

The Bulletin

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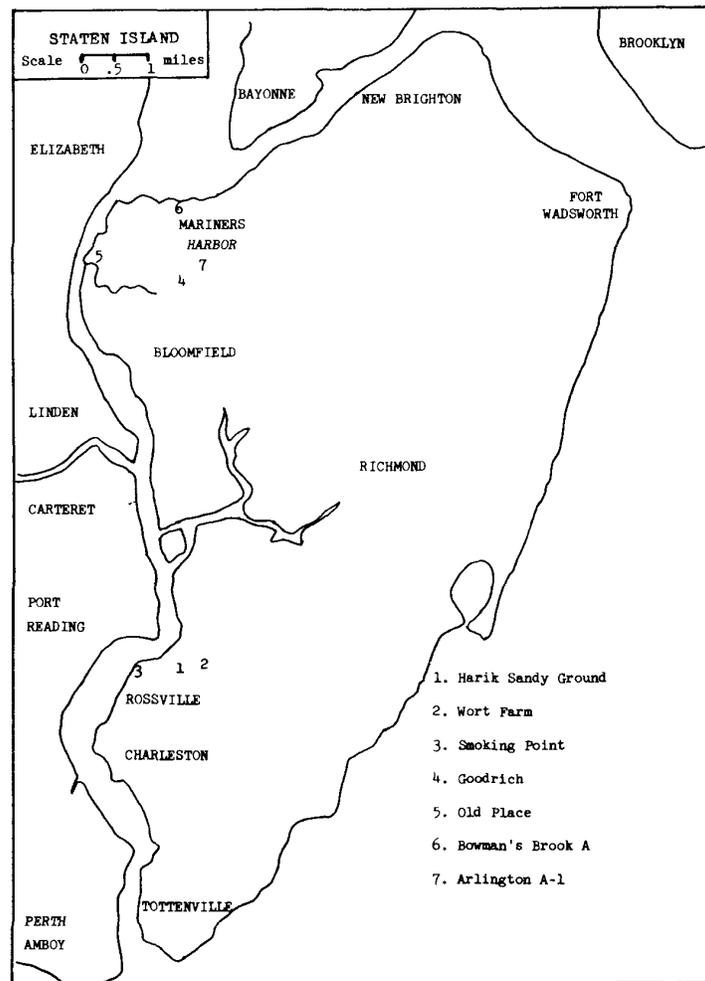
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The Bulletin



and Journal of The Archaeology of New York State



Staten Island Sites

AS OF THIS DATE

This issue, No. 78, of the *Bulletin*, now the Bulletin and Journal, completes the 1979-80 publishing year, tardily to be sure, but in full. It has been the deadline objective of the editor for 20 years to have the March or spring issue, the third of the publishing year, in print by the annual meeting in April. With No. 78 coming off the press in August, the schedule is off by four months, not so wide a lapse that it can't be made up during 1980-81.

We are still weak in two areas, after our recent two years of near-crisis: finances and contributed papers. Present financial prospects will allow us to put out three issues between now and next March, but not the 100 pages we have been delivering annually. Of course, if we don't put out 100 pages we probably have enough copy to fill the pages we can print. But this is not a step in the right direction. All experience in publishing state archaeological journals tells us that the decline of the society journal marks the decline of the society and the two feed on each other degeneratively until the society no longer can support a journal and the society falls apart for lack of one. But when the journal is kept to its customary standards the society can recover from its phase of depression and resume its organizational vigor.

At the 1980 annual conference in Syracuse in April the editor learned that only \$1300 of the \$2000 appealed for in the Bulletin 75th anniversary issue had been raised. Since the Van Epps-Hartley Chapter contributed \$1000 of this the rest of the state came through with only slightly more than \$300. The editor, who has piloted the Bulletin through 60 issues without compensation, found this response most disappointing. He asked for \$2 per member. Apparently 600 or 700 members couldn't be bothered, since the money that did come in, over and above the truly live-saving Van Epps-Hartley donation, came from about 40 contributors of \$5 to \$25.

It is possible that the deaf ear turned by so many was the result of two canards that the editor was made aware of at Syracuse: that he is salaried, and at a rate that depends on the number of pages printed; and that the Silver Anniversary Bulletin was an orgy of extravagance.

The editor has not only not been compensated during the 20 years of his tenure, but has paid for most of the postage, stationery, phone calls and other incidental expenses himself. There was a period of about three years when the editor, along with other officers of NYSAA, received \$35 a year, but this was for travel to the annual meeting. The practice ceased some years ago. Not one cent has been spent for typing or secretarial services or authors. The only services paid for are printing, freight from Ann Arbor and mailing from Rochester.

This has been true for the 25 years of the Bulletin's existence. In Syracuse, in April, at the request of Charles Hayes of the Rochester Museum, \$300 was approved to be paid to the Museum in partial recompense for the services of a clerical worker who spends two to three days a month on NYSAA publication business. What this should tell the NYSAA membership is how much the Rochester Museum and Science Center has been contributing to the Bulletin and to our whole publication program, which could not function without it. What the Museum takes in for back-number sales more than reimburses us for the token fee to be paid.

It is hoped that the foregoing review of how the Bulletin is supported, by heavy contributions in unpaid services, will convince members that they are getting an expensive publication for half or less of what it really costs and that to ask for a small contribution is hardly overweening. It costs about \$1.75 to put each 32-36 page copy of the Bulletin in the hands of the members. There is no margin anywhere to play with.

As to the extravagant Silver Anniversary issue, it cost exactly what any 80 page issue would cost, with one exception, \$50 for the silver cover. That is 1.8 per cent of the total cost. When the bill for the issue was received it seemed to the editor that the cost was out of line with what we had been paying. Braun-Brumfield, the printer, was asked to check and an error of something over \$400 (I don't have the exact figures here) was discovered. The billing was corrected from about \$3100 to about \$2600, which is what we paid. A comparable job of printing could not be had in the east for under \$5000. At \$3100 the price would not have been indecent, for the printing quality and service we get from Braun-Brumfield.

But enough about finances. Those who are not convinced by now that the Bulletin is worth supporting never could be. The three issues per year cost NYSAA members what a ticket to "The Empire Strikes Back" would cost, at least in Westchester.

The back log of papers is not heavy, as aforesaid, probably because we have not been able to publish as promptly as in the past. Wherefore contributions are now being encouraged, since we fully expect that the membership will come through with needed cash for the usual annual volume. The only restriction is that the author, if he or she lives or is based in New York, will be expected to have an NYSAA chapter affiliation, or state membership. The membership of NYSAA is expected to support the Bulletin and Journal and the B & J

expects to support the membership. Authors should also include their addresses and a note on activity, e.g. assistant professor at SUNY Binghamton, or secretary of Morgan chapter, or director of project work at the Soanso site, so that we may print an identifying note on the contributors.

L.A.B.

ABORIGINAL ROCK ART
Early Interpretations and New Perspectives
Edward J. Lenik
Introduction

Human beings are believed to have migrated into North America by wandering across the Bering land bridge from Asia during the end of the Woodfordian substage of the Wisconsin glaciation some 25-30,000 years B.P. Early man's arrival on this continent is generally viewed as repeated waves of migrations which brought radically different cultures into the New World. Initially, these early groups lived as hunting and food gathering people, adapting to their new environment and, in time, developing into diverse cultural groups with their own artistic perceptions. Eventually these prehistoric people developed an indigenous form of rock art now referred to as petroglyphs and pictographs. The word petroglyph applies to figures or images cut into rock formations while the term pictograph means paintings on stone.

The European discovery of North America in the 15th century was followed by rapid exploration of the continent, including its rivers, coastline, and other natural features. Colonization of the New World began rapidly thereafter and this inevitably produced contact and confrontation with the native inhabitants. In time, the early settlers came upon strange carvings on rock unlike any previously seen or known in the Old World. This rock art, carved by Indians centuries ago, occurred here and there across North America. Petroglyphs and pictographs were found on smooth cliffs, rock outcroppings, boulders and pebbles, and caves. They consisted of human and animal representations as well as abstract symbols of varying degrees of complexity.

Almost from the beginning these carvings on rock posed many questions: what did the carver have in mind when he set his flint graver or stone pick to the rock? what were the motives behind the artwork? what do they mean? who carved the symbols and how long ago? Despite nearly 300 years of rock art recording and study these same questions remain with us today.

This paper will attempt to trace the development of rock art research from the days of early discovery to the present. Serious scholarly research on the subject began in the late 19th century when Garrick Mallery published his classic work *Picture Writing of the American Indians*. Rock art research has generally followed the theoretical phases outlined by Willey and Sabloff (1974). That is, it has moved from speculation to a concern for descriptive classification, through attempts at chronological placement and historical reconstruction to concepts of function, context, and interpretation. Writing, magic, and art-for-art's sake have comprised the major categories of interpretation in the past. Current research, however, is more diversified in terms of its methodology of interpretation. It strives to understand rock art from every conceivable point of view; environmental, economic, social, religious, ritualistic, cosmologic, calendric and other subtle characteristics. This paper will synthesize this research and show that there are many aspects of aboriginal rock art that we do not understand.

The Beginnings: Early Period of Discovery

On the east bank of the Taunton River, about 8 mi. north of Fall River, Massachusetts, lies a 40 ton boulder known as Dighton Rock. The rock is a grey-brown quartz sandstone which is 5 ft. high, 11 ft. long and 9 ½ ft. thick. It has a flat surface in the form of a trapezoid that is covered with a bewildering array of lines,

curves, human and animal designs, and other unidentifiable figures. Most of the markings on the rock are man-made, that is, they are incised or carved into the rock surface.

Dighton Rock was one of the first New World petroglyphs to be brought to public attention. It was first recorded in 1680 by John Danforth who made a drawing of the designs and wrote a brief description of them. Danforth described this petroglyph as follows (Delabarre 1928:30):

The uppermost of ye engravings of a rock in ye Assoonet six miles below Tanton in New England. Taken out sometime in October 1680 by John Danforth. It is reported from the tradition of old Indians, yt yr came a wooden house, (and men of another country in it) swimming up the river Asonet, yt fought ye Indians and slew yr Saunchem. Some recon the figures here to be hieraglyphical. The first figure representing a ship, without masts, and a mere wrack cast upon the shoales. The second representing an head of land, possibly a cape with a peninsula. Hence a gulf.

Danforth's drawing and description of Dighton Rock was followed by another in 1690 executed by Cotton Mather. Cotton Mather printed a drawing, reportedly copied from Danforth's, together with a description in the dedication of a sermon entitled "The Wonderful Works of God Commemorated" (Delabarre 1928:32, 34). Mather in describing the rock states that "there are very deeply engraved, no man alive knows how or when, about half a score lines, near ten foot long, and a foot and half broad, filled with strange characters."

In 1730, Isaac Greenwood of Harvard made another first hand drawing of the Dighton Rock petroglyph. On June 6, 1767, Ezra Stiles made a drawing of the rock and, on September 13, 1768, so did Stephen Sewall. These early accounts were followed by numerous other sketches, descriptions, photographs, and casts of the rock. As a result of all this work, more than twenty theories have been proposed as to who carved the designs and when.

The most widely discussed interpretations of the designs on Dighton Rock have been the American Indian theory which was launched by the Puritans in the 17th century, a Norse theory advanced by C. C. Rafn (1845), a Danish scholar in the 19th century, a Phoenician theory proposed by several writers, and a Portuguese theory put forth by Delabarre and Da Silva (1928;1971) in the 20th century. Other interpretations have ascribed the designs to the Scythians, Romans, Egyptians, Chinese, the Hebrews and others. In short, speculation as to the origin of the carvings has been rampant.

From the beginning, Puritans such as Cotton Mather, assumed that the rock's designs were made by the native Americans of the area. Schoolcraft, in his book *History of the Indian Tribes* (1851-1857:119), stated flatly, "It is of purely Indian origin, and is executed in the peculiar symbolic character of the Kekeewin." Mallery, in 1893, also concluded that the markings were Indian and observed that "the resemblance between the characters on this rock and those found in western Pennsylvania, near Millsboro, and south of Franklin on the Indian God Rock will be noted" (Mallery 1893:87). Thus, through the years, most scholars have concluded that the majority of the markings were made by the native Americans. Today, the archaeological record shows that the aborigines occupied this region of the Taunton River for over nine thousand years. Unfortunately, the more exotic theories or so-called translations have received the greatest attention in books and the popular press without any shred of evidence to support them.

In reviewing the literature of the early period of rock art discovery, the work of Ezra Stiles and Henry C. Mercer must be mentioned. Dr. Stiles, who was president of Yale College from 1778 to 1795, extensively surveyed inscribed stones throughout the New England area. The most notable examples of Stiles' work was his recording of the Dighton Rock, a Hebrew inscription in Connecticut, and various other petroglyphs in Rhode Island (Stiles 1772-1795). In the 19th century, Mercer (1885) embroiled himself in the controversy surrounding the authenticity of the Lenape Stone. This object was a small stone pendant that contained the incised figure of an animal resembling an elephant, plus assorted other designs. This portable petroglyph was interpreted as an account of an Indian encounter with a mammoth, and Mercer's conclusion was that the Lenape stone was authentic.

The First Major Study

The first major scientific study of North American rock art was made by Garrick Mallery in the late 19th century. Mallery published a monumental work of some 822 pages of scholarly research entitled *Picture Writing of the American Indian*. Approximately one-quarter of this work is exclusively devoted to aboriginal rock art. Published by the Bureau of American Ethnology, it is a broad study of petroglyphs, pictographs, sign language and other items that remain to this day the foremost authority on the subject.

In the introduction to his study, Mallery begins by defining the terms petroglyph and pictograph and why it is important to study them. Mallery noted that "the importance of the study of picture writing depends partly upon the result of its examination as a phase in the evolution of human culture" (Mallery 1893:27). Further on, he observes, rather pessimistically, that "it is not probable that much valuable information will ever be obtained from ancient rock carvings . . . but they are important as indications of the grades of culture reached by their authors, and the subjects which interested those authors." The statement that rock art is a part of the total cultural framework of the aborigines is a key point which has been largely ignored by most researchers and will be examined later in this paper.

From the outset, Mallery believes that some "pictures" can be interpreted and some cannot, but they are all important for comparative studies. As such, his study gives us a good view of the geographical distribution of rock art in North America and elsewhere as well. He concludes that "no interpreting laws of general application to petroglyphs so far appear, although types and tendencies can be classified" (Mallery 1893:35).

The Mallery book presents descriptions of rock art sites accompanied by illustrations, hence the location of where they were made has been fixed and recorded. This is, perhaps, the most important aspect of his work which serves as a point of origin for later scholarly studies. Mallery also discusses typical styles of rock art, including the identification of designs together with some cultural comparisons, as well as methods of interpretation. In summary, he states that "no attempt should be made at symbolic interpretation unless the symbolic nature of the particular characters under examination is known, or can be logically inferred from independent facts." Furthermore, "they were intended to be understood by all observers either as rude objective representations or as ideograms" (Mallery 1893:768). Mallery's book is clearly a typological, classificatory, and geographical distribution study, falling into the "Classificatory-Descriptive" phase of the history of archaeology as defined by Willey and Sabloff.

Subsequent Rock Art Studies

Following the publication of Mallery's monumental work, numerous researchers began to record sites and publish studies of various petroglyphs and pictographs in North America. Most studies were single site reports, but a few were regional in scope. In general, these studies continued to fall within the framework of the two historical periods of archaeological work described by Willey and Sabloff as "descriptive" and "a concern for chronology." In the first instance, Willey and Sabloff (1974:42) state that "the principal focus ... was on the description of archaeological materials ... and rudimentary classification of these." In the second period, they note that artifacts were "seen as devices to aid the plotting of cultural forms in time and space" (Willey and Sabloff 1974:88). In this context, we will examine two regional conservation studies made in the eastern United States during the 20th century.

In the early 1930's, Dr. Donald A. Cadzow of the Pennsylvania Historical Commission recorded and described aboriginal petroglyphs in the lower Susquehanna River valley near Safe Harbor, Pennsylvania. Dr. Cadzow's work was prompted by the construction of a hydroelectric plant and a dam across the river which would inundate the ancient rock carvings in the area.

In his study, Dr. Cadzow located and recorded by means of plaster molds, numerous petroglyph designs on Walnut Island and Big and Little Indian Rocks in the Susquehanna River. He also had many of the rock carvings cut from their bedrock base and physically removed from the site prior to flooding of the area. Cadzow subsequently published the results of his work in which he noted that the "petroglyphs in the Safe Harbor area can be divided into two ideographic groups: (1) conventionalized and (2) actual representations of objects and abstract ideas" (Cadzow 1934:16). Dr. Cadzow attempted to identify and classify the carved designs which he found into such categories as human figures, animal and bird tracks and others. Furthermore, he attempted some comparative interpretations of the symbols with known Algonkian tribes, namely the Ojibway and the Iroquois. Cadzow (1934:44-45) concluded that the Walnut Island petroglyphs were neither Algonkian nor Iroquois. The Big and Little Rock petroglyphs, on the other hand, were possibly contemporary with an "Algonkian occupation" of a mainland site located nearby.

In 1958, James L. Swauger of the Carnegie Museum, embarked upon a study of petroglyphs in the upper Ohio valley. For more than 25 years thereafter, Swauger searched for and recorded petroglyphs in a 23,000 square mile area along three major drainage systems, the Allegheny and Monongahela Rivers, and the Ohio River north of Martinsville, West Virginia. Swauger (1974) located and recorded some 30 petroglyph sites in this region and published the results of this work in a book entitled *Rock Art of the Upper Ohio Valley*.

In his book, Swauger extensively describes each of the sites and presents what he characterizes as "factual accounts of the physical features of each site" (Swauger 1974:27). The designs at each site are identified and assigned to such categories as human forms, mammals, birds, reptiles, mythological creatures and astronomical and geometric designs. These site descriptions and classifications constitute the main body of his study. He does, however, devote a few pages to the distribution of petroglyph designs, their interpretation and chronology. In another paper, Swauger states that "the identifying, describing and classifying of these carvings is the first step in establishing a reference base from which to develop reasonable theories of chronology, and culture and meaning" (Swauger 1977:8).

Swauger suggests that the American Indian settlement patterns in the Pittsburgh area were conditioned by streams. He then concludes that the distribution of petroglyph sites was "conditioned" by the material (sandstone) on which the designs were carved and not simply their nearness to water or game trails (Swauger 1974:93). In attempting to answer the questions as to who carved the designs, and when, he is somewhat equivocal. In one place he states that the petroglyphs were carved sometime during the period of 900 A.D. to 1750 A.D., and in another he gives the chronology as beginning in 1200 A.D. to 1750 A.D. (Swauger 1974:109). It is "likely," he states, that the petroglyphs were carved by a group of people known as Monongahela Man.

Historical Reconstructions

The ultimate objective of American archaeology in the classificatory-historical period (1914-1960) was to develop cultural-historical syntheses of regions and areas (Willey and Sabloff 1974:88). As stated previously, the emphasis was on identifying, describing, and classifying. Later in the period there was a developing interest in chronology, distribution studies, and the use of ethnographic analogy in interpretation. Let us now examine some rock art studies within this framework.

The state of Utah has been an area of archaeological interest and study for a long time. Although rock art sites have been reported and published for many years, no comprehensive regional synthesis was undertaken until the 1970's. The Peabody Museum of Harvard University had amassed a collection of photographs and drawings of Utah sites which were gathered between 1927 and 1931. This collection was studied and analyzed by Polly Schaafsma (1971), resulting in the publication of a monograph entitled *The Rock Art of Utah*.

In her study Schaafsma noted at the outset that there had been "little attempt ... to deal with Utah rock art as a tool for cultural analysis in conjunction with other archaeological data" (Schaafsma 1971:1). This, therefore, became the objective of her study. Based on the material in the Peabody collection, the focus was limited to the rock art of the Fremont-Virgin-Kayenta cultures along the Colorado Plateau and the Basin and Range.

Schaafsma's study contains extensive descriptions and illustrations of rock art sites in the study region. In the case of the Fremont culture east of the Wasatch Mountains, she concluded that the rock art styles correspond broadly to the regional divisions determined by other archaeological data (Schaafsma 1971:109). Evidence of the Fremont culture is noted in the presence of anthropomorphic designs of trapezoidal or triangular shape with horned headdresses. Other Fremont culture designs include sheep, bison, deer, shields and abstract symbols. Dating the Fremont rock art was based largely on the dating of the Fremont culture. Schaafsma (1971:127) concludes that the Fremont designs date between 1000 and 1200 A.D. The study also notes that the Virgin-Kayenta rock art is temporally analogous to the Basketmaker II and early Puebloan cultural phases dating between 700 A.D. and 1250 A.D. However, the significance and purpose of the Virgin-Kayenta and Fremont rock art remains unclear (Schaafsma 1971:147).

Turning to another area, the Pacific Northwest coast, we find one of the outstanding rock art regions in North America containing more than 500 known petroglyph and pictograph sites. Hill and Hill (1974) have recorded, described and published some 233 of these sites in a work entitled *Indian Petroglyphs of the Pacific Northwest*. This study builds on the work of other scholars and includes such information as myths or traditions associated with the sites.

The Hill study identified twelve characteristic designs in the area such as: (1) Pits, circles and pit, circles, (2) eyes, (3) pit and circle as body or head, (4) dominant anthropomorphic figures and faces, (5) anthropomorphic figures in a frog-like position, (6) dominant hands and fingers but not feet, (7) large heads, (8) heads with rays, halos or projections, (9) labret-like projections, (10) x-ray rib style, (11) zoomorphic figures such as fish, birds, and quadrupeds, and (12) mythical animals (Hill 1974:265). In general, the authors conclude that

many of the rock art designs are shamanistic in character and meaning based upon comparisons with other areas.

Some designs are related to various other aspects of Northwest Indian cultures. Designs such as the human figures with bent knees, and arms bent upward, are related to Indian dancing and shamanism. Also, mouth projections on faces suggest labrets which were worn by Tlingit Indians in the late 19th century (Hill 1974:267, 269). Based on ethnographic data, the Hills (1974:283) believe that the petroglyphs were carved in order to gain supernatural power over sea inhabitants. Some of the petroglyphs are comparatively recent in age, some date to the 19th century, but most cannot be dated.

One final petroglyph study must be mentioned in this section that focuses exclusively upon the distribution of sites in the United States. Tatum (1946) attempted to list all known petroglyph sites by state, and regions within the states, based on a literature search, contacts with informants and personal visits. His list also indicates whether the distribution of design elements is "continuous with those elsewhere" (Tatum 1946:124). Tatum found three regions in which no petroglyphs have been reported. Furthermore, he found that certain designs such as hands, straight lines and circles are typical in certain whole regions while others are limited to only one or two states.

The Interpretation of Rock Art

Interpretation is undoubtedly the most difficult and controversial aspect of any study of rock art. In fact, the history of rock art studies is full of numerous and often contradictory interpretations. Functional interpretations have ranged from an entirely non-utilitarian role or art-for-art's sake explanation to a utilitarian or economic role. Art-for-art's sake, hunting magic and writing have comprised the major categories of interpretation of rock art in the past. Several examples of these three categories will be given.

Mallery was one of the first scholars to suggest that rock art symbols might be a form of picture writing. He stated that "picture writing is a mode of expressing thoughts or noting facts by marks . . ." and furthermore that "drawing was the beginning of writing . . ." (Mallery 1893:25, 664). Campbell Grant (1976:35-37) had much the same view in his belief that aboriginal man lacked a written language but used pictures as memory aids or as records of important events. Turner (1963) in his study of petroglyphs in Glen Canyon, Arizona and Utah, believed that many of the designs are a form of monumental stone art. Turner states that "many of the Glen Canyon region petroglyphs were fashioned with some thought of memorializing what is portrayed in the design or what the design may have stood for symbolically. Boundary markers, deeds, events and so forth, could fall within the category of monuments" (Turner 1963:30). In summary, however, all efforts to "read" the figures at rock art sites as if they were narrative statements have consistently failed.

Turner also feels that many of the Glen Canyon petroglyphs cannot be interpreted and, therefore, may represent a form of art-for-art's sake. He notes that an apparently meaningless group of lines which seem to wander over a rock or up and down a cliff may have been carved because the artist wanted to achieve some obscure effect (Turner 1963:29). Grant, (1967:38) on the other hand, takes a less charitable view in his belief that a number of rock pictures were aimless and executed as a form of amusement to "while away an idle hour." Steward (1937:412) was another researcher who believed that many petroglyphs were produced by individuals simply amusing themselves during "dull hours." In support of this viewpoint, Steward notes that, since the coming of Europeans, the Indians have produced hundreds of petroglyphs depicting men, horses, houses, boats and so on, while white men frequently deface rocks with names and initials. Thus, he concludes that the motives of prehistoric Indians were sometimes equally trivial.

The interpretation of rock art as utilitarian or sympathetic hunting magic is probably the most dominant theme in many studies. Based on historic and ethnographic data, the rock drawings were made so that the artist would gain control over his quarry through the sheer pictorial rendering of his prey. The previously discussed Hill study of Northwest coast petroglyphs concludes that they were carved to gain power over sea inhabitants, since fishing was part of the subsistence pattern of aborigines in this area. The interpretation of rock art function as sympathetic magic gained enormous popularity in the early 20th century and still persists in current literature.

In many aboriginal cultures, the concepts of natural and supernatural were frequently interwoven and so many petroglyphs were undoubtedly carved by individuals practicing shamanism. Shamans were strong personalities with the ability to conjure up visions, and they served to integrate the natural and supernatural in a culture. Thus, some petroglyph motifs, such as the thunderbird, had an inherent magical power of their own because they were often seen in visions.

Dean Snow, in his study of the petroglyphs located along the Kennebec River at Solon, Maine, presents an interesting interpretation of the carvings along magico-religious lines. The Kennebec river site, a bedrock ledge jutting out into the water, contains nearly 200 distinct designs. The most impressive characteristic of these Maine petroglyphs is their predominant sexual content.

Snow studied the historic and ethnographic literature of the Abnaki Indians in an attempt to determine the meaning of the carvings. As a result, he noticed a strong connection between shamanism and the petroglyphs at this site. Snow (1977:46) believes that the designs were executed by the Algonquian speaking Abnaki Indians, and the sexual content of the carvings suggests that shamans made them in an attempt to secure influence among others in their culture.

New Research Perspectives

The concepts of function and context governed archaeological recovery and analysis from about 1940 to 1960 (Willey and Sabloff 1974:131). This was a period during which the study of settlement patterns, and cultural adaptations to specific environments characterized the work of most progressive archaeologists. Since 1960, the era of the "new archaeology" has come upon the scene which seeks primarily to explain cultures in terms of the processes of cultural change and adaptation. Explanatory concerns and general systems theory are still with us today, together with a strong interest in valid interpretations of the function and meaning of prehistoric remains. In the field of rock art research, the need for valid interpretations has become an important theoretical issue.

Interpretation is important in the study of rock art because this art form is an expressive and symbolic system of visual communication. It gives the scholar an opportunity to recover the ideological and spiritual content of aboriginal cultures, that is, their intellectual, cognitive and spiritual achievements.

In recent years, the emphasis in archaeological method and theory has been on systems theory. The systems approach has had an important influence on some rock art research in that the designs are no longer viewed as an isolated collection of pictures or design motifs existing in a cultural or environmental vacuum. In addition, some scholars have sought to examine the function and meaning of rock art from the point of view of the artists themselves. These approaches may be described as contextual in nature with the aim of interpreting the data in a much broader sense. The concern is to develop an integrated cultural and environmental approach to the data at hand. Instead of simply compiling lists of design elements and plotting their distribution, the researcher is concerned with the wider context of rock art. Current research takes into account such things as the position of designs on a particular site, the physical and psychological character of the site, including the geographical relationship to the wider environmental setting, and the relationship of the site to archaeological or ethnographically known cultures. In short, rock art researchers take a holistic approach in striving to understand and interpret their data from every conceivable point of view.

The study of the Peterborough Petroglyphs in Ontario, Canada, provides an excellent example of an integrated approach to the study of rock art. Vastokas and Vastokas (1973) in their work on the Peterborough Petroglyphs have shown that the site itself can be considered as a work of art with its components being the carved designs and the natural surfaces of the white bedrock with its narrow crevasses and apertures. They interpreted the site as a sacred place approximating in meaning that of shrines or temples in modern society, and concluded that the site was a microcosm of Algonkian Indian cosmology and probably functioned as a nascent shrine. Their work adds a new dimension to the other methods in studying rock art sites; hermeneutic theory. The key idea of hermeneutic theory is that a work of art exists in its own right and yields intrinsic meaning without reference to outside phenomena. It is interesting to note that Mallery, some 90 years before, concluded that rock art could not be interpreted "by any hermeneutic key" (Mallery 1893:768).

Another recent development in rock art research has been its incursion into the field of archaeoastronomy. Several papers have recently been published which suggest that the prehistoric aborigines of the desert region of the United States may have recorded astronomical phenomena on the walls and ceilings of caves (Aveni 1975). These papers describe representations of constellations on "star ceilings" at the Canyon de Chelly in Arizona and of the Crab Nebula supernova which could be seen in the year 1054 A.D.

The interpretation of rock art as possible astronomical records and observations has also recently been applied to sites in northern Ontario, Canada. Conway, in his study of sites north of Lake Superior, has determined that certain design motifs are based on constellations that were recognized by prehistoric Algonkian Indians. For example, Conway (1978:17) has determined that a triad of symbols of a wolf-like creature, an open-armed human, and an animal pelt actually represent constellations. Specifically, he postulates that the

open-arm human represents the constellation Orion, the animal pelt Gemini, and the dug or wolf Cams Major. His conclusions are based upon a design comparison with documented Algonkian astronomical beliefs.

Summary

It is clear, from the evidence presented, that the recording and interpretation of rock art sites has been diverse, often fragmented and unsystematic, and fraught with problems. Pictures, symbols and designs cut or painted on stone, have a variety of meanings, purposes, and styles. Early research on rock art sites suffered from what may be called ethnocentrism of methodology. The early researchers often saw aboriginal rock art from the point of view of their own culture and time, and imposed upon rock art interpretation their own varied biases. Contemporary investigation is more cautious, less dogmatic, more diversified and systematic in terms of recording, analysis and interpretation.

In conclusion, it must be noted that a curious and disturbing phenomenon has developed over the last few years which may be termed "inscription-mania." Popular interest in rock art sites and inscriptions has surged, particularly in the United States. Many new enthusiasts are combing the countryside collecting and recording sites and inscribed stones which has led to a host of bizarre archaeological claims. This phenomenon has resulted in the publication of two books which allege a prehistoric European settlement of North America by Celtic-Iberian peoples and other Old World groups who left various messages on stone (see Fell 1976; Trento 1978). This is a regrettable development, for the fact is that most of the translations or interpretations of rock art symbols are guesses at best, while some of the claimed inscriptions are nothing more than the products of erosion or accidental scarring. These wild claims present a new challenge to the scientific community for these so-called "translations" must be examined rationally, scientifically, and refuted accordingly.

REFERENCES

- Aveni, Anthony F. (Editor)
1975 *Archaeoastronomy In Pre-Columbian America*. University of Texas Press, Austin and London.
- Cadzow, Donald A.
1934 *Petroglyphs In The Susquehanna River Near Safe Harbor, Pennsylvania*. Pennsylvania Historical Commission, Harrisburg.
- Conway, Thor
1978 "Star Charts, Art And Artifacts: A New Approach to Rock Art In Northern Ontario." *Arch Notes*. Ontario Archaeological Society, November-December, 78-6.
- Da Silva, Manuel L.
1971 *Portuguese Pilgrims And Dighton Rock: The First Chapter In American History*. Nelson Martins, Bristol, Rhode Island.
- Delabarre, Edmund Burke
1928 *Dighton Rock: A Study Of The Written Rocks Of New England*. Walter Neale Publisher, New York. Fell, Barry
1976 *America B.C.: Ancient Settlers In The New World*. Quadrangle, The N.Y. Times Book Company, New York.
- Grant, Campbell
1967 *Rock Art Of The American Indian*. Thomas Y. Crowell Co., New York.
- Hill, Beth and Ray
1974 *Indian Petroglyphs Of The Pacific Northwest*. University of Washington Press, Seattle.
- Mallery, Garrick
1893 *Picture Writing Of The American Indian*. Reprinted 1972 Dover Publications. New York.
- Mercer, Henry C.
1885 *The Lenape Stone Or The Indian And The Mammoth*. G. P. Putnam's Sons, New York and London.
- Rafn, C. C.
1845 *Antiquitates Americanae*. Copenhagen, Denmark.
- Schaafsma Poll
1971 *The Rock Art of Utah*. Papers of the Peabody Museum of Archaeology and Ethnology, Vol. 65, Harvard University, Cambridge, Ma.
- Schoolcraft, Henry C.
1851- *Historical And Statistical Information Respecting The History, Condition And Prospects of The Indian Tribes of The United States*. Volume IV, Bureau of Indian Affairs, Philadelphia.8
1857

- Snow, Dean
1977 "Rock Art And The Power Of The Shamans." *Natural History Magazine*. February. New York.
- Steward, Julian H.
1937 "Petroglyphs Of The United States." *Smithsonian Report For 1936*. Smithsonian Institute, Wash. D.C.
- Stiles, Ezra
1725-1795 *Itineraries And Memoirs*. Manuscript in Beinecke Library, Yale University, New Haven, Ct.
- Swauger, James L.
1974 *Rock Art Of The Upper Ohio Valley*. Akademische Druck u Verlagsanstalt, Graz, Austria.
1977 "Petroglyph and Pictograph." *Artifacts*. The American Indian Archaeological Institute, Vol. V, No. 3, March.
- Tatum, Robert M.
1946 "Distribution And Bibliography Of The Petroglyphs Of The United States." *American Antiquity*, Vol. XII, No. 2, October.
- Trento, Salvatore M.
1978 *The Search For Lost America*. Contemporary Books, Chicago, Illinois.
- Turner, Christy G.
1963 *Petroglyphs Of The Glen Canyon Region*. Museum of Northern Arizona Bulletin 38, Glen Canyon Series No. 4, Flagstaff, Arizona.
- Vastokas, Joan M. and Vastokas, Roman K.
1973 *Sacred Art Of The Algonkians*. Mansard Press, Peterborough.
- Willey, Gordon R. and Sabloff, Jeremy A.
1974 *A History Of American Archaeology*. W. H. Freeman And Company, San Francisco.

THE SILENT SIGNAL SYSTEM

Thomas P. Brannan
Ralph E. Robinson

Orange County Chapter
Orange County Chapter

Introduction

A complex of mountain-top fireplaces has been found in southeastern New York and northern New Jersey. They appear to be part of a long unused firelight signal system. Each station has directional markers which indicate other nearby mountains, covering the entire area of study. The system reaches some 60 miles north and south, and 70 miles east and west. Its bounds are not yet known.

There is strong indication that surveyors of the United States Coast & Geodetic Survey used parts of the system when this region was mapped in the late 1800's and early 1900's, but further evidence suggests that it originated before that.

Conclusive evidence of the system's use for transmitting signals has not been found, but that is the assessment of the authors after two and a half years of investigation. It is an excellent work of engineering. Physical findings will be described and discussed; the reader will be left to draw his own conclusions.

Field Investigations and Mapwork

The woods of southeastern New York and northern New Jersey are filled with remnants of the activities of earlier man. There are stone piles, perched boulders, crude stone fireplaces, and unusual standing stones; there are footpaths, hand-hewn mines, hand-dug wells, and old stone foundations. This investigation began in March 1976, with a trip to see a perched boulder on a mountain-top near Port Jervis, New York, out of mere archeological curiosity.

The perched boulder turned out to be only one of three, and they were part of a complex which included two fireplaces, surface boulders, and stone piles. There was no apparent pattern to their arrangement, so the site was surveyed and mapped for later study (Fig. 1, Hawks Nest Site).

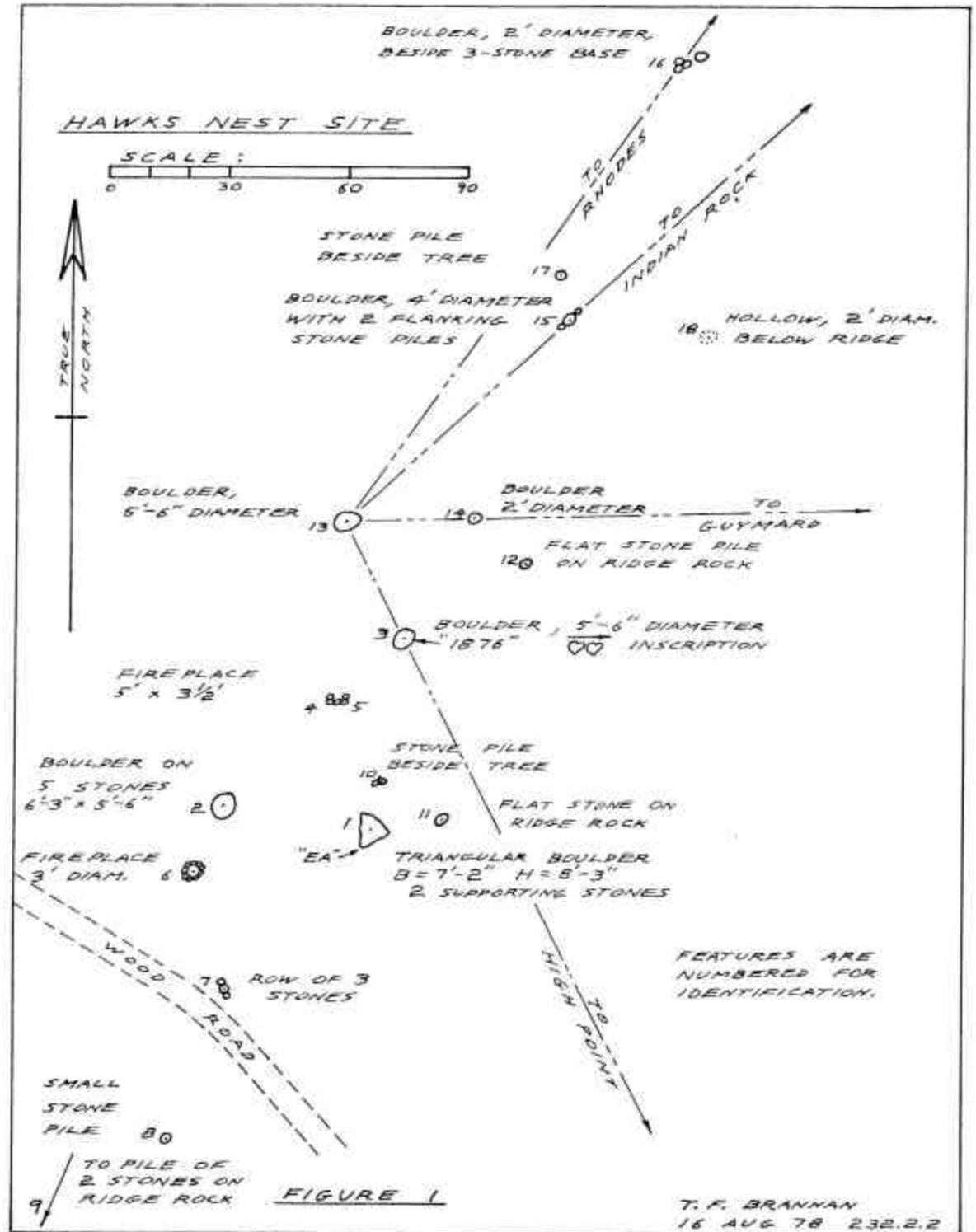


Figure 1.

Compass bearings were taken on several of the larger boulders which had any kind of elongated or pointed shape. High Point Monument, in northern New Jersey, could be seen from the site. A number of other hills could be seen in the distance, but the view was not unlimited. The site was on high ground, but not on the very top of the mountain.

Copies of the site map were distributed to the members of the party, and a week of musing over it brought no results except general agreement that the boulders and stone piles had been arranged by humans, probably in some pattern which had not yet been fathomed.

The location of the site was plotted on a U.S. Geological Survey topographic map next, and the surrounding territory was examined on the map. Far to the northeast, on the mountain above Ellenville, New York, was a huge surface boulder bearing the name "Indian Rock" on the USGS map. That was the key to the whole Silent Signal System, for one of the surface boulders (number 15) at Hawks Nest had a small stone pile on each side of it. They gave the impression of the point and the tailfeathers of an arrow, and it pointed right at Indian Rock.

Extended in the other direction, this line of sight ran into boulder 13 of our site map, (Fig. 1.) Using boulder 13 as a pivot, or observation point, sighting over other prominent boulders shown on the site map indicated other hilltops over a 180° expanse. Subsequent searches of those hilltops revealed three more stations, each complete with fireplace and indicators to other stations.

Twelve such stations have been located to date. Eleven other stations have been pointed out by the system but have not yet been visited. Three mountain-tops have been scoured in vain, after we misread the system's indicators in the early stages of the investigation.

The following table will show the features found at each site visited to date. See also Figure 2.

Name of Station	USGS Quadrangle Map 7 1/2 Minute Series	Features
Hawks Nest	Port Jervis North	Rectangular fireplace Round fireplace Perched boulders (3) Surface boulders (5) Stone piles (6)
Indian Rock	Napanoch	Surface boulder Fire-marked surfaces Weathered spots where surface stones have been removed by visitors and thrown over the cliff Rock shelter
Guyard	Otisville	Rectangular fireplace Long narrow surface boulder Stone pile Rock shelter nearby
Fiero	Wurtsboro	Rectangular fireplace Stone pile Weathered spot on rock, where stone had been knocked off Perched rock slab/shelter nearby
High Point North	Port Jervis South	Natural rock fireplace Surface boulders (24) Long narrow surface boulder Calendar site Rock shelter
High Point South	Port Jervis South	Natural rock fireplaces (2) Surface boulders (18) Calendar site
Rhodes	Yankee Lake	Rectangular fireplace Surface boulders (3) Stone piles (5) Rock shelter

Name of Station	USGS Quadrangle Map 7 1/2 Minute Series	Features
Thompsonville	Monticello	Rectangular fireplace Circular fireplace Stone piles (6) Stone walls
White Lake	White Lake	Circular fireplace Stone piles (4) Stone walls Graded roadways
Walnut Mountain	Liberty West	Circular fireplace Rock shelters Foundation of resort hotel, circa 1860
Beaver Brook	Eldred	Rectangular fireplace Stone piles (3) Rock shelter
Johnny's Rock	Napanoch	Perched boulders (2) Fire-marked bedrock surfaces Hill-notch view of High Peak mountain to north View of High Point to south View of Mount Beacon to east Triangular perched boulder points toward High Point

Various peculiarities have been noted about the stations. Each rectangular fireplace, for example, is oriented so that a person facing the open side of the fireplace also is facing true south. Most stations are high on a hill, but not on the very top. In some cases this may have been necessary to provide a line of sight to each of the other connecting stations, but in some cases it seems to have been arranged to prevent the fires from being seen on the easterly side of Shawangunk Mountain. These "concealed" stations include High Point North, High Point South, Guymard, Fiero, and Indian Rock, all shown on Figure 2. The Rhodes, High Point North, High Point South, White Lake, and Beaver Brook sites also included small nearby circles or semi-circles of stones. The stones were about dinner plate size, and the circles ranged from 5 to 8 ft. in diameter.

The distance between stations on the westerly side of Shawangunk Mountain averages about 9 mi. Other parts of the system range from 20 to 43 mi. between stations, giving the impression of a different complex, perhaps for a different purpose.

Nineteen of the 23 stations have U.S. government survey markers nearby, often on the line of sight between fireplaces. Some of the stone pile directional indicators at these stations are newer looking and of a different style than the other stone piles found. Some are laid up in a circular overlapping "shingle" style, like the petals of a pinecone. Others are made of thick flat stones stacked up like books, with small stones in the cracks to make the pile steady. Still others look as though the stones had been thrown on from several steps away. Some stations look as though a user had just walked away, and others seem to have been dormant for decades.

Directional stone piles and boulders always radiate outward from a central fireplace or boulder; never from a government survey marker alone. The directional markers are for use with the signal system; not for use with the surveyor's instrument.

Discussion

The proximity of stations to government survey markers led to a letter of inquiry about field crew methods used by the U. S. Geological Survey. Mr. Frederick Lavery, Chief of the National Cartographic Information Center-East, was kind enough to question the old-timers of his acquaintance and respond by telephone. He elicited the following information from them:

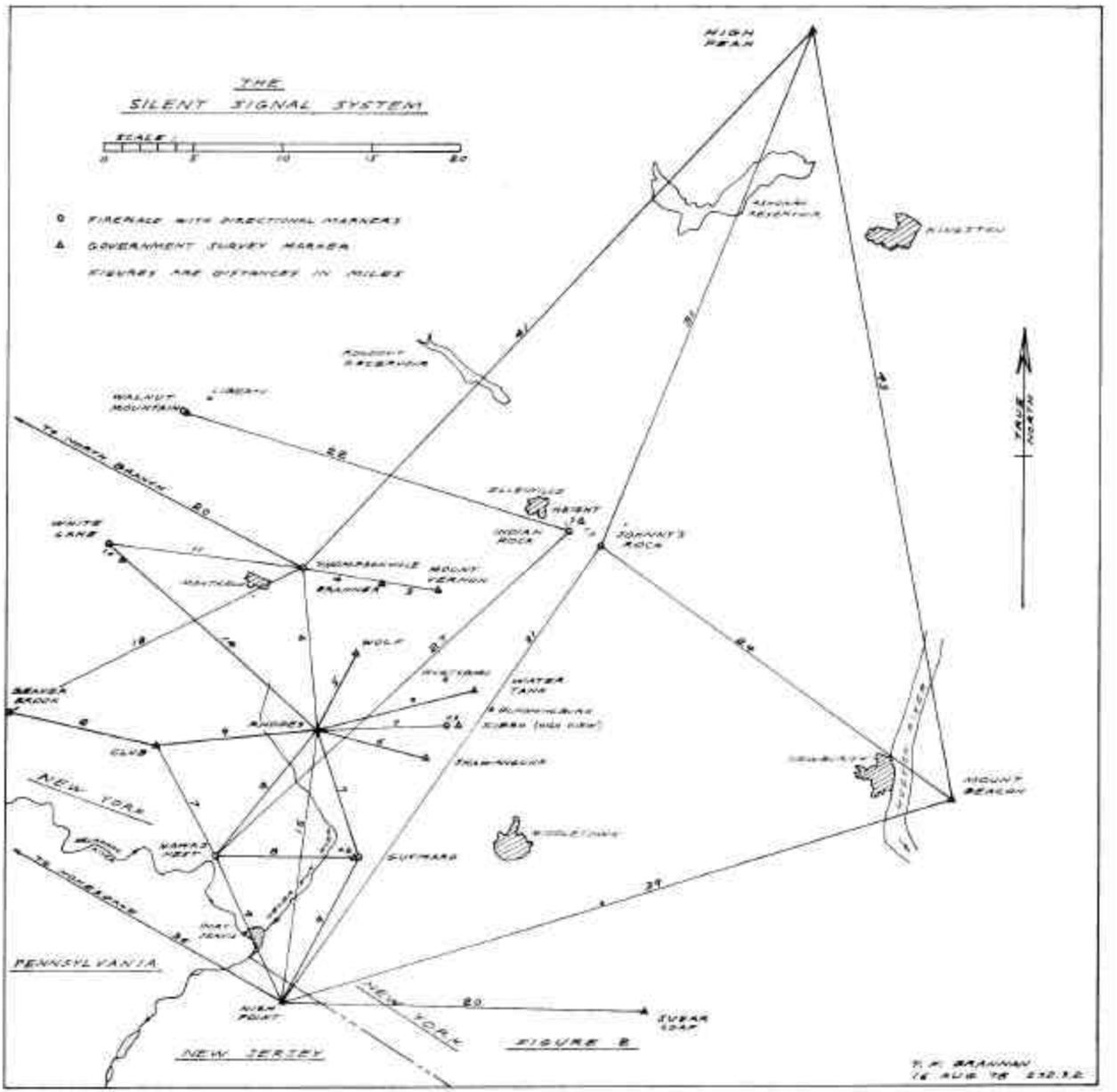


Figure 2

1. Signal fires and heliographs (message senders using reflected sunlight and Morse Code) were used by the field crews.
2. A series of stations covering the area to be surveyed were occupied simultaneously by instrument crews, for periods ranging from three days to several weeks, depending on the time needed to record the many necessary sightings. Weather was a big factor. Fires were built at the stations, and angles were turned at night, sighting on targets near the distant beacons.
3. Instruments were set up on stone cairns or solid boulders, and the operators stood on separate towers to avoid shaking the instruments. Sometimes a large tree would be topped, 20 to 30 ft. above the ground, and the instrument would be mounted there. A walking tower would be built around it, independent of it.

4. Many survey networks ran along the eastern seaboard, and then inland, commencing in the Baltimore area shortly after the Civil War.
5. It was not unusual for fireplaces to be somewhat removed from the actual triangulation points, to prevent firelight from interfering with observations through the theodolites (an accurate surveying instrument).

The maps which resulted from this work include the following of the 1-3 minute, 1:62,500 scale maps: Port Jervis (1906), Ellenville (1904), Livingston Manor (1921), White Lake (1920), and Monticello (1908-09).

Lavery also noted that signal fires have been used around the world for centuries. He told, for example, of signal fires being laid on the shores of Sicily long ago, but not lit until pirates were seen. The blazing fires then warned the populace of the coming danger. Similar warnings were issued along the English Channel according to the literature, when Vikings were spotted.

It seems likely then, that parts of the system were used by the early surveyors. But there are inconsistencies which suggest that only some of the stations were so used. At Hawks Nest, Thompsonville, Beaver Brook, and High Point South, there are no survey markers; yet the signal system continues.

At Indian Rock, Fiero, High Point North, Rhodes, and Johnny's Rock, the survey stations occupy the highest ground available and the fireplaces are at a lower elevation nearby. At Walnut -Mountain and Guymard, the survey stations are partway down the hill, and the fireplaces are nearer the top.

At Rhodes, the fireplace is only a few hundred feet from the survey marker. At Indian Rock, Fiero, Johnny's Rock, White Lake, and Guymard, the fireplaces are 1.0 mile, 0.6 mile, 1.7 miles, 1.4 miles, and 0.2 mile distant, respectively. Although the signal system alignments usually match up with the survey stations, these fireplaces seem to be further away than convenient. The alignments at Johnny's Rock and White Lake are quite poor, indicating that the surveyor did not realize there was a signal station a mile-and-a-half away. The alignments at these few stations, then, may be only coincidental.

At the White Lake station, another apparent inconsistency was noted in that two of the directional stone piles were located in an old field within a hundred feet of an old stonewall. If the stone piles were in existence when the wall was built, and were of no use to the wall builder, they probably would have been picked apart and built into the wall. If the wall had been built before the stone piles, the stone piles probably would have been built up on top of the wall, where they would have been out of the way and more visible. It seems, then, that the builder of the wall preserved the stone piles in their original locations, perhaps because he wanted to continue using the signal system. The wall is very old and the fields, which were cleared during its construction, have now grown up to woods again. The stone piles must be even older.

The signal system as perceived by the authors made use of direct lines of sight, from fireplace to fireplace. Such a system would not be subject to disruption by wind, as would smoke signals. Its use would not be limited to nighttime, since a small fire can be seen at long distances, even in daylight. Note, for example, New York State's current law requiring motorcyclists to run with their headlights burning even in daylight, for increased visibility to other motorists.

Samuel F. B. Morse (1791-1872) invented his electric telegraph in 1844, some 21 years before the government surveys began. The firelight system would work nicely with Morse Code or any similar code.

The question of who built the system is rife with speculation. Joseph Brant, a chief of the Mohawks who conducted military operations (1778-79) as far south as the Neversink River Valley on behalf of the British during the Revolution, has been suggested. He had the necessary education and manpower, but the system spreads beyond his known field of operation, extending even east of the Hudson River. The government surveyors probably did not found the system, since they are comparative new comers to the scene, and the system uses hills which they apparently did not use. American Indians may have developed it on their own initiative, although the Indians we have questioned profess no knowledge of it. There is another intriguing possibility founded on the writings of Charles Michael Boland, in his book, "They All Discovered America."

Boland relates the migration of Irish monks and their families, fleeing from the Vikings, up into the islands above Ireland. They are supposed to have moved then to Iceland, where they founded a thriving colony. Boland mentions some ". . . communications lines between their isolated settlements . . ." which kept the monks informed of Vikings and their raids. When Vikings decided to colonize Iceland in 874 A.D., the . . . mysterious communications system maintained by the Celi Dei (Irish monks) had obviously brought word of the coming of the terrible Northmen even before they arrived, and the Irish wasted not a moment; they fled once again to avoid contact with the pagan." Their next haven, according to Boland, was Greenland.

But the Vikings, under on Eric Raudi (Eric the Red) followed them there, too, and the Celi Dei fled ever westward to land in what is now New England, according to Boland.

It should be noted here that these theories are accredited to Boland, not to "spread the responsibility around," but rather to give him full credit for his research and thought on these matters. The authors of this article, after reading Boland's book and numerous other independent writings, are inclined to agree with most of Boland's speculations concerning the early Irish and Viking settlers of New England. Future articles planned by the authors will add further strength to this position.

Boland quotes selections from the Norse sagas, and then adds his own interpretations. One such quotation bears a new interpretation, based upon our Silent Signal System findings, and we offer it herewith.

Thorfinn Karlsefni was a Viking explorer who founded a colony near the western end of Long Island (per Boland) in 1010 A.D. One of his companions was Thorvald, son of Eric the Red, and brother of Lief Ericson. Thorvald was killed during this expedition; his demise is chronicled in two different sagas. Boland accepts one story of Thorvald's death (for reasons which are not argued here) and rejects the other story. The rejected story, however, may well be based on facts relating to the death of some other luckless Viking. It is related here for the circumstances of the death rather than for the identity of the deceased.

The Slaying of Thorvald, Eric's Son

"They sailed into the mouth of a river, and lay to by the southern bank.

It happened one morning, that Karlsefni and his companions discovered in an open space in the woods above them, a speck, which seemed to shine toward them, and they shouted at it; it stirred, and it was a Uniped, who skipped down to the bank of the river by which they were lying. Thorvald, a son of Eric the Red, was sitting at the helm, and the Uniped shot an arrow into his inwards. Thorvald drew out the arrow, and exclaimed: "There is fat around my paunch; we have hit upon a fruitful country, and yet we are not like to get much profit of it." Thorvald died soon after from this wound. Then the Uniped ran away back toward the north. Karlsefni and his men pursued him, and saw him from time to time. The last they saw of him, he ran down into a creek. Then they turned back; whereupon one of the men recited this ditty:

Eager our men, up hill down dell,
Hunted a Uniped;
Hearken, Karlsefni, while they tell
How swift the quarry fled!

Then they sailed away back toward the north, and believed they had got sight of the land of the Unipeds; nor were they disposed to risk the lives of their men any longer."

The saga goes on to relate that after three years in their colony, they returned to Greenland.

A Uniped, according to Boland, may have been the Viking name for a monk in a long flowing robe, which gave him the appearance of having but one foot. (The Vikings, in the sagas, called the American Indians "Scraelings" or "Skrellings.")

The authors of this article wish to suggest that the speck which seemed to shine toward the Vikings from an open space in the woods above them, may have been a signal fire. What better way for the attending monk to draw attention away from it, than to run down to the ship, fire an arrow into the man sitting at the helm, and then lead the Vikings away from the signal fire on a wild goose chase? And he certainly did do this, for he finally disappeared into a creek. Creeks are found in low places; the speck had been seen in an open space above them.

This is an interesting little story, although, of course, it is not at all conclusive; nor is it so offered.

Summary and Conclusions

The evidence of the fireplaces and directional markers in southeastern New York and northern New Jersey is there for all to see. They unquestionably connect a large land area together, as shown in Figure 2. They are an areal phenomenon, not merely route markers for travel from place to place, although they may have helped in that respect, too. Evidence of such route markers is being found in this area, and will be reported in a later

article. But route markers are clearly different from the signal station markers. Differentiation among types of stone piles may sound difficult in theory, but soon becomes quite simple in practice. The flat-topped, very sturdy cairns, for example, would be well suited to mounting a heliograph. These stone piles point toward distant survey markers.

Government surveyors undoubtedly used parts of the system; but older stone piles in the system and remote stations of the system apparently not used by the surveyors indicate that the surveyors were not the founders or the sole users.

The southerly orientation of the rectangular fireplaces has a religious or ceremonial connotation.

The small stone circles and semi-circles could be ceremonial, or they could be only weights to hold down tent flaps. Then again, they could be random placements by nature.

Stone cairns, of course, are not built by nature. The authors are quite convinced by now that perched boulders, in most cases, also are not natural phenomena.

Other archeological work in this area (Dutchess Quarry Cave, Orange County, New York) has shown it to have been occupied by man more than 12,000 years ago. Twelve thousand years, in evolution, is not very long. The men of that time, and since, probably had as much native intelligence as we have, and similar desires to maintain friendly contact with one another. The Algonquins and Iroquois were well-organized groups with far-reaching influences. An infusion of technology from Europe, as in the little story from the Norse sagas, may well have boosted their development.

None of the signal stations have been excavated to date to confirm occupation by ancient whites, American Indians, or modern whites. The authors are acknowledged amateurs, and lack the credentials to establish revolutionary theories. It is their hope that others of similar curiosity and open-mindedness, but better trained in archeological excavation, will offer to assist in one or two "digs." The authors feel that some sites should be saved for the future, in hopes of improved techniques being developed which may gain more knowledge from these sites than if all were dug now. Suggestions from readers will be welcomed and evaluated.

REFERENCE

Boland, Charles Michael

1961 *They All Discovered America*. First Edition. Doubleday & Company, Inc. Garden City, New York.

ABOUT THE AUTHORS

Thomas F. Brannan is a self-employed civil engineer and land surveyor. He is a graduate of Rensselaer Polytechnic Institute (BCE '52) and Purdue University (MSCE '54). Middletown, New York, is his birthplace and current residence.

Ralph E. Robinson teaches science at the Middletown High School. He is a graduate of the University of Maine (BS '48, MEd. '60). A native of Maine, he was raised there on a farm, and engaged in farming prior to embarking on a teaching career.

Both Brannan and Robinson are members of the Incorporated Orange County Chapter of the New York State Archeological Association. They make frequent field trips to investigate any oddity of nature, often accompanied by other local citizens or students of similar bent.

Thomas F. Brannan, PE & LS
17 Jackson Avenue
Middletown, New York 10940
914-342-1789

Ralph E. Robinson
8 Winthrop Avenue
Middletown, New York 10940
914-343-2461

HARIK'S SANDY GROUND A REPORT OF THE 1967 SALVAGE EXCAVATIONS

Lucianne Lavin

Metropolitan Chapter

Harik's Sandy Ground was located in the South Shore region of Staten Island, approximately one block northeast of 987 Bloomingdale Road, Rossville, and 0.4 mile south of the Arthur Kill (cover illustration).

In 1967, construction of the West Shore Highway was begun. The location of this highway included Harik's Sandy Ground; it was scheduled for destruction by the end of the year. Two amateur archaeologists - Judy Harik and Susan Papp, found surficial evidence of historic and prehistoric activity in this area. In August, 1967, they began salvage work at the site.

Harik and Papp excavated 4 five-foot squares (Squares A, B, C, and D), after which they were joined by a New York University crew directed by Lorraine Williams. Eight more squares were then excavated, totaling 12 squares comprising a surface area of 300 sq. ft. (Fig. 2).

Stratigraphy

Stratigraphy at the site consisted of 5 natural strata (See Harik and Papp's profile of Square A, Fig. 3). All squares excavated revealed the same stratigraphy. The top two strata consisted of a humus and a brown earth, which extended from 5 to 11 in. below the ground surface (Apparently the humus depth was about 2-3 in., but excavation did not always differentiate between the two strata). Except for one glass fragment, all of the post-contact materials were recovered from these two levels. They also contained 16 (27.12%) of the aboriginal specimens. The third stratum consisted of yellow sand, from 5 to 11 in. below the ground surface to 17 to 23 in. One glass fragment and the greatest number of aboriginal artifacts (30 or 50.85%) derived from this level. The fourth stratum consisted of beige sand, with a depth of from 20 to 24 in. below the surface to 38 in. Except for 2 jasper flakes (3.39%), the layer was sterile. The last stratum consisted of beige sand pocked with red clay. It extended from 38 to 58 inches below surface. At 58 inches the excavators reached a clay floor, with hard dark clay overlying light clays. Digging through the clays proved very time-consuming, and since they and the beige sand and red clay stratum above were devoid of artifacts, vertical excavation was terminated at this level. The 11 remaining artifacts were either surface finds (7 or 11.86%), of unknown provenience (1 or 1.70%), or excavated at the junction between brown earth and yellow sand (3 or 5.08%).

The natural stratigraphy of Harik's Sandy Ground was very similar to those of adjacent sites. Comparative analysis of stratigraphic information from Wort Farm (Deustra 1969:58; Horowitz 1971:35; Williams 1968:40), Goodrich (Dorr 1973:1; Ottesen and Williams 1969:2), Smoking Point (Rutsch 1968:3-4), Arlington Place A-1, and Bowman's Brook A (Ritchie 1969:146-48) demonstrate that a natural stratigraphy composed of descending layers of humus, brown sandy earth, yellow-orange-tan sand (often pocked with red clay at its lower levels), and beige sand extending to water table is typical of western Staten Island.

Post-Contact Materials

As noted above, except for 1 glass fragment found in yellow sand, all of the post-contact materials were recovered from the humus and brown earth strata or picked up from the surface of the site. They consist of metal fragments (mainly machine-cut iron nails), glass, ceramics, and a fragment of European flint ballast (Table 1). The glass artifacts include fragments of pressed vessel glass, blown flint bottle glass, molded and piece-molded vessel glass, soda glass, industrial glass (piece-molded), and 1/8 to 1/16-in. window glass. The ceramics include fragments of porcelain, yellow combware, green pearlware, salt glaze stoneware, Rockingham ware, earthenware, 20th-century tableware, and a 1/16-in. thick fluted white clay pipe bowl.

The dates for the historic artifacts range from the late 17th century to the present. Except for the flint ballast and 3 fragments of white porcelain with a pale blue glaze which were manufactured in Europe sometime between 1825 and 1900, all of the post-contact remains are of domestic origin.

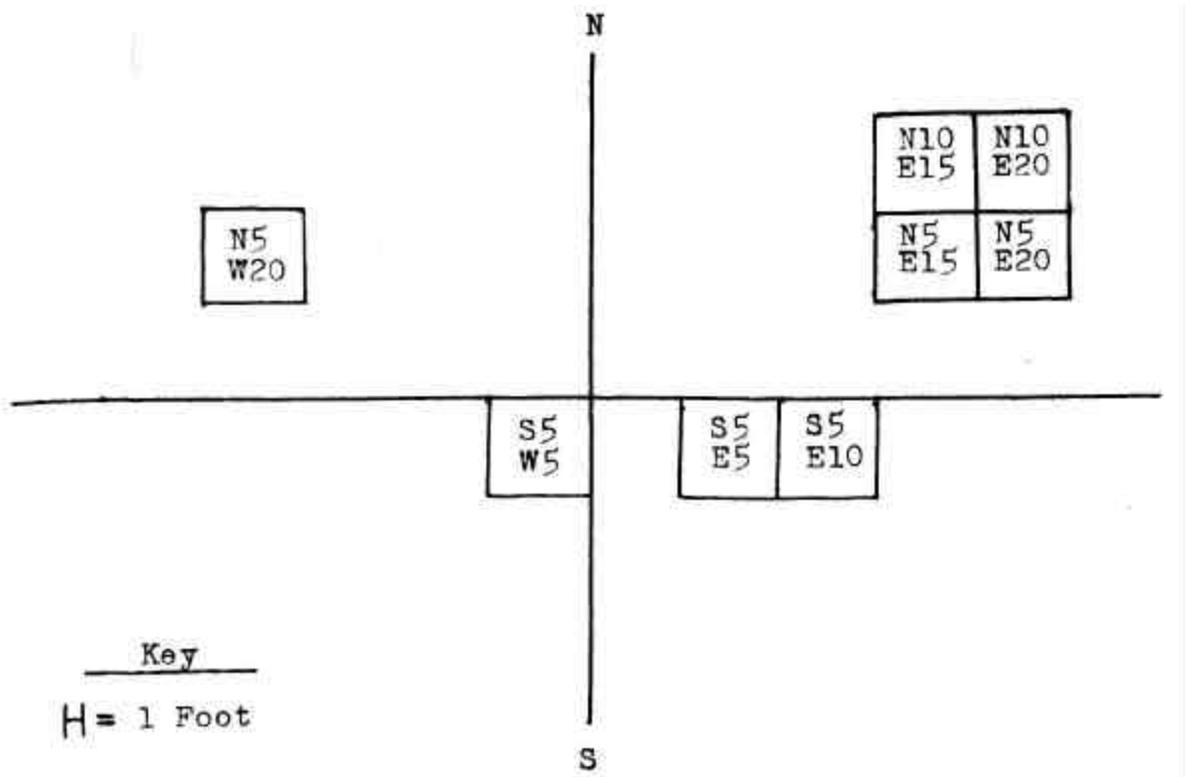


Figure 2. Plan view of excavation, Harik's Sandy Ground (There is no record of the location of Squares A-D).

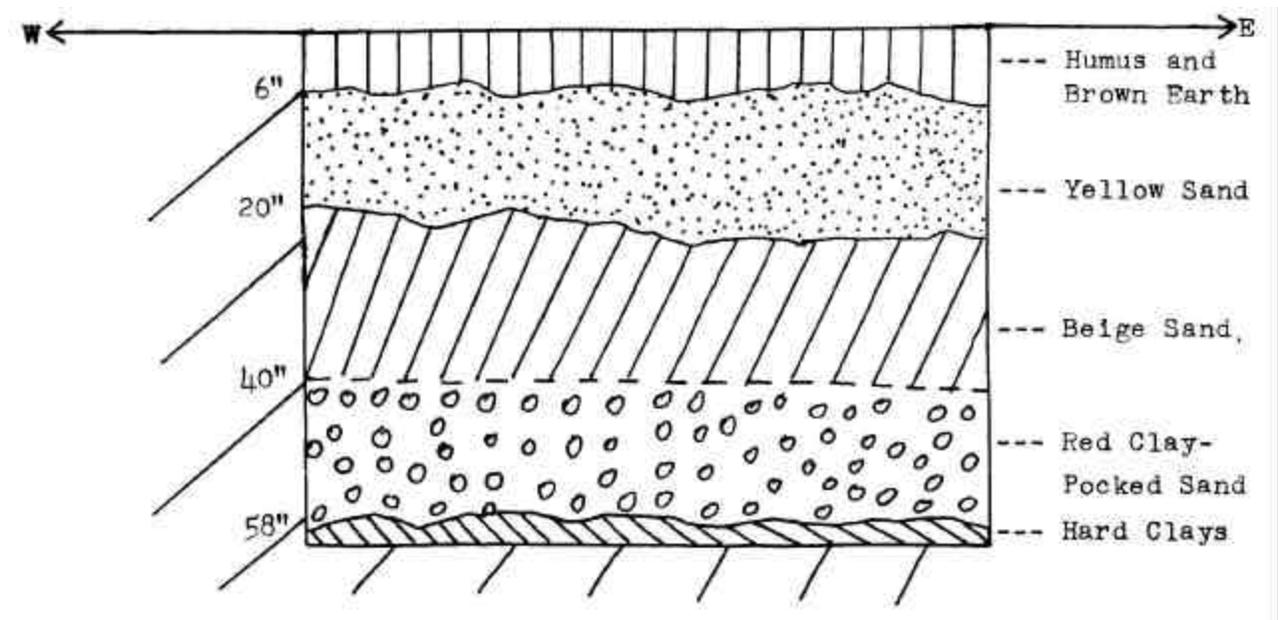


Figure 3. Profile of the north wall of Square A, Harik's Sandy Ground.

Table 1

Post-Contact Materials, Harik's Sandy Ground		Probable Date	Amount
Specimens			
Metal:			
Iron nails with heads machine cut		1820's to present	11
Iron nail head-machine cut		1820's to present	1
Iron nail fragments without heads, machine cut		1820's to present	10
Iron spike fragment		?	1
Iron sheet fragments		?	6
Iron pin or long nail-machine cut		1820's to present	1
Tubular piece of iron-exhaust pipe from car (?)		Recent - post-1910, pre-1940's	1
Glass:			
Clear vessel glass-1/2-inch thick rim fragment, pressed		1850 to present	1
Clear vessel glass-1/2-inch thick fragment with raised "O" on interior curve, pressed		1850 to present	1
Clear bottle glass-3/16-inch thick with "agws" raised on exterior base of side		1850 to present	1
Clear bottle glass-3/16-inch fragment, pressed		1850 to present	2
Clear bottle glass-1/8-inch thick fragment with square sides and fluting on 1 side		Post-1815 to early 1900's	2
Clear bottle glass-1/8-inch thick, slightly curved, molded.		19th century	2
Clear bottle glass-1/8-inch thick, curved, molded		19th century	1
Clear bottle glass-1/16-inch thick, curved, blown flint glass.		Mid to late 19th century	5
Very pale green vessel glass-3/16-inch thick, squared off wide beveling, mold-blown, fragment of small flask.		Early 19th century	2
Very pale green vessel glass soda glass fragments (?).		?	2
Light green vessel glass-1/4-inch thick		?	2
Light green vessel glass-3/16-inch thick		?	1
Dark green vessel glass-3/32-inch thick		?	1
Light olive green bottle glass-1/16-inch thick, curved free-blown.		19th century	2
Dark olive green bottle glass--3/16-inch thick, 2-inch square base, piece-molded, American-made, medicine bottle.		Post-1815 to early 1900's	10
Light aqua bottle glass-5/16-inch thick, Cocoa Cola bottle (?).		Post 1927 (?).	2
Blue glass chip-New York manufacture.		19th century	1
Amber bottle glass-1/4-inch thick, 3-inch diameter at base, industrial glass, piece-molded, used for storage of perishable goods such as chemicals.		1875 to 1900's	9
Amber glass chip-New England manufacture.		19th century	1
Clear window glass-1/8-inch thick.		Post-1900	7
Clear window glass-1/16-inch thick.		Post-1900	22
Pale blue window-1/8-inch thick		Post-1900	1
Ceramics:			
Rockingham ware-cup with handle, Vermont manufacture.		1790-1800	2
Yellowware-buff paste, unglazed interior, comb decoration, 9/32-inch thick.		1670-1775	1
Pearlware-light green glaze on interior and exterior surfaces, white paste, 3/32-inch thick.		1790-1835	1
White porcelain-1/8-inch thick, thin pale blue glaze, European manufacture.		Post-1825, pre-1900	4
Burnt porcelain-1/8-inch thick, white paste		?	1
Buff semi-porcelain-3/16-inch thick, white glaze, cup fragment with handle.		1875	1
Salt glaze stoneware-buff paste, 5/16-inch thick, exterior glazed, interior brushed and glazed, household container such as beer bottle.		Mid 1890's	1
Salt glaze stoneware-glazed exterior, brushed and unglazed interior, brown slip, grayish paste, 1/4-inch thick.		?	1
Salt glaze stoneware-Off-white paste, glazed exterior and interior, 1/4-inch thick, decorated with amber band, storage jug.		1875	2
Buff earthenware white glaze, 1/16-inch thick (eroded), black transfer print.		?	1
Buff earthenware-3/32-inch thick rim section, white glaze decorated with a row of black circles bordered above and below by a parallel black line (transfer print?).		?	1

Table 1 (Cont.)

Specimens	Probable Date	Amount
Buff earthenware-3/32-inch thick rim section, yellowish glaze with red hand painted decoration.	?	1
Buff earthenware-1/4-inch thick, white glaze, linear medium blue decoration	?	5
Buff earthenware-3/32-inch thick, white glaze on exterior and interior, exterior decorated with medium blue and dark gray design.	?	1
Buff earthenware-1/4-inch thick, thin white glaze.	?	4
Grayish tan earthenware-1/8-inch thick, white glaze, medium blue decoration.	?	1
White earthenware-1/4-inch thick, dark reddish brown glaze.	?	1
Buff paste-1/4-inch thick, thin white glaze, tableware pieces.	Recent-20th century	14
White paste-dark blue glaze, "rosette," 5/16-inch diameter, scalloped edges.	?	1
Clay pipe bowl fragments-1/16-inch thick, fluted, American manufacture.	1780-1820	4
Miscellaneous:		
Button-13/16-inch diameter, 4 holes, "mother of pearl."	?	1
Flint ballast fragment-mottled gray and brown.	?	1

Pre-Contact Materials

Fifty-nine aboriginal artifacts were recovered from Harik's Sandy Ground. All of the artifacts were found in the first 3 strata, except for 2 tan jasper flakes excavated from the beige sand stratum (Table 2). The recovery of narrow stemmed Bare Island-Poplar Island points indicates a Late Archaic component at the site.

All of the pre-contact materials recovered from Harik are lithic materials. They were carefully examined under a binocular microscope (7X-30X magnification) for signs of use. The examination demonstrated that 37 (62.7%) of the artifacts are non-utilized flakes. Twenty-two (37.3%) had been utilized. The artifacts have been classified into functional categories according to their differential wear patterns (Semonov 1970; Winters 1969, 1977 personal communication). These categories are briefly discussed:

General Utility Tools

This category consists of tool types that could have been used in any of a variety of cultural activities. However, present methods of evaluating wear patterns do not permit us to differentiate between these functions.

Lanceolate knives. Three specimens were recovered from the top of the yellow sand. A red sandstone biface with use damage along its cutting edge was recovered 2t/z inches into the yellow sand. Two heavy yellow-tan argillite bifaces were recovered from the top 4 in. sand. Both are broken off at their bases. Both demonstrate heavy use damage along their cutting edges; one specimen demonstrates use damage along both its edges. Such heavy spalling usually results from use on fairly hard materials, such as bone, muscle tissue, or wood, and indicates butchering or woodworking activities at the site.

Flake sidescraper. One tan-gray jasper flake sidescraper was located 8 in. into the beige sand stratum. It has a maximum length of 18.26 mm, a maximum width of 15.86 mm. and a maximum thickness of 3.97 mm. The low angle of its working edge (26-30°) and absence of heavy spalling suggest that it was used to process rather soft materials.

Hammerstone/abrader. A single cylindrical sandstone artifact was recovered from the first 4 inches of yellow sand. Shallow pits at both its ends indicate use as a hammerstone, while the large patch of scarred surface along one of its sides suggests use as an abrader.

Biface fragments. Three argillite biface fragments were recovered from the top 4 in. of yellow sand. All were from the basal portion of the artifact. Their extreme weathering make it impossible to discern whether they are the basal fragments of knives or points. Because their stems are much wider than the stems of bifaces definitely assigned to the projectile point category (See Category B below), I have placed them within the General Utility Tool Category. Still, it is quite possible that they represent a different point type, or a wider variety of the established point type at the site; if so, they would of course fall under the Weapons Category.

Table 2
Provenience of the Pre-Contact Materials, Harik's Sandy Ground

Functional Categories	Stratum Artifact Type	Surf.	Hum. & Br.E.	Junc-tion	Yellow Sand			Beige Sand				Bge. Sand w/ Clay	Pro-venience Unk.	Total
					0-4	4-8	8-12	0-4	4-8	8-14	14-18			
General Utility Tools	Lanceolate Knives				3									3
	Flake Sidescraper								1					1
	Hammerstone/Abrader				1									1
	Biface Fragments				3									3
Weapons And Hunting Implements	Bare Is.-Pop. Is. Points			2	2								1	5
	Unidentifiab. Point				1									1
	Unclassifiab. Point				1									1
Woodworking Tools	Core Endscren./Pushplane				1									1
	Flake Endscrep./Gouge					1								1
	Flake Endscrep.	1				1								2
	Spokeshave					1								1
Knapping Artifacts	Core				1									1
	Nonutilized Flakes	6	15	1	4	7	3	1						37
Miscell.	Paintstone		1											1
Artifact Totals		7	16	3	17	10	3	1	1	0	0	0	1	59

Weapons or Hunting Implements

Bare Island-Poplar Island Intergrades (Figs. 4 & 5). Five narrow stemmed points of weathered argillite were recovered from Harik. Their provenience (Table 2) suggests that the Late Archaic occupation at Harik was confined to the top part of the yellow sand. The dimensional attributes of these points fit both the Poplar Island and Bare Island point types described by Kinsey (1971:14, 44). The formal attributes of each point, however, are a combination of these two types. As such, the points are comparable to the Bare Island-Poplar Island intergrades described by Williams (1968:42-43, 46) from Wort Farm.

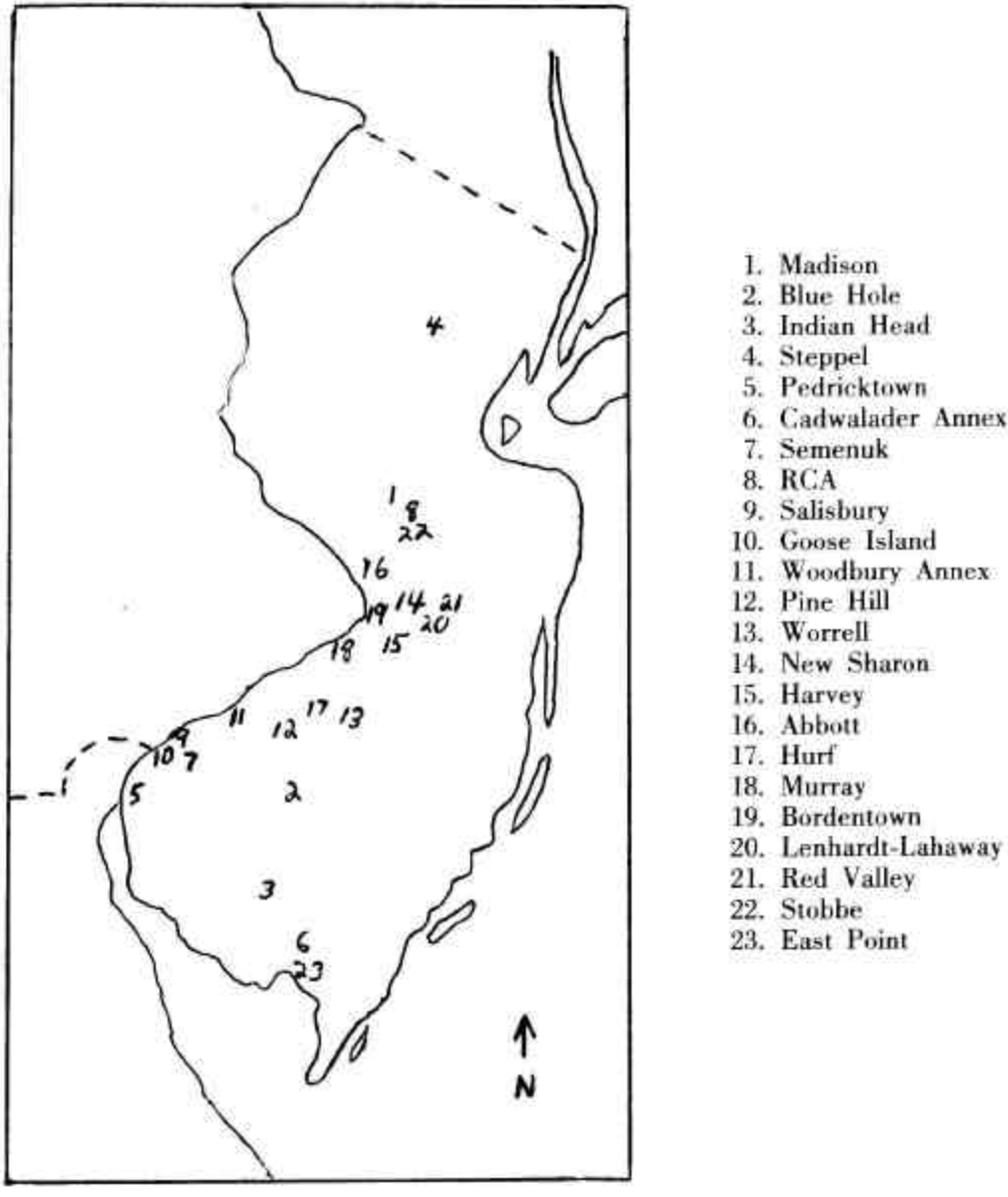


Figure 4. New Jersey sites containing Bare Island and/or Poplar Island projectile points.



Figure 5. Bare Island-Poplar Island intergrade from Harik Sandy Ground, in the possession of Judy Harik (after sketch by Harik).

Probable narrow-stemmed point fragment. A single argillite point tip was recovered. Its thickness (7.8 mm) and narrow width (maximum of 15.6 mm) suggest that the fragment represents a narrow stemmed point type. The point was apparently found in the top part of the yellow sand.

Unidentifiable point or preform. A thick unstemmed point of weathered argillite was excavated from the top 4 in. of yellow sand. Its convex base suggests the Middle to Late Archaic "teardrop" point described by Kraft and Blenk (1974). Unlike this type, however, it is quite thick (15.86 mm), which suggests that it is most probably a preform for one of the narrow stemmed types. Unfortunately, the specimen is so weathered that flaking and possible wear patterns have been obliterated. For this reason, it cannot with any certainty be assigned to the preform category.

A similar point was excavated from the lower shell stratum at Smoking Point, a stratum which also contained several Bare Island-Poplar Island points (Rutsch 1968: Plate I:c-e, j).

Woodworking Tools

Spokeshave. An argillite flake was excavated from the 3-6 in. level of yellow sand. Although the argillite is badly weathered, making it impossible to discern a wear or shaft pattern, its concave working edge suggests use as a shaft scraper or spokeshave.

Flake endscrapers. Two yellow-tan jasper flake endscrapers were recovered, one from the surface and the second from the 6-9 in. level of yellow sand. Both scrapers are plano-convex in form and demonstrate edge preparation. Light to medium wear is evident along the dorsal part of their working edges. The angles of use (i.e., angle of the working edge) are 54° and 62°. The spalling, absence of use polish, absence of a rounded or smoothed working edge, and steep edge angle (for 1 of the scrapers) all suggest that the specimens were used for scraping hard materials, such as wood.

A similar dark red chert "thumbnail" scraper with dorsal retouch was found on the surface of the Wort Farm site (Horowitz 1971:42).

Flake endscraper/gouge. This single yellow-tan jasper flake was excavated from the 3--6 in. level of yellow sand. It is concave-convex in form and demonstrates edge preparation. Its angle of use is 57°. Like the above two flakes, light use damage along its dorsal edge suggests a scraping function. In addition, the steeply bevelled ventral edge and ventral use damage indicate use as a gouge as well. The absence of a smooth edge and use polish argue against use on a soft material, such as hides. Instead, the spalled edges indicate a woodworking function.

Core endscraper/pushplane. A dark gray chert core tool was recovered from the top 4 in. of yellow sand. Like the other endscrapers at Harik, it is plano-convex in form and demonstrates edge preparation. But it has a much higher angle of use (82°) and has about double the dimensions of the jasper scrapers. Light wear is evident along both its dorsal and ventral edges. Smooth wear and polish are absent. The specimen's form and wear pattern suggest use as both an endscraper and pushplane in a woodworking activity.

A comparison of the Harik endscraper-sidescraper "forms" (Categories A2, C2-4) with those of Smoking Point (John Vetter, personal communication) showed similarities in material, dimensions, preparation of edge, edge angle, and use (Table 3) as follows:

1. All of the 26 scraper "forms" from the Archaic levels at Smoking Point were manufactured from cryptocrystalline silica material (i.e., cherts and jaspers), as were all 5 of the Harik specimens.
2. Twenty-two (84.6%) of the 26 Smoking Point specimens have a length of 17-34 mm, a length range shared by 4 (80%) of the 5 Harik specimens. Twenty-two (84.6%) of the Smoking Point and 4 (80%) of the Harik tools have a width of 13-25 mm.

Table 3
Comparative Analysis of "Scraper Forms" from Smoking Point and Harik Sandy Ground

TOOL #	MATERIAL	WIDTH(mm.)					LENGTH(mm.)					PREP		EDGE L	USE				
		Ch	Jas	Arg	13-20	21-25	26-30	31-35	17-24	25-29	30-34	35-39	40-44		45-49	Yes	No	Scr	Gre
Smoking Point																			
319.1	x			x				x						x		-		x	
396.1	x				x					x				x		50-70		x	
357	x			x					x					x		45		x	
362.1	x				x				x					x		40		x	
336	x					x				x				x		30		x	
411.1	x				x					x				x		40		x	
368.1	x			x					x					x		-			x
338.2	x			x				x						x		80		x	
338.3	x				x			x						x		80		x	
413.1	x			x								x		x		60		x	
338.1	x			x				x						x		35		x	
414.1	x			x				x						x		50			x
369.3	x			x				x						x		45		x	
369.2	x			x				x						x		40		x	
369.1	x				x				x					x		80		x	
416	x				x							x		x		75		x	
420	x				x				x					x		75		x	
348.2	x				x					x				x		50		x	
349	x				x					x				x		70		x	

Table 3 continued

TOOL #	MATERIAL		WIDTH (mm.)				LENGTH (mm.)						PRPP		EDGE	USE		
	Ch/Jas	Arp	13-20	21-25	26-30	31-48	17-21	25-29	30-34	35-39	40-44	45-50	Yes	No	L	Scr	Gge	Push/pre
425	x			x				x					x		30	x		
349.2	x				x			x					x		70		x	
349.4	x			x				x					x		70	x		
346.1	x					x					x		x		65	x		
349.3	x					x			x				x		-		x	
349.5	x			x					x				x		-		x	
426.1	x		x				x						x		80	x		
TOTALS	26	0	10	12	2	2	8	8	6	1	3	0	21	5	-	20	6	0
<u>Harik</u>																		
66	x		x					x					x		54	x		
2	x			x					x				x		62	x		
57	x			x				x					x		57	x	x	
17	x					x						x	x		82	x		x
22	x		x				x						x		26-30	x		
TOTALS	5	0	2	2	0	1	1	2	1	0	0	1	4	1	-	5	1	1

3. Twenty-one (80.8%) of the 26 Smoking Point tools have a prepared edge, as do 4 (80%) of those from Harik. The edge angles of the Smoking Point specimens have a range of 30-80°; the angles of the Harik specimens range from 26-82°.
4. Microscopic analysis of wear patterns indicated that 6 (23.1%) of the Smoking Point scraper "forms" had actually been utilized as gouges rather than as scrapers. One of the 5 Harik scraper "forms" had been used as both a gouge and a scraper, another as both a pushplane and a scraper. Those used as scrapers and those used as gouges showed no differences in edge preparation, degree of wear, size, or angle of use.

The data indicate that the tool form called a "scraper" (i.e., unifacial, piano-convex or convex-convex tool with bevelled, often prepared edge) may have been utilized in several different activities; it may have been used for gouging or planing, as well as scraping. Consequently, formal analysis appears to be a most inefficient method for determining a scraping function; microanalysis of wear patterns is a necessity. The preference for a length of 17-34 mm, crypto-crystalline silica material, and prepared edges probably indicate some functional advantage, such as ease in handling the tool and sharper edges.

Knapping Artifacts

Core. A single, irregularly -shaped argillite core was recovered from the first 4 inches of yellow sand.

Non-utilized flakes. Thirty-seven unmodified flakes were recovered from the top 4 strata at Harik to a depth of 4 in. into the beige sand. Twenty-one (56.8%) were manufactured from jasper, 7 (18.9%) from dark gray or black chert, 6 (16.2%) from argillite, and 1 each (2.7%) from quartz, quartzite, and sandstone. Three of the jasper flakes had been heated, turning the yellow jasper a bright red.

The ratio of debitage to tools in general is 2:1. In regard to specific materials, it is 5.3:1 for jasper, 7:1 for chert, 0.5:1 for argillite, 0.5:1 for sandstone, and 1:0 for quartz and quartzite, which suggests that knapping was a very minor activity at the site (cf. Wilmsen 1968:984).

Miscellaneous

Paintstone. A single graphite fragment was recovered from the humus and brown earth strata. Its surface is virtually covered with fine striations, which indicate that an awl or needle had been used to remove the powdered pigment.

In summary, 4 functional artifact categories and 1 miscellaneous category are represented at Harik: General Utility Tools, Weapons and Hunting Equipment, Woodworking Tools, and Knapping Artifacts. Jasper was the major lithic material utilized at the site, followed by argillite and chert. Of the total number of lithic artifacts (59), 25 (42.4%) are jasper, 20 (33.9) are argillite, 8 (13.5%) are chert, 3 (5.1%) are sandstone, 1 (1.7%) is quartz, 1 (1.7%) is quartzite, and 1 (1.7%) is graphite.

Biotic Remains

No floral remains and very few faunal remains were recovered from Harik: 13 oyster shell fragments, 4 clam-shell fragments, and 1 large ungulate bone. The mammal bone and virtually all of the shell fragments were excavated from the humus and brown earth strata, which suggests that they very probably date to the post-contact occupation of the site.

Discussion

Artifactual analyses indicate that Harik's Sandy Ground was divided into 2 main periods of occupation, an Historic Period and a Prehistoric Period.

Historic artifacts were confined to the humus and brown earth strata. The artifacts date from the late 17th century to recent times, demonstrating 175-300 years of (not necessarily) post-contact occupation. Except for 3 porcelain sherds and a fragment of European flint ballast, all of the items are of domestic origin.

Prehistoric materials were recovered from the top 4 strata at the site. The only diagnostic artifacts are 5 narrow stemmed Bare Island-Poplar Island points, indicating a Late Archaic occupation. The points are vertically associated with 1 sandstone and 2 argillite lanceolate knives, 3 argillite bifaces, a jasper thumbnail scraper, a jasper scraper/gouge, a chert scraper/pushplane, an argillite spokeshave, a sandstone hammerstone/ abrader, an argillite core, and 12 nonutilized flakes. However, since no artifacts diagnostic of any other culture period were found, it is most probable that all of the precontact materials belong to this Late Archaic occupation.

There are 0.197 precontact artifacts/ft². These artifacts are dispersed vertically and horizontally throughout the strata; there are no discernible living floors and no horizontal "hot spots." The small number of artifacts, small number of functional categories (4 plus a miscellaneous category), and absence of features¹ and living floors indicate temporary and sporadic occupation by a small group(s) of people. The predominance of weapons and heavy knives and bifaces indicate use as a hunting camp. The total absence of faunal remains associated with the precontact occupation suggests a lookout station rather than a butchering camp. Still, there is the possibility that the acidic soil may have destroyed these ecofacts. The presence of a spokeshave, scraper/pushplane, and scraper-gouge indicate some form of woodworking activity as well, e.g., the preparation of spearshafts while awaiting the kill.

The ratio of debitage to tools (2:1) demonstrates that stone knapping was not an important activity at Harik. The non-utilized flakes seem to represent retouch and repair of previously manufactured tools; the site was definitely not a workshop area.

Inter-site Comparisons

The Late Archaic component at Harik Sandy Ground is very similar to those of other Staten Island sites (Fig. 1). All of those components are characterized by the presence of projectile points of the Narrow Stemmed Tradition (cf. Ritchie 1969:143); points of the Laurentian Tradition are conspicuous by their absence (Deustua 1969; Dorr 1973; Horowitz 1971; Ottesen and Williams 1969; Ritchie 1969:146-48; Rutsch 1968; Williams 1968). With the possible exception of the Goodrich site (Ottesen and Williams 1969:3-4; Dorr 1973:Chart B), which contained a good number of Lamoka-like points as well as Bare Island and Poplar Island points, all of these represent Bare Island-Poplar Island components.

The Late Archaic inhabitants of these sites demonstrated a distinct preference for argillite, especially in the manufacture of points and knives. Twenty (34.5%) of the artifacts, all (100.0%) of the points, and 2 of the 3 (66.7%) knives from Harik are composed of argillite. At the multi-component Wort Farm site, virtually all of the argillaceous materials were recovered from the lower (Archaic) levels of the site. All of the Bare Island and Poplar Island points were manufactured from argillite, as well as all of the perforators and all but one of the knives associated with them (Deustua 1969:58; Horowitz 1971:41, 43; Williams 1968:40-50). At the Old Place site, all of the Bare Island and Poplar Island points recovered were manufactured of argillite (Ritchie 1969:147). At the Bowman's Brook A site, 14 of the 15 Bare Island and Poplar Island points and 1 of the 2 knives excavated were manufactured from argillite (Ritchie 1969:148). Rutsch's (1968a:78) analysis of 828 projectile points found on Staten Island indicates that Archaic groups as a whole utilized argillite much more than their Woodland successors did.

Crypto-crystalline silica materials in the form of jasper and chert were also commonly utilized. Data from Harik and Smoking Point suggest that these materials were preferred in the manufacture of scraping and gouging tools. Five (83.3%) of the 6 scraping and gouging tools excavated at Harik are composed of chert or jasper. The same holds true for the 20 scrapers and 6 gouges (100.0%) excavated from the Archaic levels at Smoking Point (Table 3).

As noted previously, the small number of artifacts and functional categories and absence of features and living floors indicate temporary and sporadic occupation of Harik Sandy Ground by a Late Archaic culture group(s). The same situation appears to hold true for the other Late Archaic occupations on Staten Island. Forty-seven artifacts were recovered from approximately 200 sq. ft. of excavations at the Goodrich site. This reduces to a total of 0.235 artifacts per sq. ft. The artifacts represent only 3 functional categories hunting, knapping, and general utility scraping and cutting implements (Ottesen and Williams 1969:1, 4, Table 1). At

¹ A few fire-cracked and reddened rocks suggest the possibility of a hearth. Pits, postmolds, burned areas, and other types of features are absent.

Smoking Point, 34 five-foot squares were excavated and 268 artifacts were recovered from the Archaic levels of the site (Rutsch 1968:Table II). This data reduces to 0.315 artifacts per sq. ft. Like the artifacts from Goodrich, they represent the 3 functional categories of hunting, knapping, and general utility tools. Numerical information in the published account (Horowitz 1971:36-42) indicates that 0.293 artifacts per sq. ft. were associated with the Archaic levels at Wort Farm during the 1969 excavations. The artifacts recovered from Archaic levels during the 1963, 1964, and 1968 excavations at Wort (Deustua 1969; Williams 1968) represent only 4 functional categories: hunting, knapping, perforating, and general utility cutting and scraping implements. A single denticulate, which may represent hideworking as well as a general utility scraping function, was recovered during the 1969 excavation (Horowitz 1971:40).

Except for a number of firecracked and reddened rocks at Wort Farm (Williams 1968:46) and a hearth at Bowman's Brook A (Ritchie 1969:147), features and discernible living floors were absent from the Bare Island-Poplar Island components discussed in this paper. Except for 2 bone fragments recovered from Smoking Point (Rutsch 1968:Table II), floral and faunal remains were also absent.

The predominance of points and knives at all of these sites demonstrates the importance of hunting and butchering activities (Ritchie 1969:146-48; Rutsch 1969:Table II; Williams 1968:42-43; Ottesen and Williams 1969:Table I). The data strongly suggest that the Late Archaic components on Staten Island represent the material remains of camps temporarily and sporadically occupied by small groups of hunters.

Conclusions

After noting the stylistic similarity between Archaic points from Wort Farm and various sites in lower New Jersey, as well as the preference for argillite at Wort, Williams (1968:48) postulates "southwestern origins and cultural connections" for the Bare Island occupation at the site. Present data strongly suggest that the Late Archaic groups frequenting Staten Island had their closest cultural ties with the Jersey groups, but not necessarily with those located in southwestern New Jersey.

Points fitting the type description of Bare Island and Poplar Island points have been found at over 20 sites in central and southern New Jersey (Fig. 4). Williams (1968:48) points out that such sites are "linked by virtually continuous water routes, extending from Staten Island to the Delaware River."

However, Kinsey (1972) has recently defined a Late Archaic Lackawaxen complex in the Delaware Water Gap area whose lithic assemblage is stylistically and functionally similar to those of Bare Island-Poplar Island components. His description of the diagnostic point type (1972:408-11) fits well those of the Bare Island and Poplar Island point types (Kinsey 1959:115, 1971:14-15, 44-45). In addition, Lackawaxen points have been found in association with knives, celts, choppers, hammerstones, grinding stones, blanks, and netsinkers (Kinsey 1972:336, 411)--artifact types often associated with Bare Island and Poplar Island points (Horowitz 1971:136-40; Kinsey 1959:129, 131; Ritchie 1969:146-48; Rutsch 1968:Table II; Williams 1968:42-44). Kinsey (1972:337) admits that "the [Lackawaxen] assemblage is surprisingly similar to that of the Bare Island complex at the Kent Halley site in the lower Susquehanna Valley," a site which Kinsey himself excavated and analyzed (Kinsey 1959).

Consequently, it appears safe to assume that the Bare Island, Poplar Island, and Lackawaxen complexes represent a single Late Archaic hunting and gathering micro-tradition centered in New Jersey and eastern Pennsylvania along the Delaware River Valley and its tributaries. Stylistic similarities among point types indicate that the Bare Island-Poplar Island-Lackawaxen micro-tradition is part of the Late Archaic Narrow Stemmed Point Tradition (cf. Ritchie 1969:143) widespread throughout the Atlantic coastal and piedmont areas from the Carolinas to New England; besides the above point types it includes the Wading River, Lamoka, "Lamoka-like," Squibnocket Stemmed, Taconic Stemmed, and several other unnamed thick, narrow-bladed, stemmed points (Brennan 1967, 1971; Coe 1964; Funk 1965; Ritchie 1959, 1965, 1969:xix-xxii, 50).

At present, a Bare Island-Poplar Island component has never been physically isolated in the lower New Jersey sites; all published reports concern mixed component sites. In northwestern New Jersey, the Lackawaxen components appear to represent temporary hunting camps. This is also true of the Bare Island components on Staten Island. The presence of several Bare Island points in the lower shell midden at Smoking Point (Rutsch 1968:Fig. I) suggests the possibility of a Late Archaic shellfish-processing camp. But so far none of the New York and New Jersey shell middens have been positively associated with Bare Island-Poplar Island remains. The evidence suggests that either (1) rising sea levels (cf. Salwen 1962) have successfully concealed the Archaic shellfish-processing stations under several feet of water, or (2) the excavated sites on Staten Island

may represent the camps of hunting groups from New Jersey; sites representing other segments of their settlement system may have been located on the other side of the Arthur Kill.

In summary, the lithic assemblage of the Lackawaxen complex in northwestern New Jersey is stylistically and functionally similar to those of the Bare Island and Poplar Island complexes in the lower Susquehanna, central and southern New Jersey, and Staten Island. As such these 3 complexes appear to compose a micro-tradition (of the Narrow Stemmed Point Tradition), centered along the Delaware River watershed in eastern Pennsylvania and New Jersey.

The above data indicate that although the cultural connections of the Late Archaic on Staten Island appear to lie in New Jersey, they may have emanated from eastern or northern New Jersey, as well as the southwestern portion of the state. The fact that the nearest sources for the graphite paintstone from Harik and the argillite artifacts from Staten Island sites in general are the Franklin Limestone in northern New Jersey (Lucey 1969:2) and the Lockatong argillite deposits across the Arthur Kill in northeastern New Jersey (Didier 1975:94), respectively, lends support to this statement.

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REFERENCES

- Brennan, Louis A.
 1967 The Taconic tradition and the Coe axiom. *New York State Archaeological Association Bulletin* 26:6-15.
 1971 The Implications of Two New C-14 Dates from Montrose Point, Lower Hudson, Eastern States Archaeological Federation *Bulletin* 30:10.
- Coe, Joffre L.
 1964 *The Formative Cultures of the Carolina Piedmont*. American Philosophical Society. Transactions 54(Pt.5).
- Deustua, Patricia N.
 1969 The 1968 season at the Wort Farm site, Staten Island. Contribution 4 of the MAAS. Staten Island Institute of Arts and Sciences *Proceedings* 24(3):58-60.
- Didier, Mary Ellen
 1975 The Argillite Problem Revisited: an Archaeological and Geological Approach to a Classical Archaeological Problem. *Archaeology of Eastern North America* 3(1):90-100.
- Dorr, Greg
 1973 Untitled manuscript on the Goodrich site, Staten Island. MS. on file at the New York University Department of Anthropology, pp. 1-2.
- Funk, Robert E.
 1965 The Archaic in the Hudson Valley: New Evidence and New Interpretations. *Pennsylvania Archaeologist* 35(34):139-60.
- Horowitz, Jonathan
 1971 Wort's Farm excavation 1969; Contribution 5 of the MAAS. Staten Island Institute of Arts and Sciences *Proceedings* 26(2):35-44.
- Kinsey, W. Fred III
 1959 Recent excavations on Bare Island in Pennsylvania: the Kent-Halley site. *Pennsylvania Archaeologist* 29(3-4):109-33.
 1971 Bare Island points and Poplar Island points in William A Ritchie's *A Typology and Nomenclature for New York Projectile Points* (revised edition), New York State Museum and Science Service Bulletin 384, pp. 14-15, 44-45.
 1972 *Archaeology in the Upper Delaware Valley*. Pennsylvania Historical Museum Commission, Harrisburg.
- Kraft, Herbert C. and Michael H. Blenk
 1974 The Tear Drop Point. *Archaeological Society of New Jersey Bulletin* 30:13-14.
- Lucey, Carol S.
 1969 *Geology of Sussex County in Brief*. New Jersey Bureau of Geology and Topography, Trenton.
- Ottesen, Ann I. and Lorraine E. Williams
 1969 Test excavation of the Goodrich site. Ms. on file at the New York University Department of Anthropology, pp. 1-6.

- Ritchie, William A.
 1959 *The Stony Brook Site and Its Relation to Archaic and Transitional Cultures on Long Island*. New York Museum and Science Service Bulletin 372.
 1965 The "Small Stemmed Point" in New England. *Pennsylvania Archaeologist* 35(3-4):134-38.
 1968 *The Archaeology of New York State*. Natural History Press, Garden City.
- Rutsch, Edward S.
 1968 A preliminary report of excavations at the Smoking Point site (STD 14-3). Ms. on file at the New York University Department of Anthropology.
 1968a A petrological study of aboriginal projectile points from Staten Island; Contribution 3 of the MAAS. Staten Island Institute of Arts and Sciences *Proceedings* 23(3):75-78.
- Salwen, Bert
 1962 Sea Levels and Archaeology in the Long Island Sound Area. *American Antiquity* 28(1):46-55.
- Semenov, S. A.
 1970 *Prehistoric Technology*. Adams and Dart, Bath.
- Williams, Lorraine E.
 1968 The Wort Farm: a report on the 1963/1964 excavations; Contribution 2 of the MAAS. Staten Island Institute of Arts and Sciences *Proceedings* 23(2):38-52.
- Wilmsen, E. N.
 1968 Lithic Analysis in Paleoanthropology. *Science* 161:982-87.

Program-1979
63rd Annual Meeting of the New York State Archeological Association
Saturday, April 21

- 8:00 A. M. Pre-registration Check-in
 8:50 A. M. Welcome
 George R. Hamell, President, Lewis Henry Morgan Chapter
- Announcements
 Charles F. Hayes III, Program Chairman, Lewis Henry Morgan Chapter
- 9:00 A.M. Business Meeting
 Dr. Elizabeth Dumont, President, New York State Archeological Association

Morning Session
 Chaired by George R. Hamell, Lewis Henry Morgan Chapter

- 10:15 A.M. The Eaton Site
 Dr. William Engelbrecht, Frederick M. Houghton Chapter and Chapter Members Carolyn Pierce, Charles Vandrei, Kathy Guest, Dolores Lalock and Patricia Valentine
- 11:15 A. M. A New Radiocarbon-dating Technique Dr. Harry Gove, University of Rochester

Afternoon Session

- 1:00 P. M. The Pattern of Acculturation in Ontario and New York in the Early Seventeenth Century Clark M. Sykes, University of Toronto
- 1:30-3:30 P.M. SYMPOSIUM
St. Lawrence River Valley and Jefferson County Iroquois
 Chaired by Dr. William Engelbrecht, Frederick Houghton Chapter. Participants; Earl Sidler, Frederick Houghton Chapter and Dr. James F. Pendergast, Ontario Archaeological Society

1:30-3:30 P.M. SYMPOSIUM

Research in Archeological Conservation

Chaired by Daniel M. Barber, Lewis Henry Morgan Chapter

Archeological Conservation at the Rochester Museum and Science Center

Daniel M. Barber, Lewis Henry Morgan Chapter

Methods of Metallographic Analysis

James W. Bradley, William M. Beauchamp Chapter

*Application of Xeroradiography to Archeology*Dr. Robert Johnston, Rochester Institute of Technology, Dr. Ralph Alexander and Joseph C. Wilson
Health Center, Rochester, New York*Conservation and Archeology: Preserving the Past*

Kenneth Morris, New York State Division for Historic Preservation

General Session

Chaired by George R. Hamell, Lewis Henry Morgan Chapter

3:45 P. M. *The Minisink Site: A Reevaluation of a Late Prehistoric-Early Historic Indian Village in the Upper**Delaware Valley of New Jersey*

Herbert C. Kraft, Seton Hall University Museum

4:15 P. M. *The Historic Rogers Site-Preliminary Report*

David Elliston, Inc. Long Island Chapter

4:45 P. M. *Food Bones*

Louis A. Brennan, Metropolitan

Evening Session

Eisenhart Auditorium

Rochester Museum and Science Center

7:30 P. M. Banquet

9:00 P. M. Presentation of Awards

Address *Newfoundland Adventure*

Dr. William A. Ritchie, Former New York State Archeologist, Van Epps-Hartley Chapter

Sunday, April 22**General Papers**

Chaired by Charles F. Hayes III, Lewis Henry Morgan Chapter

9:00 A. M. *The Mills Mansion Site, Mt. Morris, New York*

Justin Tubiolo, Lewis Henry Morgan Chapter

9:30 A. M. *Applications of Computers to Archeology*

Dr. Robert Chenhall, Lewis Henry Morgan Chapter

10:00 A.M. *Seneca Ladles c. A.D. 1600-1850*

Betty Prisch, Rochester Museum and Science Center

10:45 A.M. *The Divers Lake Quarry Site*

Richard McCarthy, Lewis Henry Morgan Chapter

11:15 A. M. *The Wreck of the St. Peter*

Robert Bristol, Deep Star Enterprises, Rochester, New York

11:45 A.M. *Calendar Sites at High Point, New Jersey*

Thomas F. Brannan, Inc. Orange County Chapter

12:15 P. M. *A Perched Boulder in South Eastern New York That Shows an Alignment*

Ralph Robinson, Inc. Orange County Chapter

**Minutes of the 63rd Annual Meeting
Rochester Museum & Science Center
April 20-22, 1979 Rochester, N.Y.**

Executive Committee Meeting

President Dumont called the meeting to order at 8:20 PM. Roll call was taken, and all chapters, with the exception of the Sebonac Chapter, were represented. The Following Executive Committee members or alternates(*) were in attendance.

State Officers

President: Elizabeth Dumont, Inc. Orange County Chapter
Vice President: Charles Gillette, Van Epps-Hartley Chapter
Secretary: James P. Walsh, Auringer-Seelye Chapter
Treasurer: Carolyn Weather-wax, Auringer-Seelye Chapter

AURINGER-SEELYE CHAPTER

President: Virginia Stiles*
Secretary: Gloria Miller*

CHENANGO CHAPTER

President: Richard L. Cole
Secretary: Rosalind Kupris

F.M. HOUGHTON CHAPTER

President: Vivian Cody
Secretary: Dolores Lalock*

INC. LONG ISLAND CHAPTER

President: David Lundin
Secretary: David Detrich

INC. ORANGE COUNTY CHAPTER

President: Louis Dumont*
Secretary: Carolyn Schrier

LOUIS HENRY MORGAN CHAPTER

President: George R. Hamell
Secretary: Kathleen S. Hamell

METROPOLITAN CHAPTER

President: Ann Browning
Secretary

MID HUDSON CHAPTER

President: Clement I. Angstrom
Secretary

TRIPLE CITIES CHAPTER

President: Chloe Zemek*
Secretary: Dolores Elliott

UPPER SUSQUEHANNA CHAPTER, INC. President:

Helen Gutierrez
Secretary

VAN EPPS-HARTLEY CHAPTER

President: Gwen Gillette
Secretary: Kingston Lerner, MD

WILLIAM M. BEAUCHAMP CHAPTER

President: Barbara Harris
Secretary: James Bradley*

SEBONAC CHAPTER

President
Secretary

EDITOR & ESAF REPRESENTATIVE

Louis A. Brennan

COMMITTEE CHAIRMEN

<u>Membership</u>	Carol Weatherwax*
<u>Finance</u>	Dolores La-lock
<u>Program</u>	Charles Hayes III
<u>Awards</u>	Thomas Weinman
<u>Constitution</u>	Charles Gillette
<u>Education</u>	Carolyn Schrier
<u>Budget</u>	
<u>Grants</u>	Vicky B. Jayne
<u>Legislative</u>	Gwen Gillette*
<u>Nominating</u>	Kingston Lerner, MD
<u>Pub. Arche.</u>	Dolores Elliott
<u>NYSAA/NYAC</u>	Charles Gillette

*Alternates

1. The meeting was called to order at 8:20 PM.
2. Roll call was taken.
3. A motion was made to accept the minutes of the last meeting as corrected. Motion carried.
4. Reports of the Officers:

a. President: There is little to report in the line of presidential activities since I took office a year ago. What issues have been brought to my attention will be discussed under New Business on the agenda. I have had a number of informal reports from across the state, however, which I find most disturbing: reports of chapters dwindling in membership and activities to the point that some are now chapters in name only. The problem may be due in part to the economic stresses of the time in which we live, but I cannot believe this to be the only cause. I would like to initiate a search for the underlying reasons, so that appropriate remedies may be found. What is at stake, I need not remind you, is the continued existence of

NYSAA as a vital and functioning organism within the state. I will, therefore, charge the chairman of the Chapters & Membership Committee with the responsibility for the project, and will initiate the work with what I hope will be an open and honest discussion of relevant issues later in this executive meeting.

b. Vice President: Vice President Gillette reported that there had been little for his office to do during the past year.

c. Secretary: During the past year, the Informational Handbook, Vol. 11, was printed and distributed. One issue of the NYSAA NEWS was sent out, but presently publication has been suspended due to a lack of news items. I received 63 letters and sent out 74, as well as many replies to membership inquiries. I was able to attend two meetings of the Van Epps-Hartley Chapter. I had a cash flow of \$159.96, expenses of 94.63, leaving a balance of cash-on-hand of 45.33 as of April 1st.

d. Treasurer: The Treasurer reported a balance on hand as of March 20, 1979, as follows: Savings Acc't. 48-907, \$3204.51; 4-753, 1000.00 (Life Memberships); Checking Acc't. 540-6-294, 2034.09, giving a total of \$6238.60.

5. Committee Reports (NOTE: Many reports are condensed to save printing space. Those submitted to the Secretary are on file with the NY AA minutes for 1979. Many committee chairmen faithfully promised to turn in to the Secretary their written reports, and failed to do so.)

a. Chapters & Membership-Constance J. Carroll-Walsh, Chairman. Carol Weather-wax reporting. The first year as Membership Chairman as not been very busy. The remaining membership leaflets, distributed by former Chairman Carol Weatherwax, have been included in your individual chapter packets. It is suggested that these leaflets be used to generate new NYSAA memberships. Total membership as of April 1979 is 537, with 674 individual members. This year's Membership Award will be presented to the Mid Hudson Chapter.

b. Finance-Dolores Lalock, Chairman. The Treasurer's report shows an increase in funds from Dec. 1977 to March 1979 of \$1220.08. In my opinion no increase in dues should be necessary at this time. In the past we have separated our funds between a publications fund and a general fund, a portion of the dues being assigned to the general fund. Other receipts went into a publication fund. I think the Association should consider whether they wish to return to this practice or whether they prefer to leave everything in one general fund. A check should be made to be sure the interest on the life membership fund is sufficient to cover the cost of publications for life members. If it is not we should consider increasing the fund at least to the extent we have received for new life members since its establishment. If our savings accounts are term accounts, we should be reviewing them so that the best possible decision as to how they should be renewed is made at the time their terms expire.

c. Program-Charles F. Hayes III, Chairman. Mr. Hayes reported on the fine program put together for the Annual Meeting.

d. Awards Thomas Weinman, Chairman. Charles F. Hayes III reporting. Mr. Hayes reported that the Awards Committee had met, and the awards would be announced at the Annual Banquet.

e. Constitution-Charles Gillette, Chairman. Mr. Gillette reported that a few chapters had still not submitted their revised constitutions for approval. He asked that they please do so at once.

f. Education-Carolyn Schrier, Chairman. The major accomplishment of this committee was the inclusion of the NYSAA in the listings in "What to do in the Mid-Hudson Valley," an annual publication. The NYSAA rated a whole page in the current issue, and the chapters in the Mid Hudson area were highlighted. It is hoped that the 1979--80 issue will continue this and that it will also be placed in the similar publications for Westchester and Long Island. There has been an increase in correspondence from schools in regards to school sponsored archeological activities. A draft letter has been prepared for your discussion concerning the position of NYSAA on this matter.

g. Fiscal & Budget-Edwin Phillips, Chairman. (no report)

h. Grants -Vicky Jayne, Chairman. (no report)

i. Legislative-Paul Huey, Chairman. Gwen Gillette reporting. Mrs. Gillette gave a lengthy report from Paul Huey, concerning pending legislation before the state senate & assembly.

j. Nominating-Kingston Lerner, MD, Chairman. Dr. Lerner noted that 1980 was an election year. He stated that there had been no contest on the ballot for many years, and urged chapter secretaries to send him nominations for the election.

k. Public Archeology -Dolores Elliott, Chairman. (No written report received)

l. NYSAA/NYAC - Charles Gillette, Chairman. (No written report received)

m. NYSAA Editor-Louis A. Brennan. Lou reported on "Bulletin" #75.

6. OLD BUSINESS

a. George R. Hamell reported that the NYSAA library, stored at the Rochester Museum, got very little use. He felt that the library, consisting of 4-5000 volumes, would better serve the membership if it was moved to a location further to the east. President Dumont asked the membership to consider the matter. Mr. Hamell also mentioned the New York State Indian Committee, and felt that perhaps George H. P. Abrams might be approached to chair the committee.

b. Certification-President Dumont stated that there was little expressed interest in the certification program. She felt that it was time to do so, or drop the issue. Charles Gillette suggested investigating the Pennsylvania certification program.

c. Marion White Memorial Volume-still pending.

d. President Dumont read a motion from the 1978 Minutes, to be placed on the 1980 Ballot. "RESOLVED that the following be added to the end of Chapter 8, Section 2 of the By-Laws: The Executive Committee may decide to charge a special fee to all members to cover the cost of a special publication."

7. NEW BUSINESS

a. Louis A. Brennan moved to donate a set of currently-in-stock "Bulletins" to ESAF. Motion seconded by Herb Kraft. Discussion preceded vote. Motion carried.

b. 1980 ESAF Meeting-President Dumont explained what was involved in the sponsorships of the ESAF Meeting, to be held in the fall of 1980. To a large degree, it is the same as local arrangements for a NYSAA Annual Meeting. Louis Dumont moved that NYSAA host the ESAF meeting in 1980. Seconded by Herb Kraft. After further discussion the motion was voted on and carried. President Dumont then asked members to look at accommodations and prices and to report to her in one month.

c. President Dumont read a letter from DHP. She needed a representative to attend the DHP Meeting in Albany on May 8, 1979. Gwen Gillette volunteered.

d. Jim Bradley felt that many persons join NYSAA expecting to go and dig. They are disappointed by current attitudes on site preservation. Re-education is needed. George Hamell stated that the Rochester Museum program helped to alleviate the problem. Dolores Elliott felt that alternate activities could renew interest in chapter members. President Dumont reported on the Inc. Orange Co. Chapter's site survey project.

e. Sebonac Chapter-There was a discussion on the current status of the Sebonac Chapter. Secretary James P. Walsh reported that he had had a telephone conversation with Mary King of that chapter on the previous evening (April 19, 1979), and after some difficulty, they were getting organized.

f. President Dumont wondered if NYSAA needed an Ethics Committee at this time. After some discussion it was decided that the committee was not needed.

g. 1980 Annual Meeting-Tabled to the general meeting.

A motion to adjourn the meeting was made and carried at 11:06 P.M.

Minutes of the General Business Meeting

Saturday, April 21, 1979

1. President Dumont called the meeting to order at 9:05 A.M.

2. Welcome by George R. Hamell and Charles F. Hayes III.

3. Secretary James P. Walsh read the Minutes of the 62nd Annual Meeting. A motion to accept the minutes was made and carried.

4. A motion to waive the reports of the President, Vice President & Secretary was made and carried.

5. Treasurer Carolyn Weatherwax gave her report. A motion to accept the report was made and carried.

6. Gwenn Gillette reported on pending legislation; #6532 Assembly and #4616 Senate.

7. Louis A. Brennan reported on issue #75 of the "Bulletin" and proposed a title change of the "Bulletin" to "The Bulletin and Journal of the Archeology of New York State."

8. President Dumont reiterated Kingston Lerner's report of the Nominating Committee.

9. OLD BUSINESS

a. President Dumont read the motion to amend the By-Laws from the 62nd Annual Meeting Minutes. The motion will appear on the ballot for next year.

10. NEW BUSINESS

a. President Dumont noted with deep regret the passing of members Stuart Stiles and Richard Wingerson during the past year.

b. President Dumont reported that NYSAA will host the 1980 ESAF Meeting.

c. A report from Stefan Bielinski, State Education Dept., on "Research & Publications in New York State History" was read by Shelia Tucker.

d. RESOLUTIONS

RESOLVED that the NYSAA commend Charles F. Hayes III, Program Chairman for the 1979 Annual Meeting, for the superior program he has assembled for the meeting.

RESOLVED that George R. Hamell, Local Arrangements Chairman for the 1979 Annual Meeting, as well as the staff of the RMSC, be commended for the admirable job they have done in planning and executing the Annual Meeting.

e. 1980 Annual Meeting-The William M. Beauchamp Chapter will host the 1980 meeting in Syracuse, NY.

A motion to adjourn the meeting was made and passed at 9:35 A.M.

Respectfully Submitted,

James P. Walsh
Secretary, NYSAA