletin's effort to do justice to what will undoubtedly be regarded for the coming decade at least as the basic and standard reference on Northeastern regional prehistory. The reviews are by chronological-cultural era, the fluted point Paleo-hunter period, the Archaic, the Early and Middle Woodland, and the Owasco into Iroquois Late Woodland. These are followed by a summary review.

The editor had John Witthoft's agreement to review the Paleo-hunter section of the book, but no review had been received by press time. Witthoft's review will be printed if and when received. In order not to lead off the symposium with a pass, the editor has stepped in as a substitute.

THE EARLIEST OCCUPANTS-PALEO-INDIAN HUNTERS
A REVIEW

Louis A. Brennan

Briarcliff College Center

The distribution of finds of Paleo-hunter fluted points, as plotted in Fig. 2 of The Archaeology of New York State, attests to both the state and region-wide provenience of this cultural evidence, and to Ritchie's assiduity in searching out and assembling the information. The total data imposes the conclusion that New York supported a population of these widely nomadic spearmen, and that they differed from their cultural compeers of the Llano complex of Sellards very little, if at all. From Maine to New Mexico the generalized Clovis point shows an astonishing consistency in form and intention and in its association with an inventory of scrapers and knives that show these tools to have been as suited to coping with the subsistence problems of the Northeast as the Southwest.

The Paleo-hunter evidence uncovered in New York adds little to the composite portrait of a people so conservative in their methods of livelihood yet so unconservative in their wide-ranging pursuit of it. Ritchie's reports on the Davis and the Potts sites are the first appearance in print of these discoveries, which, between them, comprise archeologically the whole Paleo-hunter horizon in New York. But the Davis site is a locus of finds of a few artifacts, rather than an established site, and the Potts site, with its inventory of knives and scrapers and only two projectile points, affords little material for analysis, interpretation, or even conjecture. As at the more productive Reagen site in Vermont, investigated by Ritchie, there was no stratification, no fixed context, no charcoal to date. Though Ritchie has gleaned every scrap of information to be had on the fluted point-making Paleo-hunter in New York, what it adds up to is that these nomads, whose mammoth-hunting manifestation Sellards named for the Llano Estacado or Staked Plains of Texas, found in immediately postglacial New York favorable conditions for their way of life.

Ritchie's most invaluable contribution, in this beginning section of his work, is on what he calls the antiquity, geology, and ecology of the Paleo-hunter environment. His synopsis of the late Wisconsin period is worth repeating. He says (p. 12): "Evidence has not yet been found in New York State of a warmer or interstadial interval between the Cary [ed. note, about 15, 000 yrs. ago] and Port Huron (formerly called Mankato [ed. note, about 12, 000 yrs. ago]) glacial sub-stages. Indeed, existing data point to a more or less continuous ice withdrawal throughout the whole of Wisconsin time in this area, with temporary halts and slight re-advances, of a single major ice sheet. Although the matter is currently a problem for further research, a number of geologists now believe that the Lake Escarpment moraines in western New York and the Valley Heads moraines of the central part of the state constitute a complex marking the approximate maximum stand of the port Huron ice margin. "

As the Port Huron ice front retreated into Ontario it left behind the pro-glacial Lake Iroquois, which drained through an outlet at Rome, New York, eastward after about 11, 500 B. P., into Lake Albany which, in turn, drained through the Hudson Valley. These are the limiting conditions on early occupation of the state. If there was any entry into the state by Paleo-hunters at approximately their dated age of 12,000 years in the West, it must have been in the southern section. As conditions improved with further withdrawal of the Port Huron ice, human activity moved northward in synchronization. This is the setting not only for the Paleo-hunter horizon but for all that followed.

In the Ritchie record, the Paleo-hunter horizon stands almost isolated. Though there is some evidence here of the Plano tradition of lanceolate, often parallel-flaked points, that succeeded the fluted point makers in the West, it consists, on present knowledge of perhaps a dozen points and nothing else; no sites, no associated tool kit. The gap in the record between the C-14 date of about 9000 B. P., at the fluted point Bull Brook site, and the Archaic horizon in New York, though the Archaic has been pushed backward to 6600 B. P. at Sylvan Lake Rock Shelter (Funk, in this issue), cannot have been due to abandonment of the region except under one condition: the Paleo-hunters withdrew or died out because their economic base failed them, and the Archaic hunter-gatherers stayed clear of the region because it afforded too thin a living. That any climatological or ecological situation rendering the region uninhabitable ever occurred is going to be hard to prove. It is much more logical to assume that if New York was occupied as soon as it was occupiable after the withdrawal of the Wisconsin, then it continued to be occupied. That the hardy Paleo-hunter with his willingness to travel anywhere in search of meat simply became extinct after 2000 yrs. of practice in keeping his lineage alive is not a convincing proposition.

We simply have not found or, more probably, have not recognized, the successors to the classic fluted point Paleo-hunters even though the one Cumberland point pictured by Ritchie and another discovered in the Dutchess Quarry Cave, in Orange County, as well as the Plano points, may throw a little light into the 2500 yr. darkness. One would suspect that the undiscovered or unrecognized material would fall into conventional Archaic pattern. Such a manifestation was excavated at the Raddatz Rock Shelter in Wisconsin at a latitude and in a postglacial environment very similar to upper New York, at a C-14 dated level of about 9000 B. P., and the Modoc Rock Shelter in Illinois

gave a date of circa 10,000 B. P. for a conventional early Archaic lithic assemblage.

What is not conventional in Archaic pattern, that is, without stone projectile points, is a subject Ritchie discusses briefly in the section of the book dealing with the Archaic, rather than in the Paleo-hunter section where it would fit temporally, if it exists. He dismisses as "not thoroughly convincing" the Kelly Phase at Ellsworth, Maine, and the low level occupation at the E. D. Prey site near East Killingly, Conn., both consisting of heavy tools only and suggested by Byers as "extremely Early Archaic," but he withholds judgment on Witthoft's somewhat similar DeTurk industry. If he has noted any evidence of this kind of "paleolithic" facies in New York or anywhere in his innumerable excavations in the Northeast, he does not say so. The book brings, therefore, only negative testimony to a phase of American prehistory that has been reintroduced by Joselyn's presentation of an Alabama pebble-tool industry he calls the Lively Complex. More and more, archaeologists are beginning to believe in such a rough, heavy-tool, nonstone projectile point phase on a time level equal in age or even antecedent to the Paleo-hunter horizon but, like the Loch Ness monster, one can be convinced he has seen it without being able to prove it. The evidence too frequently occurs in or near sites of later occupation, so that the lithic forms are all likely to be attributed to the latter occupation, roughness of work being no proof of age.

What Ritchie covers in the Paleo-hunter section is exactly what he has found, and he has recorded that to the fullest measure of reasonable acceptance. We know exactly where we stand as of now in New York, and indeed in the Northeast, in the matter of the Paleo-hunter horizon; and it does not seem likely that New York will ever add much to the fund of information on the subject beyond what Ritchie has already adduced: the fluted point hunters lived here. Whether their "cultural center" was in Alabama, where more fluted points have been recorded than in the rest of the country put together, or in the Southwest, where several mammoth kill sites of Clovis spearmen have been found, New York is far removed from either. At the time of the Paleo-hunter, it was on the outskirts of habitable territory.

However, on January 30 of this year, The New York Times (p. 66) carried a piece on a newly discovered Folsom site in New Mexico, a quarter of a mile long by an eighth wide, from which 8000 artifacts have been taken so far. The site gives evidence of having been a habitation center consisting of many shelters, and it may be that here was a seasonal gathering-in place of the bands that roamed at large during the hunting season. If this was the pattern of the Folsom point hunters, who have been dated most recently at the Lindenmeier, Col., site at about 11,700 B. P., there is high probability that it was also the pattern of the Clovis point hunters; and somewhere in New York there may be awaiting the lucky man just such a gathering-in site. This is not the time to give up hope.

THE ARCHAIC OR HUNTING, FISHING, GATHERING STAGE
A REVIEW

Don W. Drago

Carnegie Museum

William A. Ritchie was first to apply the term Archaic to an early level of culture based on hunting, fishing, and gathering of wild vegetable foods, with the absence of smoking pipes and agriculture, in his report on the Lamoka Lake site in 1932. At that time, he attempted to correlate this completely new complex with the hypothetical first period of Algonkian occupation put forth by Arthur Parker in 1922. With the establishment of the McKern or Midwestern Taxonomic System of classification in 1935, the Archaic Algonkian, as manifested by the Lamoka culture, was described as the Lamoka Focus of the Archaic Pattern, and the traits and characteristics of the culture were enumerated by Ritchie in 1936.

When William S. Webb and his associates published their reports during the late 1930's and early 1940's on the shellmidden dwellers of the Tennessee River, Ritchie's Archaic was extended to cover these extensive manifestations. Since that time, the term has become firmly entrenched in the literature for the stage between the Early Lithic, or Paleo-Indian, and the relatively short Transitional Stage immediately preceding the Formative, or Early Woodland Stage. Since Ritchie's early definition of the term, the scope of the Archaic has been broadened to include complexes lacking ground stone tools and some containing tubular pipes and simple pottery, while its distribution has become continent-wide.

Ritchie's definition of the Archaic still conforms to his more restricted usage of the term as set forth in 1944, when he stated that "the Archaic level as a whole shows (a) a large variety and numerical abundance of chipped stone types; (b) the lack of all the so-called problematical group of polished stone artifacts, except the bannerstone of several simple forms; (c) a considerable typological range in and large number of bone tools; (d) the prevalence of copper tools and the total lack of copper ornaments; (e) the general absence of shell artifacts; (f) the complete dearth of pipes; (g) the want of pottery, except in perhaps the closing phase; (h) the nonexistence of agricultural traces; and (i) the large variety of burial practices, generally not involving mortuary offerings. "

To these general characteristics of the Archaic, Ritchie adds in the present work a number of other important observations for Archaic cultures in the Northeast. Among these are (a) evidence of mobility, small-band organization, and simple social structuring; (b) small sites lacking traces of substantial dwellings, fortifications, storage pits, and even graves; (c) primarily forest-adaptation at all times; (d) a variety in the details of content of distinctive cultures within the Archaic, reflecting in part local ecological adaptations, inherent dissimilarities of the several historically diverse traditions involved in its formation, and varying interactions between cultures within and outside the area; and (e) a tendency for distinctive complexes to be related to major drainage areas suggesting territorial distributions of tribal units.

Ritchie believes that the subsistence basis of the Archaic cultural stage in the Northeast can be correlated with the ecological conditions of late postglacial times from approximately 3500 to 1300 B. C. This period encompasses the latter portion of the warm and dry hypsithermal interval and all of the warm moist climatic episodes which followed. The biome of this period is characterized by a forest predominantly

of oak, hickory, chestnut, beech, and elm with some spruce, hemlock, and pine and by a fauna dominated by white-tailed deer, moose, black bear, beaver, and turkey as the most important food items to man.

If Ritchie is correct in assuming the Northeast Archaic is confined mainly to the Late Archaic Period of the Archaic Stage, we are left with a considerable time gap between the end of the Early Lithic, or Paleo-Indian Stage, and the beginning of the Lamoka Culture, which Ritchie believes to be the earliest recognizable Archaic culture in New York. Since Archaic cultures go back to about 8000 B. C. in the Ohio Valley and the Southeast, I suspect that the gap in New York reflects more our lack of data than the actual absence of man during the Early Archaic Period. I see no compelling reason for this vast area to be totally abandoned or so thinly populated, mentioned by Ritchie as a possibility, as to leave no cultural remains. I predict that in time this portion of New York prehistory will become known and the gap will be bridged.

From general considerations of the nature of the Archaic, Ritchie turns to the specific content of Archaic manifestations in New York beginning with what he believes to be the earliest and proceeding upward in time to the final phases. In this presentation, he has synthesized many of his earlier reports and added much recently discovered information. He has attempted especially to add more details on knowledge of geographical and ecological setting, subsistence activities, social structure, and settlement patterns than in his earlier site reports. He offers many interesting interpretations of the uses and significance of features and tools found in Archaic sites.

Ritchie "continues to regard the Lamoka culture as a discrete and distinctive entity, the earliest radiocarbon-dated Archaic assemblage yet revealed by the long and detailed investigations in the New York State area" (p. 40). He views it as the product of a particular physical group whose origins are still shrouded in mystery. The main area of occupation was the Genesee country and eastward across the Finger Lakes to Oneida Lake. There was a minor extension of the culture westward into the Ontario Peninsula and a stronger one into north-central Pennsylvania along the Susquehanna River. Scattered surface traces of Lamoka Culture also occur in several peripheral areas where the typical Lamoka-type projectile point and the beveled adz have been found.

Most of the sites of the Lamoka culture represent temporary small camps almost entirely restricted to the vicinity of lakes and streams. Only rarely was a site occupied long enough for the accumulation of a refuse mantle of any significance. Such was the "type" site at Lamoka Lake in Schuyler County, New York. Here Ritchie found a heavy midden overlying a profusion of pits, hearths, and postmolds representing what he believes to be the remains of small rectangular houses and associated racks and benches. The favorable location of this site makes it unusual in that it was apparently occupied at all seasons of the year and over a long period of time.

The normal community pattern for Lamoka and other Archaic cultures was probably restricted wandering within a specific territory by small bands composed of nuclear or extended families loosely united by common needs. These bands followed a seasonal cycle of movement within their territory in order to take advantage of the best resources obtainable by hunting, fishing, and collecting. Although hunting was probably the prime activity, Ritchie indicates that the addition of acorn food may have become important and

enabled a somewhat larger and more stable population. Many of the stone and bone artifacts of the Lamoka Culture are similar to those found in other Archaic cultures of the East, but the typical slender Lamoka-type projectile point and knife and the beveled adz are most diagnostic for the culture.

Although Ritchie notes that Lamoka-like projectile points have a broader range than Lamoka culture, it is apparent that he believes these more distant finds are probably derived from the New York area, since he suggests Lamoka "had its essential development in the area where its remains are found, from a simpler, more generalized, and more widely disseminated and mobile hunting and fishing manifestation, which probably antedated 3000 B. C." (p. 79). He further states that Lamoka "was in no way related to or descended from any recognized Paleo-Indian expression, in or out of the area."

Soon after the establishment of the Lamoka Culture, Ritchie suggests that groups of Laurentian peoples came into New York. These inroads supposedly occurred initially in eastern and northern New York beyond the range of the Lamoka territory, but there eventually followed a period of conflict and resulting amalgamation, with the Laurentian groups becoming dominant.

Ritchie conceives of the Laurentian as an elaborating Archaic cultural tradition "in which an increasing complexity in the cultural pattern resulted from the addition, from time to time and place to place, of traits or attributes to the simpler, more uniform basic culture which, in the light of the evidence from New York State, was probably brought into the Northeast by people of a new brachycranial physical type" (p. 79). Over several millenniums there arose from this basic culture as yet an undetermined number of regionally elaborated phases such as the Brewerton, Vergennes, Frontenac, and Moorehead complexes, which are reasonably well known, and the Vosburg, Tadoussac, and Old Stone, which are yet poorly defined. All of these phases are believed by Ritchie to have enough generic similarity to be termed as belonging to Laurentian.

If I understand Ritchie correctly, he considers Laurentian to be marked by such diagnostic traits as the gouge, adz, plummet, ground slate points and knives, the ulu in both slate and chipped stone, simple forms of the bannerstone, a variety of chipped stone projectile points with predominantly broad blades and side notches, and the barbed bone point. I find it difficult, however, to determine which of these traits, or other traits, Ritchie would attribute to "the simpler, more uniform basic culture" supposedly the foundation for Laurentian. Which traits are early and which are late in the Laurentian sequence do not seem to be adequately defined.

If the ground stone traits, such as the gouge and adz, and the slate tools are considered as the most important diagnostic traits of Laurentian, then Ritchie is quite correct in placing its center of development and diffusion within southeastern Ontario, southern Quebec, northern New England, and northern New York. It is certainly within this area that these particular items have their greatest distribution.

Ritchie uses these items to trace Laurentian influences outside of the Northeast. On this basis he suggests the extension of Laurentian from the maritime provinces of Canada westward as far as northern Ohio and probably into Michigan. He also sees definite cross-ties of Laurentian with the Old Copper Complex where copper counterparts exist for such "diagnostic" Laurentian stone traits as the gouge, adz, ground slate spear points, bannerstone, plummet, barbed bone point, and the ulu.

Using Ritchie's list of diagnostic traits for Laurentian, the Vergennes Phase, with sites in eastern New York, western Vermont, and adjacent parts of Quebec, appears most typical. However, I find it very difficult to assign his Brewerton Phase to the Laurentian tradition when its major traits are so poorly represented, or entirely absent. Of the major ground stone traits, only the gouge and adz are present in any number at the Robinson and Oberlander sites, the original type sites for Laurentian. Even at these sites the gouges appear to be essentially a modification of the adz. These short, broad, and shallow-concave gouges contrast markedly with the long, narrow, and deeply concave gouges of the Vergennes Phase. Only one of this latter type was found at the Oberlander Site.

The most conspicuous elements of the Brewerton Phase, as represented at the Robinson and Oberlander sites, pertain to its chipped stone industry and not to the ground stone industry which, except for the adz and gouge, is so generalized and widespread throughout the Archaic as to be of little diagnostic value. In the case of the adz, gouge, and other "diagnostic" Laurentian traits in Brewerton, I suspect these items were grafted onto an already widespread and long-established chipped stone tradition.

It seems to me that generally the chipped stone industry of an archaic culture appears as a more important and basic indicator of generic relationships on a broad scale than the ground stone complex which developed later in time and was more sensitive to local vagaries. The chipped stone industry, and even the majority of traits in the ground stone and bone industries of the Brewerton Phase, shares many similar types and traits with a vast number of Archaic sites scattered throughout the lower Great Lakes and Ohio Valley regions. Although I have drawn attention to these rather obvious similarities in my earlier studies of the Archaic cultures in the Upper Ohio Valley, I find no mention of them in Ritchie's discussion, even though he indicates the possibility that "the route of entry of the formative Laurentian was 'through the deciduous forest belt bordering the Great Lakes in Altithermal times. '" (p. 82).

I now seriously doubt that the formative Laurentian tradition, as defined by Ritchie in his current book, had its entry into the Northeast by this western route. I accepted this position in my own study of the Archaic cultures in the Upper Ohio Valley back in 1957 because I considered at that time the total complex manifested in the components of Brewerton as typical of Laurentian, since these were Ritchie's type stations. Noting the obvious similarities of many sites in the Ohio Valley and lower Great Lakes with the Brewerton components, I then suggested a generic relationship of these sites and extended the use of the term Laurentian or Laurentian-like to cover these widespread manifestations. This now appears as a mistake, not because the Brewerton components are unrelated to those in the Ohio Valley and lower Great Lakes, but because Brewerton is probably not the basic factor in the formative Laurentian tradition.

As an alternative to Ritchie's classification of the composition of the Laurentian tradition, I suggest that the Brewerton Phase should be removed from Laurentian and its basic relationships in the Ohio Valley and lower Great Lakes recognized. A new term should be established to designate this widespread and basic cultural tradition. Such a term should be arrived at only after careful consideration, perhaps at a conference attended by workers most concerned with the problem.

The term Laurentian should be retained and applied to those northeastern manifestations possessing Ritchie's diagnostic ground stone and slate traits as basic ele -

ments. The Vergennes Phase appears to meet the requirement best at this time, but much additional work is needed to determine the full content and generic relationships of the many manifestations that may fall within the Laurentian tradition.

The picture of the Archaic Period in New York State is complicated by acculturation situations involving Lamoka, Laurentian, Brewerton, and other complexes. A good example of this is seen in Ritchie's Frontenac Phase; where contact of these different cultural traditions resulted in varying degrees of borrowing and blending that tend to obscure ancestral affinities.

In eastern New York and along the Atlantic Coast are many sites whose cultural relationships belong to the Coastal Archaic. The Snook Kill Phase is closely allied to similar manifestations in eastern Pennsylvania and as far south as Georgia.

Although I have suggested some points of disagreement with Ritchie's classification and interpretations, he must be credited with assembling a vast amount of usable knowledge. Considering the number of elements woven into the complex fabric of the New York Archaic Period, it is perhaps a miracle that he has been able to achieve the present clarity. Future work will undoubtedly make many changes and additions, but Ritchie has laid a firm foundation.

In the present volume Ritchie is to be especially congratulated for attempting to place his complexes into proper ecological perspective, for reconstructing the settlement pattern, and for providing insights into the activities of the human beings who inhabited these ancient settlements.

THE WOODLAND STAGE A REVIEW

W. Fred Kinsey

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The long-awaited magnum opus for Northeastern archaeology has been released, and it is a credit to the scholarship and diligence of the author. Unquestionably, the significance of this work on the prehistory of New York will be felt throughout the Northeastern subculture area, and it is not likely to be superseded in the very near future. Monographs on specific topics, such as The Oak Hill Horizon and Its Relation to the Development of Five Nations Iroquois Culture by Donald Lenig, will enlarge and doubtless alter some of the views expressed in Ritchie's new book. However, it is improbable that the sequence of developmental stages, cultures, and phases, as elucidated, will be dramatically changed within the time span of the present generation.

Nearly half the book, 145 pages, is devoted to the Woodland Stage with suggested dates of 1,000 B. C. to 1,600 A. D. Five sub areas are recognized, namely: western, central, northern, eastern, and southern. Although the work under review is a summary and reevaluation of older thinking, in light of recent research it adds several new concepts and important data on heretofore unreported sites. Of particular significance is the work on settlement patterns.

The earliest Early Woodland is now recognized as the Meadowood Phase. Meadowood has been separated from the Point Peninsula culture and is considered a distinct cultural tradition. This phase is known largely from burials in the central, northern, and western areas in New York, with the greatest concentration in the former region.

Characteristic of the Meadowood Phase is a side-notched point of the same name most frequently made of Onondaga flint or chert from western New York, leaf-shaped cache blades usually occurring in numbers of 100 to 250, gorgets, antler and bone tools, bird-stones, tubular smoking pipes of Ohio fireclay, red-ochre burials, copper beads, and Vinette 1 pottery. Hunting, fishing, and gathering formed the basis of the economy. Ritchie sees the Meadowood manifestation as part of a wide-spread culture-complex of the Upper Great Lakes Region including parts of Wisconsin, Illinois, Indiana, and Michigan. It shows affinities to Glacial Kame, Old Copper, Red-Ocher, and the Pomranky Complex. (A minor error in this section which should have been caught by the editor is the caption for plate 71, page 196, which refers to burials 11 and 12. The plate indicates that the correct burial numbers are 10 and 11.)

Affinities between Adena and the succeeding Middlesex include mortuary ceremonialism with red-ochre and often cremation, blocked-end tubular smoking pipes, lanceolate knives, straight or lobate stemmed points, some copper beads and awls, bust type birdstones, gorgets, shell beads, and other items. The older concept with its emphasis on the diffusion of traits has given way to a newer theory. Ritchie has suggested, here and elsewhere, that splinter groups of dissatisfied Adena people moved eastward out of the Ohio Valley as the result of an expanding Hopewell culture in the Illinois Valley. This view sees an acculturation process at work within the resident populations. I consider this hypothesis unduly restrictive. Adena populations outside of what has generally been thought of as the Adena homeland need not be attributed to "splinter groups" or "dissatisfied people." The eastern Adena cultures of the Delmarva Peninsula, New Jersey, and central New York may well represent an enlargement of this culture area, and they may reflect a deliberate attempt at colonization rather than displacement by internal pressure.

Early Point Peninsula lacks a satisfactory type site, but Canoe Point in Jefferson County is advanced as a likely candidate. This phase is characterized by dentate, corded, rocker-stamped, pseudo-scalloped, shell-marked, and some incised pottery which is found distributed over a wide area of northern and central New York and southern Ontario. Middle Point Peninsula has Hopewellian and Intrusive Mound (Ohio) relations.

Hunter's Home, a new phase, is seen as representing the termination of Late Point Peninsula and the transition into Owasco. Important traits of the Hunter's Home Phase are: cord-marked surface treatment of pottery with corded horizontal, corded oblique, corded punctate, and platted motifs, straight or slightly curved pipes of clay or stone, Levanna type triangular points, a diversified stone tool kit consisting of knives, drills, scrapers, etc., simple maskettes, and fossil shark teeth. Burials are generally multiple and flexed. A date of 900 A. D. is postulated.

Owasco is reported at some length with the emphasis on settlement patterns. Changing settlement patterns are treated as Maxon-Derby, Bates, Canandaigua, Kelso, and Getman sites. Village and house types undergo change from multiple rounded houses to small long houses through large long houses. Early long house sites consist of a single house, which was subsequently rebuilt and enlarged. Multiple long houses fully enclosed by a palisade complete the prehistoric cycle. The historical period is barely mentioned.

It is obvious Ritchie has more data, and we await another publication in the future.

THE OWASCO AND IROQUOIS CULTURES
A REVIEW

Marian E. White

State University of Buffalo

The Late Woodland Stage is represented by two related cultural manifestations throughout most of upstate New York and by two cultures distinctly different from those in the rest of the State in the Long Island region. In central, northern, and eastern New York these are the Owasco and Iroquois cultures. In western New York the culture which precedes Iroquois is not named. In southern New York are found the Windsor and East River traditions. This review will be concerned with the Owasco and Iroquois cultures.

The Owasco culture is represented by more data, both in quantity of material remains and in components excavated, than in any other pre-Iroquoian culture. Furthermore, nearly all the work in the definition of it has been by Ritchie himself, providing a uniformity of field technique, classification, and interpretation equaled for few cultures anywhere in the eastern United States.

The culture per se is described under such headings as subsistence, food preparation, pottery, and the like. In fact, the emphasis in description throughout the book is on the activities associated with artifacts rather than their morphology and frequencies. The result is a work describing the culture history of the Northeast in terms of culture dynamics and culture change in a way never before achieved.

Owasco covers a time span of 300 years and can be subdivided on the basis of cultural differences into an early or Carpenter Brook phase, a middle or Canandaigua phase, and a late or Castle Creek phase. The standard for placing these phases chronologically is their typological similarity to earlier and later non-Owasco cultures. There is a strong reliance on radiocarbon dates as well.

It is to be hoped that the chronological placement of the three Owasco phases will undergo continued scrutiny. The total time span is so short and the geographical extent so wide that the assignment of cultural differences within Owasco to time rather than to space may require reexamination when as many data are available from other areas as now exist for central New York.

The Owasco physical type is described as Lenapid on the basis of approximately forty skeletons, and the similarity to prehistoric Iroquois of the same variety is noted. Irrespective of whether one accepts Neumann's taxonomy and conclusions about the interrelationships of the varieties of skeletal populations in the Northeast, there is a real need for a complete description of the Owasco physical type, including anomalies, and for precise comparisons between the Owasco and prehistoric Iroquois. Ritchie's summary of the paleopathology of the Owasco people suggests that other fruitful results might stem from such a study also. Equally important from an archaeological point of view is the consideration of why so few Owasco burials have been located on only about half the sites which have been excavated. Clearly we do not have any appreciable understanding of Owasco burial customs, any more than we do those of prehistoric Iroquois. Here in both burial customs and physical type are areas where continuity from Owasco to Iroquois needs to be demonstrated.

Summaries of unpublished work on the Maxon-Derby, Bates, and Sackett sites illustrate settlement pattern and what the appetite for the more comprehensive settle-

ment pattern study in preparation. Any criticisms of the settlement pattern discussion may, of course, be premature, since they may be answered in a forthcoming work; but in the meantime, the discussion of Owasco settlement pattern is disappointing.

Owasco habitation sites are classified as camp, hamlet, or village. The camp sites represent segments of the communities away from the large, more permanent settlements for a variety of activities. Analysis of differences in the tool kits and food remains should have provided more precise statements on the nature of these activities. Even more important is the failure to relate these types of sites to the annual subsistence cycle. For example, we are told that the distinction between village and hamlet is one of size. Are these differences in size from village to hamlet simply a function of group size, or can they be related to different seasonal activities or population increase through time? A systematic relationship between the size of the settlement and its population is postulated and substantiated by the superposition of houses interpreted as enlargements due to increased population. If settlements grew during their existence at one site, it is reasonable to expect a predictable relationship between large and small sites, villages, and hamlets.

The claim that these sites involve "occupation over a number of years" is certainly an understatement, for they must have been occupied or reoccupied for a long period to require so many reconstructions. This fact of reoccupation raises a question concerning the recognition of year-round settlement at certain Owasco sites. At the Bates Site, for example, there are four extensions of the single structure; at Maxon-Derby, several houses are superimposed. There seems to be no way of establishing whether each occupation occurred at exactly the same season of the year. If repeated occupations occurred at different seasons, the mixture of bones should reflect year-round occupation. It is to be hoped that the final report on settlement pattern will give frequencies of bone by animal and age, so that statements concerning seasonality can be assessed. Similarly, we await settlement pattern data to demonstrate the hypothesized matrilineality and matrilocality of Owasco society. If this is accepted as the case, then when did these forms of kinship and residence develop?

It is important to note that the Owasco culture is the product of both Iroquoian and Algonquian speakers, but that it does not include all Northeastern representatives of either. At some future time, it may be desirable to reexamine the definition of Owasco and related Late Woodland cultures to see whether a realignment might yield archaeological cultures coinciding more closely with linguistic groupings. If such is not the case, then we have a most interesting, though not unique, example of cultural similarities from spatial contiguity overshadowing those of linguistic relationships.

The last section of the monograph is concerned with Iroquois culture. These 23 pages may represent a scale relative to the temporal extent of Iroquois compared to pre-Iroquoian cultures, but they do not reflect the greater proportion of information available on Iroquois archaeology. This truncation of Iroquois archaeology makes the title of the work misleading and perhaps will come as a disappointment to some readers. They will be referred to Donald Lenig's The Oak Hill Horizon, published in 1965 as a Researches and Transactions of the N. Y. S. A. A., which gives the data for the reconstruction of the Owasco-Mohawk development cited by Ritchie. The two writers are in agreement on a development from Owasco to Oak Hill to Chance. Ritchie

now calls the latter two "phases" and follows them with the Garoga Phase. Descriptions of the Kelso, Getman, and Garoga excavations bring up to date reports on recent work by the New York State Museum on these key sites.

Ritchie points out (p. 300) "it has become increasingly difficult to delineate the beginnings of a specifically Iroquois culture horizon." This difficulty is encountered because he fails to realize that those attributes which we commonly associate with Iroquois culture did not each undergo change from the classic Owasco artifact types at the same time and same rate. In classifying such a continuum, it is necessary to select some marker of change and declare that with the appearance of that marker, the culture will be called Iroquois. The Transitional Iroquois culture type (White 1961; 116) has been applied to sites in western New York where the pottery rims have incising together with the earlier techniques of decoration. This classification allows a clear distinction between Owasco, Transitional Iroquois, and Iroquois, and it utilizes a marker which is typical of Iroquois culture.

The Oak Hill Horizon or Phase, on the other hand, marked by "a high predominance of corded-collar vessels, mainly of the Owasco Corded Collar type and its derivative type, Oak Hill Corded" (p. 302) is the beginning of Iroquois in eastern New York. This definition results in classifying as Iroquois typologically and, presumably, chronologically earlier sites in the east than in the west, where a different taxonomy is in use. But even more serious is the likelihood that the Oak Hill Phase may well include sites on which incised rims are totally absent, sites which have predominantly corded collar vessels, and sites which are closer to the preceding Owasco development. One may rightly ask whether a classification which would lead to such results is meaningful, for it seems to define as Iroquois all that late Woodland development which is not classic Owasco.

Throughout the book, Ritchie has employed the concept of stage to set forth a historical development scheme of Paleo-Indian, Archaic, Transitional, and Woodland, the latter divided into Early, Middle, and Late. It is not clear whether his intentions are to follow the Willey and Phillips usage of this concept, although in general he has elected to adopt most of the recommendations of Willey and Phillips on archaeological units. It seems that Ritchie has not in fact employed stage as Willey and Phillips did. While he follows them in pointing out that the concept is free of temporal and spatial limitations, he does not follow their procedure of selecting "certain characteristics that seem to have significance from the point of view of the general development of New World culture (Willey and Phillips 1958:77)" and of assigning archaeological units to stages on this basis. Rather, he has correlated phases and sequences and assigned them a chronological position in an area chronology of periods which he labels stages. The Willey and Phillips (1958:66) warning that "From the developmental standpoint, nearly all area schemes that have so far appeared are subject to the same difficulties. They have followed in the wake of archaeological chronologies and have found it impossible to break free of them" applies aptly to Ritchie's sequence of stages.

Similarly, Ritchie claims to have discarded the Midwestern Taxonomic System, but his thinking is still strongly influenced by results previously derived through its use. For example, while the concept of aspect is discarded, the term culture is introduced as the rough equivalent. Yet the term culture is applied just as rigidly as was the term aspect, with the result that highly similar sites in western New York

and Ontario are not included in the Owasco culture.

These methodological weaknesses are insignificant compared to the strong points of the book, whose major purpose is to present a functional account of New York archaeology. The author states that the conjunctive method has never been fully achieved anywhere, but it has nowhere been more fruitfully applied than in this outstanding contribution.

THE ARCHAEOLOGY OF NEW YORK STATE A SUMMARY REVIEW

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Both as the summing up of the work of a lifetime and as the development of a schema for the prehistory of a region that is internally diverse yet tenoned together by demonstrable cultural traditions, Ritchie's The Archaeology of New York State is as impressive as it is unique.

One would be hard put to cite another instance in American prehistoric studies where a man of talent and insight has devoted an entire career of 40 years to such indefatigable research in a territory so prodigal of prehistoric enigma and ambiguity.

That Ritchie was able to make anything at all of the fugitive and scattered evidence in the thin forest soils, which themselves are very probably not as old as the artifacts they conceal, is beyond reasonable expectation. That he was able by diligence and accurate evaluation to construct a useful system of cultural chronology and relationship which those of us who work in the area have found indispensable is remarkable and inimitable. That he was able, finally, to derive from this work the archaeological concept of the Archaic, the value of which increases with time and the applicability of which now stretches from the Atlantic seaboard to the Rockies, has already placed him high among the truly creative contributors to American prehistory.

Within the first decade of his work, Ritchie had grasped the salient elements that give New York prehistory-and there is such a thing because the political boundaries of New York outline a natural province consisting of the Hudson- Champlain-Mohawk Valley system-its distinctive character on the map of Northeastern prehistory.

The first of these elements (one may almost call them premises) was the singular Lamoka Lake culture, territorially limited but including in its trait list narrow-bladed projectile points with irregular, knobby shanks, often descriptively side-notched, that have regional distribution, especially in the Hudson Valley. The second element is the cultural pattern revealed at the Robinson and Oberlander sites and stamped by Ritchie with the name Laurentian, the lithic technology of which, including-its broad, notched blade varieties of projective points, is sharply different from the Lamokan.

It is inherently probably that, if these two cultural elements lived contemporaneously in contiguous territories, they would eventually make interactive contact. Ritchie dis-now accepts for Lamoka, for the following millennium can best be explained by the specific contact-interaction at Frontenac Island was that the Laurentians had subjugated the Lamokans and absorbed them. It was a likely event, but it is only one of the several kinds of relations that must have ensued in co-occupation of New York by

the Laurentians and, to use a term applied by this reviewer to the narrow-bladed, irregularly shanked points in a paper presented to the Eastern States Archaeological Association Conference in November, 1965, the Taconic people. This reviewer has collections of intermingled Laurentianistic and Taconic Tradition points from a dozen or more sites in the lower Hudson and from as far south as Princeton, New Jersey, and the literature places similar coincidences in the Champlain Valley and as far east as New Haven, Conn. The prehistory of New York from the 4500 B. P. date Ritchie now accepts for Lamoka, for the following millennium can best be explained by the careful study of what happened between the Laurentians and the Taconics, incident by incident. Though influences drifted into New York and through it to New England, from south and west, the population pool would seem to have been these hybrid Laurentian-Taconics, and subsequent cultural foci must have been developments out of the degree of their acculturation.

The one element that may have a claim to independent identity during the Archaic but subsequent to the Laurentian-Taconic interaction is the limited cultural facies called by Ritchie Snook Kill, with its large, broad-bladed, stemmed points and generally large tools. But one suspects that this may be no more than the standardization of deviant Laurentianistic forms, even as the narrow-bladed but boldly side-notched "Normanskill" points are the standardization of a tendency latent in Taconic point technology.

Be that as it may, this reviewer has always found it instructive to refer in his own discoveries to the fertile interrelationship of Laurentian-Lamoka (elsewhere Taconic) and to expect local examples of Frontenac Island assimilation, whether by hostile or peaceful means.

The publication in this issue of The Bulletin, in the article following, of Robert Funk's highly significant report of a break-through in chronology to about 6600 B. P. necessitates a comment in its bearing on Ritchie's Lamoka-Laurentian-Frontenac Island triad. Funk presents powerful evidence for a 2000 yr. priority of a kind of platform Laurentian (we proffer the regional name for this new temporal-cultural aspect of York Mont or York-Montian, from New York and Vermont) over the 4500 B. P. date now accepted by Ritchie for Lamoka. By inference, then, this platform or reservoir Laurentian is at least that much older than any Lamoka-Laurentian acculturation. The Laurentian-Lamokan (elsewhere Taconic)-Frontenac base line is not hereby affected. The chronological break-through at Sylvan Lake Rockshelter affords us a very much longer perspective in Northeastern prehistory without disturbing present knowledge. We are beginning to be in position to describe an early Archaic for New York and to look for its origins to the South and West. But the special situation of the migration of makers of stemmed points of the Taconic tradition remains unchanged; it even remains a remote possibility that these people developed their point technology in situ in the Hudson Valley. But their appearance in New York with the form we recognize seems pegged at 4500 B. P. or perhaps at earliest, 4700 B. P. It should not be thought that new knowledge expunges from the record all previous data.

Though Ritchie's seminal work has been in the Archaic, he has not neglected either terminal of New York prehistory. He has determined that the fluted-point hunters did wander over the regional landscape; he has defined the soapstone-ceramic

pottery threshold; he has isolated Vinette pottery as the primary ceramic ware in the Northeast; he has described and phased the Point Peninsula epoch with its important ceramic series; he has shown that Hopewell and Adena tendrils probed into the Northeast; he discovered and delineated the widely influential Owasco; and, finally, he has contributed significantly to the investigations of Iroquoisia. Thus The Archaeology of New York State is an encyclopedia; almost everything known to date is in it, for almost everything done to date in New York is Ritchie's work or variation on it.

So solidly does this work bulk and comprise New York prehistory that it defines with unusual clarity what has not been done here. Nowhere in it is there described a full-scale excavation of any of the most highly informative kinds of sites: a rockshelter or cave, a stratified shellmidden like those of Haverstraw Bay and the Tappan Zee, or a site in an alluvial plain where flooding has interleaved occupational use with sterile deposits that result in a certain stratigraphy. It is on the excavation of such sites that progress in New York prehistory must depend in the future.

The date of circa 6600 B. P. in a hearth at the Sylvan Lake Rockshelter and the discovery of a Cumberland fluted point in Dutchess Quarry Cave, as reported in the July, 1965 issue of The Bulletin, show what results can be obtained from the excavation of natural shelter sites. The date of 5863 plus or minus 200 years, obtained from an oyster shell midden at Croton Point on Haverstraw Bay (reported by this writer in the November, 1963 issue of The Bulletin), shows the potential of this kind of site, even though the Kettle Rock Site at Croton Point produced nothing culturally diagnostic. To the alluvial plain sites no attention has been paid so far, but their prehistory has been established by Joffre Coe in North Carolina and Bettye Broyles in West Virginia, where stratigraphic -columns of occupations going as deep in time as 9000 yrs. have been established.

By contrast, the great volume of New York archaeology has been done in what are essentially open sites. Despite the considerable depths of some of them, they consist of only the single geologic horizon, which is the soil history at the site since the retreat of the Wisconsin. The probability of mixing in such situations is high. In his The Formative Cultures of the Carolina Piedmont, Coe relates vividly how he fell victim to this kind of geologic ambiguity. After a thorough study of the collections from over 100 sites of this open kind, he assembled a pattern of traits which he believed to constitute a cultural entity called by him the Badin Focus. He attributed ceramic pottery to it, assigned it an age as suggested by the pottery, of 1599 yrs., and so published it in the survey volume Archaeology of Eastern United States. When, however, he had completed digging his alluvial flood-plain sites and was able to index the lithic traits, he discovered that a good part of his ceramic Badin Focus lithics were actually 6000 yrs. old or older.

The problem is that soil which supports vegetative cover is not fixed and static. It is, at one end of the process, the recipient of the accretions of the decay of vegetation, and at the other end it is the reservoir from which living vegetation draws its sustenance. In the jungle, so heavy is the depletion of this reservoir by the swiftly burgeoning plant life that the soil cover is rarely more than two or three inches thick. The transmutation process is so rapid that the soil itself can be safely said to be only a few years, not even decades, old. In temperate climates, the transmutation process is not so rapid and seems to result in a net result of near balance. Under most circumstances there is not likely to be much addition to soil depth, and most New York topsoil coverages show this,

being from 6 to 10 in. deep. Where the land slopes, there are other depleting factors; subsurface erosion where there is duff cover; soil creep caused by freezing and thawing; the weak but inexorable pull of gravity. Only at the foot of slopes, in depressions where down-slipping soil accumulates, can much depth of soil be expected to be found.

When artifacts are dropped on the surface of soils in this vegetative ferment, they will obviously sink, both because of the accumulation of duff over them and the depletion of the soil they rest on. Just as obviously, they will sink until they reach a surface, even or uneven, impervious to further -sinking, such as stone or a compact subsoil layer. Considering the shallowness of the soil horizon through which they have to sink, it is not surprising that artifacts five or six thousand years apart in time are found, as was Coe's experience, in close association. Only where the impervious layer itself has been caused by human activity, such as in lodge floors and trampled village ways, can the precise depth of discovery of an artifact be considered reliable. Soil profiles are not stratigraphy, nor are zonal bands of coloration, since they are chemical, not physical, and are established in relation to the soil surface at any given year.

All this is to say that the thin skin of soil over our landscape is all there is to contain whatever occupational evidence was deposited within it since the Wisconsin Glacier, and it is not ample enough, nor stable enough, nor differentiated enough to give the kind of answers archaeology now needs. Depth distribution and seriation studies have their place, but in the hands of even close observers at careful excavations they are far from infallible.

Despite the immense accomplishment to which The Archaeology of New York State is the monument, the investigation of the state's prehistory is probably not even half done. But no state in the union, or any region thereof north of the Meso-American centers, has been so thoroughly and expertly gleaned, and the results so carefully ordered and systematized, as New York. The Archaeology of New York State will go on the shelf of every working archaeologist in the Northeast not just as a reference book but as part of his field equipment.

A BOOK BY CHARLES F. HAYES

A significant report, unique in that it combines four sites of both historic and prehistoric archaeological interest, has just been published as No. 12 of Research Records of The Rochester Museum of Arts and Sciences. The report, by N. Y. S. A. A. member and officer, Charles F. Hayes III, is "The Orringh Stone Tavern and Three Seneca Sites of the Late Historic Period." The price is \$2 per single copy; it may be obtained from the Rochester Museum.

A thorough-going factual account of the artifactual recoveries, the report will be wanted by those interested in Colonial period research, since it is generously provided with excellent photographs and the text is meticulously descriptive. Hayes has done a painstaking job of research and recording for the Tavern, the Canawaugus, The Big Tree Farm, and the Sackett Sites. -L. A. B.

THE SIGNIFICANCE OF THREE RADIOCARBON
DATES FROM THE SYLVAN LAKE ROCKSHELTER*

Robert E. Funk

Van Epps-Hartley Chapter

Editorial preface: Only once in an editor's lifetime does it fall his good fortune to publish an issue of such historic importance as this, with reviews in depth of a book that is a comprehensive statement of the prehistory of a territory followed by a piece which is the opening chapter in the next volume of that prehistory. This report by Funk is undoubtedly the most important contribution to New York prehistory The Bulletin has published in its 12-year career. L. A. B.

In a previous issue of The Bulletin (Funk 1965a), a short preliminary report was presented on the stratified Sylvan Lake Rockshelter located about 13 miles southeast of Poughkeepsie in Dutchess County, New York. This site produced materials of basic relevance to the Archaic sequence of the Hudson Valley. Two radiocarbon dates on hearth charcoal analyzed by the Yale Radiocarbon Laboratory were received too late (March 1965) for incorporation in the article, though they were reported in the same issue. These dates were 2780 B. C. \pm 80 years (Y-1535) and 2210 B. C. \pm 140 years (Y-1536); both readings have an important bearing on Archaic chronology in the North-east. In December 1965, a third date was received, the oldest so far obtained for an Archaic horizon in New York or New England: 4610 B. C. \pm 100 years (Y-1655).

To recapitulate the stratigraphic situation at Sylvan Lake, the lowermost cultural zone (stratum 3) produced a small group of projectile points resembling Laurentian forms, but no diagnostic types were present. In deep levels of the next higher zone, stratum 2, was an assemblage of familiar Laurentian points (Ritchie 1961), including Vosburg, Brewerton Eared Triangle, and Brewerton Eared-notched points. Also present were small convex-sided triangular points which the writer has named Beekman Triangles. This congeries apparently represents an occupation by Vosburg Laurentian people (Ritchie 1944; 257-259; 1958; 1965; 83-84; Funk n. d. a.).

Middle and upper levels of stratum 2 yielded much material, which consists largely of narrow stemmed and side-notched points. The majority of these points conform to the Lamoka and Bare Island types (Ritchie 1961). Third in frequency are the newly defined small, thick Sylvan Side-notched points. The projectile points, pebble hammerstones, ovate knives, bannerstones, and other associated tools constitute the type assemblage for the late archaic Sylvan Lake complex (Funk n. d. a.). Orient Fishtails and other points in uppermost levels of stratum 2 at its contact with stratum 1 indicate that cultures of the Susquehanna tradition (Witthoft 1953; Ritchie 1965; 149-177; Funk n. d. a.) succeeded the Sylvan Lake groups.

Stratum 1 produced traces of Middle and Late Woodland occupation.

Since publication of the preliminary report, the writer has continued to analyze the material from the site. During the original excavations in 1964, a 5 by 10 foot block of the shelter deposits was left unexcavated, to be held in reserve for future work as a check against the initial stratigraphic studies. In the fall of 1965, the

* Published by permission of the Assistant Commissioner, New York State Museum and Science Service.

writer returned to Sylvan Lake and nearly completed his field investigations there. The artifacts and data thus acquired have added substantially to the story of the site, where final work will take place in April 1966.

In the laboratory, further analysis, both stratigraphic and typological, has shed new light on the early prehistory of the Hudson Valley. Among other developments, after removal of lime crust from a number of artifacts by washing in hydrochloric acid, it was a pleasant surprise to learn that three points from lowest levels, though not conforming exactly to the type in outline, displayed hitherto unsuspected attributes of Otter Creek points (Ritchie 1961), such as notch grinding and squared tangs.

The stratigraphical and cultural contexts of the three radiocarbon dates require some treatment (see Fig. 1 for diagrammatic explanation).

The date 2780 B. C. \pm 80 years (Y-1535) was obtained on hearth charcoal taken from Feature 2, located at the rear of the cave, which had been dug by the Indians into stratum 3 from lower (Vosburg) levels of stratum 2.

The date of 4610 B. C. \pm 100 years (Y-1655) was obtained on charcoal from Feature 6, a basin-shaped hearth at the bottom of a deep pocket in the tan sediment of stratum 2, 54 inches below datum and nine feet below the pre-excavation surface. This hearth was located at the front of the cave, 15 inches below the zone of Vosburg occupation (32-39 inches) and 12 inches below a single point very similar to the Otter Creek type. In the same levels as the feature was a broad-stemmed point similar to a specimen found with Vosburg traits in the lowest zone, stratum 3, at South Cruger Island near Tivoli (Ritchie 1958: plate 25, fig. 34). At a comparable depth was a crescentic chipped slate object, possibly an ulu blank. Evidently intrusive into these levels, through an animal burrow or root channel near one wall of the cave, was a Bare Island point of quartz.

The age determination for Feature 6, then, lies somewhere between the stratum 3 occupation, with its Otter Creek-like, triangular, and broad-stemmed points, and the Vosburg habitation levels. It also precedes the single Otter Creek-like point from the 42 inch depth.

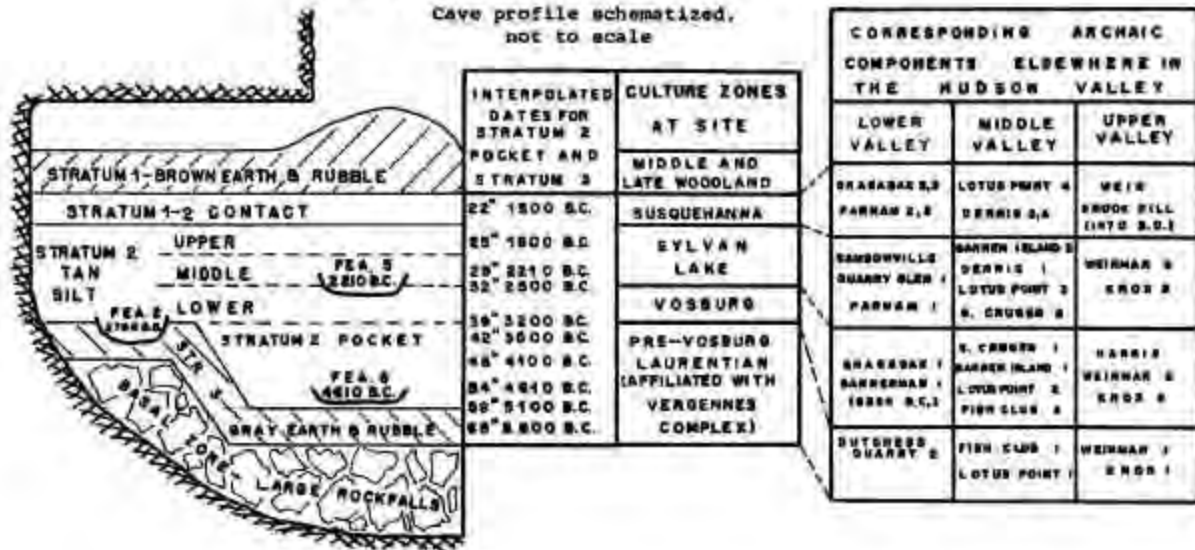
Above the Vosburg levels, at a depth of 29 inches, and almost directly over Feature 6, was Feature 5, dated at 2210 B. C. \pm 140 years (Y-1536). This feature was closely associated with artifacts of the Sylvan Lake complex.

Using the dates for Features 5 and 6, it is possible by interpolation to estimate the rate of deposition of stratum 2 in the pocket area and to apply such estimates to the cultural chronology.

Above Feature 5, the top of stratum 2 was at a depth of 22 inches. Feature 6 was 25 inches below Feature 5, and its rim was 5 inches above stratum 3. By interpolation, we arrive at a sedimentation rate of one inch per 96 years. This gives us an age of perhaps 5100 B. C. for the junction of strata 2 and 3; 4610 B. C. for the broad-stemmed point and possible ulu blank in the same levels as Feature 6; 3500 B. C. for the Otter Creek-like point at 42 inches; 3200 B. C. for the base of the Vosburg zone (39 inches); 2500 B. C. for the top of the Vosburg zone and the bottom of the Sylvan Lake zone (32 inches); 2210 B. C. for the lower part of the Sylvan Lake zone (Feature 5, 29 inches); 1800 B. C. for the middle Sylvan Lake zone; and 1500 B. C. for the top of stratum 2.

It will be observed that the Feature 2 reading of 2780 B. C. fits very nicely into the independently estimated bracketing dates for Vosburg. Furthermore, the figure

Fig. 1
 STRATIGRAPHIC, CHRONOLOGICAL AND CULTURAL RELATIONSHIPS AT THE
 SYLVAN LAKE ROCKSHELTER, DUTCHESS COUNTY, NEW YORK
 N. Y. S. M. Excavations of 1964-65 (R.E.F.)
 Cave profile schematized,
 not to scale



of 1500 B. C. for the top of stratum 2 corresponds to the level of Susquehanna occupation, and matches the date of 1470 B. C. \pm 100 years (Y-1170) from the Snook Kill site (Ritchie 1965; 135).

At the other end of the column, if it is assumed that stratum 3 was deposited at the same rate as stratum 2, the points found at 61 inches and 65 inches could be as old as 5800 B. C.

What is the meaning of the cave chronology, in relation to Archaic manifestations of the Hudson Valley and Northeast?

I have pointed out elsewhere (Funk 1965a; n. d. a.; n. d. b.; Funk, Weinman, and Weinman 1965) that the Archaic projectile point sequence at Sylvan Lake is duplicated to a considerable degree on other stratified sites in eastern New York, including the Weinman and Knox sites on Lake George, Barren Island near Ravena, and the Dennis Site near Albany. Important contributions to this framework have also been made at Parham Ridge near Croton (Brennan 1962), Fish Club Cave near Ravena (Funk n. d. a.; Funk and Johnson 1964a), Lotus Point near Catskill (Ritchie 1958; 25-34) and South Cruger Island at Tivoli (*Ibid.*: 71-82).

Rather clearly indicated by the data is the temporal succession of the Vosburg, Sylvan Lake, and Susquehanna groups.

Some of the sites mentioned have provided basic data on nonprojectile point aspects of these cultures.

Three stations-Weinman, Knox, and Fish Club Cave-featured components of the Vergennes complex of Laurentian (Ritchie 1944; 253-257; 1965; 84-87) in situ below Vosburg zones. This stratigraphic relationship was suspected by Ritchie (1965: 87) partly on the basis of recoveries of points very similar to the Otter Creek type, a Vergennes diagnostic, in deepest levels at Lotus Point, and at the base of the Brewerton Archaic midden at the Robinson site on Oneida Lake (Ritchie 1940; 1944: 235-246; 1965: 87-103). Now, as previously indicated, the lowest level occupations at Sylvan Lake appear to share in this tradition of large, broad, square-tanged, ground-base, ground-notched projectile points.

The data from such sites as Sylvan Lake, Weinman, Knox, and Dennis, seemed to indicate a partial conflict with the regional scheme proposed by Ritchie (1958; 1965; 44, 142, 145) which began with a Lamoka-like point horizon, followed by the Vosburg and Transitional (Susquehanna) cultures. This slender point horizon was thought to have some affiliation with the Lamoka culture (Ritchie 1932; 1936; 1944; 292-310; 1965: 36-79), which, of course, is a distinctive trait configuration confined to central and western New York, where it is believed to precede Brewerton culture.

Key evidence for this early point tradition was reported for the Harris Site near Schuylerville (Ritchie 1958: 8-25), on which Lamoka-like points seemed to cluster in lowest levels, below Laurentian materials. The sites excavated or studied by the writer featured Laurentian items in lowest levels and narrow points-often indistinguishable from the Lamoka type-in higher preceramic levels.

In order to attempt a solution to this problem, it was imperative for me to examine the Harris site materials, which Dr. Ritchie placed at my disposal. To our surprise, it became evident that most of the points formerly considered to be Lamoka-like pertained to the recently isolated and defined Normanskill type (Ritchie 1961), diagnostic of the late Archaic River complex, C-14 dated to about 1900 B. C. (Ritchie

1965; 124-131). This reanalysis has, of course, modified the stratigraphic pattern at Harris. It now appears that the site no longer contributes to problems of regional Archaic chronology.

With one exception, none of the other sites described by Ritchie (1958) evinced vertical separation of Laurentian (Vosburg) and narrow point assemblages. The exception is South Cruger Island (Ibid: 71-90) where a basal Vosburg component is evident in stratum 3, and narrow points mixed with Laurentian items occurred in stratum 2.

Elsewhere the writer (Funk n. d. a.) has described several small sites, most of them rockshelters in the lower Hudson Valley, which show dominance of narrow bladed points in higher levels, Laurentian traits in lower.

On the stratigraphic evidence, I am proposing a framework for the Archaic of eastern New York, which begins with the Vergennes complex. This manifestation is centered in northeastern New York, apparently extending southward to the Cossackie-Athens area. Since the diagnostic Otter Creek point is extremely rare in the lower Hudson Valley, there is currently no identified Laurentian equivalent to Vergennes in that area. This hypothetical cultural entity may be represented by the small stratum 3 collection at Sylvan Lake which, aside from the broad aide-notched, stemmed, and triangular points, also includes bone awls, pebble hammerstones, biface knives, and a piano convex end scraper. Assuming a cultural relationship with the Vergennes complex, both manifestations may date as far back as 5000 B. C. on the basis of the Feature 6 C-14 reading at Sylvan Lake.

This tends to confirm the writer's suspicion that some Laurentian manifestations are considerably older than is generally believed, and may pertain to the Early Archaic time bloc in New York or to a considerable segment of it.

In central New York the Brewerton phase of Laurentian is placed at about 2000 B. C. on the basis of two C-14 dates from the O'Neil site, on the Seneca River (Ritchie 1965; 91). In this area Brewerton is believed to have followed the Lamoka culture in time. Lamoka has seven dates averaging 2500 B. C.; an earlier determination, by the solid-carbon method, was 3433 B. C. \pm 250 years (C-367) (Arnold and Libby 1950; Ritchie 1965:44-45). In other papers the writer (Funk n. d. a.: n. d. b.) has discussed some problems of Archaic chronology in central New York.

I believe it is highly significant that (1) Laurentian artifact types are consistently found in deepest levels of stratified sites in New York and New England (cf. Ritchie 1965: 140; n. d.), and (2) Laurentian chipped atone assemblages are remarkably similar to those of early, as opposed to late, Archaic cultures of the Southeast and other areas.

With regard to (2), there are striking resemblances in projectile point styles. For example, the Otter Creek point of the Vergennes complex is very similar to the Raddatz point of Wisconsin and the Big Sandy point of Tennessee (Ritchie 1961; 41), both of which are considered to be as old as 8000 B. C. Also, the variety of scrapers and prismatic flake tools of Laurentian appears to be characteristic of earlier Archaic groups outside the Northeast (e.g., Coe 1964; 51, 73-79; Lewis and Lewis 1961; tables 9, 10). These items are rarely, if ever, found in such late archaic groups as the Sylvan Lake, River, and Halifax (Coe 1964: 118, 123) complexes.

Some years ago, Don W. Drago (1959) proposed an early placement for Laurentian,

based largely on comparisons with the chipped stone inventory in lowest levels of the Rohr shelter in West Virginia which has a radiocarbon date of 3352 B. C. \pm 90 years (Y-486) (*Ibid.*: 238).

Laurentian-like projectile points, including one resembling the Otter Creek type, were found in lower zones of the Sheguiandah Site on Manitoulin Island, Lake Huron, for which a reading of 7175 B. C. \pm 250 years (W-345) has been obtained (Lee 1954; 1955; 1956).

In view of these and other typological comparisons, I have suggested an age of 4000-5000 B. C. for the Vergennes complex (Funk n. d. a.; n. d. b.). Ritchie (1965; 87) has proposed a figure of 2500-3000 B. C. The C-14 date of 4610 B. C. \pm 100 years (Y-1655) from Sylvan Lake seems relevant to this problem.

Although the stratum 3 materials at Sylvan Lake do not include nonprojectile point Laurentian diagnostics, such as gouges, ground slates, and plummets, the Vergennes components of the upper Hudson Valley feature Otter Creek points in association with such items as a barbed ground slate point, ulus in process, prismatic flake tools, pestles, adzes, knives, and other tools which commonly occur in Laurentian assemblages.

Distributional studies by the writer (Funk n. d. a.) and recoveries at the Bannerman Site near West Point (Ritchie 1958; 62-71) demonstrate the presence of Laurentian as a trait-complex in the lower Hudson Valley. Therefore, since the basal components at Sylvan Lake are comparable stratigraphically and, to a degree, culturally with the Vergennes complex, I would suggest that these manifestations pertain to a very old and wide-spread Laurentian substratum, ancestral to the Vosburg complex and other localized expressions of the tradition. Furthermore, this substratum represents, I think, a considerable segment of the hitherto undiscovered Early Archaic in New York State, dating to 5000 B. C. or older.

It was Ritchie (1958; 34) who speculated that the stratum 5 items at Lotus Point, which include two Otter Creek-like points, represented an Early Archaic, pre-Lamoka point horizon. The recently garnered evidence bears him out on this point, although we now know that in eastern New York the narrow points seem to follow not only Vergennes, but the Vosburg complex as well.

It seems likely that the early materials at Sylvan Lake dated 3500 B. C. or older, have some relevance to the age determination of 3900 B. C. \pm 200 years (Y-1315) for the early shell midden at Croton Point, in the lower Hudson Valley, unfortunately lacking diagnostic artifact associations (Brennan 1962: 1963). Croton Point is only about 40 airline miles from Sylvan Lake, and it may be that some of the Laurentian-affiliated hunters who wintered in the rockshelter between 3500 and 5000 B. C. spent their summers collecting oysters along Haverstraw Bay.

I would also suggest that the small collection from lower levels of a cave near Florida, New York, recently excavated by the Orange County Chapter, N. Y. S. A. A. (Funk, Walters, and Ehlers 1965) can be compared to the early horizons at Sylvan Lake. Broad side-notched points, one featuring some Otter Creek attributes, were found with bone awls and a scraper just above a basal zone, which yielded a single fluted point of Cumberland type.

As previously indicated, the writer estimates the period of Vosburg occupation in eastern New York to have been 3200-2500 B. C. This is revised from an earlier estimate of 2800-2300 B. C. (Funk, Weinman, and Weinman 1965) on the basis of the

calculations made possible by the Feature 6 date at Sylvan Lake. I would also propose an earlier beginning date for the Sylvan Lake complex of c. 2500 B. C., while continuing to assume a terminal date of 1500 B. C. -fixed by the radiocarbon determinations for Snook Kill (c. 1500 B. C.) and Orient (c. 1000-760 B. C.) cultures.

Thus recent work in the Hudson Valley has considerably assisted our efforts to determine the temporal placement of Laurentian and other Archaic manifestations. More radiocarbon dates from stratified sites are expected to confirm the Sylvan Lake cave chronology. Additional charcoal samples are available from the cave. The writer has initiated an intensified search for more rockshelters, caves, and open sites with deep stratified deposits (Funk 1965b). It is to be hoped that within a relatively short time we will have a fuller picture of aboriginal life in Early Archaic times in the Northeast.

REFERENCES

Arnold, J. R., and W. F. Libby

1950 Radiocarbon Dates. University of Chicago, Institute for Nuclear Studies. Chicago.

Brennan, Louis A.

1962 A Beginning in Chronology for the Croton River Area. Pennsylvania Archaeologist, Vol. XXXII, Nos. 3-4. Milton.

1963 A 6000 Year Old Shell Midden of Virginia Oyster Shell at Croton Point, Lower Mid-Hudson. New York State Archeological Association, The Bulletin, No. 29. Ossining.

Coe, Joffre L.

1964 The Formative Cultures of the Carolina Piedmont. Transactions of the American Philosophical Society, N. S., Vol. 54, Part 5. Philadelphia.

Dragoo, Don W.

1959 Archaic Hunters of the Upper Ohio Valley. Annals of the Carnegie Museum, Vol. 35. Pittsburgh.

Funk, Robert E.

1965a The Sylvan Lake Rockshelter (Clo 2) and Its Contribution to Knowledge of the Archaic Stage in Eastern New York: a Brief Report. New York State Archeological Association, The Bulletin, No. 33. Ossining.

1965b Indian Caves: State Archaeologists Find and Seek Them. The New York State Conservationist, October-November. Albany.

n. d. a. Archaic Cultures of the Hudson Valley. Ph. D. dissertation, Columbia University.

n. d. b. The Archaic of the Hudson Valley: New Evidence and New Interpretations. Paper submitted to Editor, Pennsylvania Archaeologist.

-
- and R. Arthur Johnson
- 1964a Excavations at Fish Club Cave (Cox 6), Albany County, New York. New York State Archeological Association, The Bulletin, No. 30. Ossining.
-
- and R. Arthur Johnson
- 1964b Archeological Investigations at the Dennis Site, Albany County, New York. New York State Archeological Association, The Bulletin, No. 32. Ossining.
George Walters, and William F. Ehlers
-
- 1965 Fluted Point Discovered in Orange County Cave, New York State Archeological Association, The Bulletin, No. 34. Ossining.
Paul L. Weinman, and Thomas P. Weinman
-
- 1965 A Stratified Site at Lake George. Pennsylvania Archaeologist, Vol. XXXV, No. 1. Gettysburg.
- Lee, Thomas E.
- 1954 The First Sheguiandah Expedition, Manitoulin Island, Ontario. American Antiquity, Vol. 20, No. 2. Salt Lake City.
-
- 1955 The Second Sheguiandah Expedition, Manitoulin Island, Ontario. American Antiquity, Vol. 21, No. 1. Salt Lake City.
-
- 1956 The Position and Meaning of a Radiocarbon Sample from the Sheguiandah Site, Ontario. American Antiquity, Vol. 22, No. 1, Salt Lake City.
- Lewis, Thomas, and Madeline K. Lewis
- 1961 Eva: An Archaic Site. University of Tennessee Press. Knoxville.
- Patterson, Edward D.
- 1955 Garvie Point-NAS Site 1. Bulletin of the Nassau Archeological Society, Vol. 1, No. 1, Sea Cliff.
- Ritchie, William A.
- 1932 Lamoka Lake Site. Researches and Transactions of the New York State Archeological Association, Vol. VII, No. 4. Rochester,
-
- 1936 New Evidence Relating to the Archaic Occupation of New York. Researches and Transactions of the New York State Archeological Association, Vol. VIII, No. 1, Rochester.
-
- 1940 Two Prehistoric Village Sites at Brewerton, New York. Research Records of the Rochester Museum of Arts and Sciences, No. 5. Rochester.
-
- 1944 The Pre-Iroquoian Occupations of New York State. Rochester Museum of Arts and Sciences, Memoir No. 1. Rochester.
-
- 1945 An Early Site in Cayuga County, New York. Research Records of the Rochester Museum of Arts and Sciences, No. 7. Rochester.
-
- 1958 An Introduction to Hudson Valley Prehistory. New York State Museum and Science Service, Bulletin No. 367. Albany.

-
- 1959 The Stony Brook Site and Its Relation to Archaic and Transitional Cultures on Long Island. New York State Museum and Science Service, Bulletin No. 372. Albany.
-
- 1961 A Typology and Nomenclature for New York Projectile Points. New York State Museum and Science Service, Bulletin No. 384. Albany.
-
- 1965 The Archaeology of New York State. Natural History Press, New York.
-
- n. d. A Culture Sequence and Chronology on Martha's Vineyard, Massachusetts: A Study in Coastal Ecology and Adaptation. MS.
- Weinman, Paul L.
1965 Two Small Stratified Sites on Lake George, New York State Archeological Association, The Bulletin No. 34. Ossining.
- Witthoft, John
1953 Broad Spearpoints and the Transitional Period Cultures. Pennsylvania Archaeologist, Vol. XXIII, No. 1. Milton.

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