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Massachusetts Archaeological Society

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BULLETIN OF THE
MASSACHUSETTS ARCHAEOLOGICAL SOCIETY

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EDITORIAL NOTES

The BULLETIN OF THE MASSACHUSETTS ARCHAEOLOGICAL SOCIETY is avowedly an impermanent medium of publication, and was established with that intention. As previously announced, it is our policy to adhere to this principle. Considerable thought has, however, been given to the problem of just what purpose an impermanent publication can best serve under our particular circumstances. We have come to the conclusion that the most valuable service this BULLETIN can render is to give to the world a resume of work in progress in our state. It should secondly serve as a forum for open discussion of the problems of Massachusetts archaeology. It shall be devoted henceforth to these two purposes; and in furtherance of this aim, news of the Society's activities, and of the groups and chapters, and similar matter, will be confined to the NEWS LETTER where it more properly belongs.

In this issue we offer the first installment of what might be titled "The Progress of Archaeological Research in Massachusetts." Reporting first on field work that is being carried on, we print brief resumes of three of the more important excavations: Nantucket (M-52-3), Sudbury (M-23-26), and Blue Hill (M-35-1), written in each case by the director of the work. A report on the Norton site (M-39-64) was planned, but the director felt that since a general summary of the work there is contained in the foreword to No. 1 of the CONTRIBUTIONS, which accompanies this BULLETIN, to publish another report would only result in needless duplication. Further summaries of work in progress, both field and research, will appear in the next issue. Our aim is to present a complete picture of what every organization and institution in the state is doing in the field of archaeology. Thus will the BULLETIN best justify its existence.

Being also committed to being an open forum for that discussion so vitally necessary to the healthy growth and progress of archaeology, an equally large section is headed "Discussion and Correspondence"—which requires no further explanation.

It is a logical outgrowth of the above policies that any papers of a permanent nature should not appear in the BULLETIN, but separate from it and in a more appropriate format. To give form to this principle, the inauguration of a new series, CONTRIBUTIONS FROM THE MASSACHUSETTS ARCHAEOLOGICAL SOCIETY, was recently announced. Accompanying this issue is No. 1 of the new series: "Two Habitation Floors at the Faulkner Spring Site," by Maurice Robbins. It is very appropriate that the Society's president should have the honor of thus presenting our first contribution to science. The appearance of further numbers in this series will depend in large measure on the response of members in purchasing extra copies. The price is seventy-five cents. Orders, accompanied by remittance, should be sent to the Editor at 1654 Massachusetts Avenue, Cambridge.

Due to a regrettable typographical error, it was incorrectly stated in the November NEWS LETTER that Mr. Charles S. Sawyer, Director of the Worcester Art Museum, was one of the two trustees elected at the Society's annual meeting. The two new trustees are Dr. Henry F. Howe and Mr. William S. Fowler.
THE ANNUAL MEETING OF THE EASTERN STATES ARCHAEOLOGICAL FEDERATION

By FREDERICK JOHNSON
Delegate of the Society

On November eighth and ninth the Federation held a series of meetings at the New Jersey State Museum in Trenton. These meetings were all of them extremely interesting, pleasant and instructive. On the whole, the interest of those in attendance was exhilarating and the discussions of the papers were almost as instructive as the papers which were read.

The first afternoon was occupied with greetings from the Governor of New Jersey, reports of the various committees of the Federation and "Reports of Recent Activities and Future Plans of the Archaeological Societies of the Federation by the Vice-Presidents." The information offered by the committees of the Federation outlined its progress. These details will appear in the annual report. In summary, it may be said that the Federation is rapidly developing and consolidating the machinery of its organization so that presently it will be a body made up of widely separated units which, as it stimulates archaeological work in the east, will be of inestimable value. The possibilities and results of cooperation between the state societies was indicated in the reports of the Research, Editorial and Exhibit Committees. None of these committees could have functioned without the support of the state societies, and the fact that they have accomplished something is a tribute to the ability of the societies to band themselves together and act as a unit.

The reports of the state societies were extremely interesting. Each society described its activities, excavations, publications and some reported on meetings which had been held. It was obvious that archaeology was engaging the attention of a large number of people and that each state society was busy solving its own problems in any one of several ways. I reported for the Massachusetts Society on the rapid growth in membership, the formation of the numerous and active committees and upon the work of the various chapters. It may be said honestly that the work of the Massachusetts Society compared very favorably with that of the other societies. Upon the completion of the reports, those who wished were taken to the Abbot Farm excavations which are bringing to light a tremendous amount of extremely important data relative to the Indians of the Delaware Valley.

The day closed with the Annual Dinner which was held in the pleasant surroundings of the Trenton Country Club. Following an almost sumptuous meal we heard Dr. Heinz A. Weischhoff give an illustrated address on "Archaeological Problems in Southeast Africa." Dr. Weischhoff described his excavations at Zimbabwe, the famous group of strange buildings built by negroes in medieval times. We were shown how methodical excavation and logical reconstruction can dissipate the haze of mystery from a site and tell a comprehensible and interesting story. His pictures of the Bushmen rock paintings were equally stimulating.

On Saturday, the ninth, there were two sessions. In the morning we listened to papers discussing details of eastern archaeology. Unfortunately space permits but a sentence or two summarizing the interesting discussions. Mr. Hadlock showed excellent colored slides to illustrate the theory that the Red Paint material from Maine belongs in the Woodland Pattern. Mr. Praus described the first detailed excavation in the famous shell heap at Old Lyme, Connecticut. Dr. Rouse outlined a number of pottery types which are coming out of the analysis of Connecticut
ceramics. Dr. Mary Butler described the excavation of numerous sites in the lower Hudson Valley. These show an extension of the distribution of the Laurentian and also throw much light on the Coastal Aspects.

The afternoon was devoted to a series of equally interesting papers even though their subject matter covered wider fields. Mr. Coe discussed the distribution of the Siouan tribes of the East. Mrs. Heur, in talking of Navajo archaeology, illustrated how ethnological work among living peoples can go a long way toward solving many of the puzzles which confront archaeologists. Dr. Speck, in discussing the use of gourds, reopened the question of the relationship between them and aboriginal pottery. Dr. MacClintock described the distribution of the loess at Frenchtown, New Jersey and showed that should artifacts occur in this loess valuable data concerning its age and origin would be provided to both archaeologists and geologists. The final paper by Dr. Joffe was a discussion of climate and soil profiles which brought out important facts concerning the developments of soils, and suggested how such facts may aid in the interpretation of climate and other data relative to archaeological material.

If anything may be gained from such a lamentably brief summary of the meetings, it is the fact that no one of the hundred odd people who registered went away without learning something. In addition to this, the hospitality of the New Jersey State Museum was unbounded, so that everyone had a good time and an opportunity to talk with workers in other regions. In the room where the exhibitions were installed, people could discuss their finds and compare them with similar objects from other regions. The Massachusetts Society exhibitions were excellent, being two groups of artifacts, one supplied by Maurice Robbins of the Attleboro group and the other by Hallam L. Movius, Jr. of the Sudbury group.

At the risk of lengthening this report unduly I wish to comment upon the tacit instructions which were inherent in the discussion of the Federation at our annual meeting. If I am not mistaken, I was commissioned to find out as many details as possible concerning the Federation.

Since its organization some five or more years ago, the Federation has been going through the slow, painful and difficult process of organization. Since it is a Federation its existence depends upon the member societies, and so the completion of the Federation has had to wait for the formation of the state societies. When one remembers that five years ago there were but three or four such societies and that now there are twelve, it is easy to realize what the Federation has been doing and why it has not been heard from except in matters of organization.

As has been noted, the Federation depends for its existence upon the state societies. Each individual of a society is a member of the Federation and has a right, in fact should, aid in dictating its policies. To prevent the differences in numbers of members in each society from crippling the ballot box there should be five delegates from each society which have the right to vote. One of these delegates, the chairman of them, becomes a vice-president of the Federation and thus has a voice in the Executive Committee meeting. Having developed this machinery and finally got it to running smoothly, the Federation is now about ready to act as a body.

The fundamental purpose of the Federation is to stimulate archaeological work in the east, to aid in the cooperation between state societies, and other-
wise provide the medium for the mutual understanding of all problems. In devoting itself to the furthering of such cooperation the Federation constitutes a large, loosely organized body with no direct interest in any particular field. It can provide opinions from wide, even unrelated sources, on any question. Such questions may vary in scope from a local problem to one which embraces the whole of eastern North America. Thus through their mutual cooperation the state societies can enlarge the scope of their own work and interpret matters of purely local origin in terms of a much wider field. The value and significance of this whole thing lies in the absolute fact that the Federation exists because of its societies and that the membership of these societies does, in the end, determine the policies of the Federation.

In looking at the accomplishments of the Federation it may be asked what has been done. At the present moment the answer is principally the fact of organization. There exists now the machinery which is practically ready to really contribute tangible results. Such progress may seem slow and unproductive, but when one remembers the situation at the beginning it will be seen that the gathering together of the fifteen hundred people represented by the membership of twelve societies is a major accomplishment. This is especially true when the purpose of such organization lies in a desire to act as a group.

One tangible result of the Federation is the Annual Meeting; a number of them have been held successfully. If this year's meeting is an indication, you find that here is an organization which can gather together over one hundred accredited people and an unknown number of visitors to discuss their mutual problems. That the organization is recognized by the scientific world is obvious when one looks at the program. Men of wide reputation like Speck, Weischloff, MacGinitoek and Joffe do not give their time to such gatherings unless they feel that the group has a worthy purpose.

Specific contributions of the Federation itself are admittedly small and they may continue to be unless each society realizes that as a member of the Federation it has certain responsibilities. To date the Federation can point to the publication of the bibliography as a result of group endeavor. This publication is an extremely useful thing and the addenda to be published will enhance its value. The Research Committee has on its hands many difficult problems, one which cannot be settled at one sitting. The supplying of broad outlines which will define and elucidate the archaeological problems of the east will greatly aid the work of each and every individual.

In submitting this lengthy report I have the temerity to offer a purely personal opinion. It would seem to me that the Massachusetts Archaeological Society may profit greatly should it decide to enter into the spirit of the Federation. In appointing five delegates to the meetings it can contribute to the work of the Federation. It seems certain that the Society is bound to benefit thereby.
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Respectfully submitted,

EDWARD BROOKS
Secretary
A PRELIMINARY REPORT ON THE SECOND SEASON'S WORK
AT SITE M-52-3, NANTUCKET ISLAND.

By EDWARD BROOKS, Director

During the past season 86 square meters were excavated and over 400 stone, bone and pottery artifacts were recorded. In addition to these, several soil and charcoal samples were taken as well as shell and the bones of fish and animals. There was little change in the types of stone artifacts from those found in the 1939 season: namely, small-bladed triangularoids and lozenge-shaped points, where the tapering base formed the stem. No true stemmed points were found. In addition there were several knives of various sizes. The pottery, which did not appear in as large quantities as the stone material, was grit tempered and in poor condition.

Three scattered post holes were found that measured 6 cm. in diameter and 15 cm. in depth—the latter measurements taken from the top of the yellow subsoil.

Four pits were found. Three of these were in the western part of the excavation and outside the main shell deposit of the Site. Two were recorded as fire pits and contained ash and crumbs of charcoal. The other, a refuse pit, contained for the most part quahog shells (many of them having never been opened), scallop and oyster, the bones of fish and animals, and crumbs of pottery. On the rim of this pit was a broken celt, the only one found during the two season's work. Throughout this area were several holes, filled with black dirt and flecks of shell. Careful examination proved these to be true stumps of 6-8 cm. in diameter. Today no trees of this size exist in the locality—only low bayberry bushes and wild rose interlaced with the tendrils of blackberry vines. The other pit in the eastern part of the excavation was a fire pit, and extended into the subsoil to a depth of 80 cm.

With the exception of these pits, the subsoil, of sand clay and small pebbles, was excavated to an average depth of 40 cm., and found to be sterile beyond that depth.

No burials were found.

Perhaps the most interesting phase of the season's work was that done in the Contact Site. It is situated on the slope of a hill and directly to the south of the Indian Village Site, separated in part by a dried up pond, now grown rank with bushes. Prior to this season two small test pits in this Site revealed a white quartz point, glazed crockery, sherds of glass and a piece of worked bone. A test trench eight meters long and two meters wide was extended northerly along the rim of a small flat area that merged gently into the natural slope of the hill.

A hundred specimens were taken from this area of Indian and Colonial manufacture. Among the Indian material was a pecked hammer stone, an unfinished stone knife, two points, and several small pieces of worked stone. Of the Colonial material there were buttons, sherds of glazed crockery, pieces of lead, the handle of a scissor, a china bead, hand wrought nails of various sizes and many broken pipe stems and bowls of English clay. One of these stems was decorated, and a fragment of a pipe bowl carried the initials "W. N." There was a pit in this trench that held most of the specimens taken. Its diameter at the level of the subsoil was 80 cm. and its depth from the same level 60 cm. Unlike most of the refuse pits uncovered in the adjacent Indian village site that were for the most 
part lined with oyster shell, this pit was unlined but held at its base a thick layer of clam shells that rested on a heavy deposit of ash and the bones of fish, animals, and birds. Those bones have been identified as those of sturgeon; sheep, cow, and pig; black duck, comorant and Canada goose. Our records show no definite stratification of Indian or Colonial material, nor is there any evidence as yet of disturbance by the plow or other implements of the white man.

Eighteen meters north of this area, and along the fringe of bushes that bound the old pond bed, is a low ridge that extends westward from the base line for a length of 18 meters and an average width of two meters. In many places within this area the weather-beaten surfaces of stones can be seen, and others near by were located with an iron rod. It was decided to open the eastern end of this area to the extent of four square meters. A disordered array of rocks were found of various sizes. One of them held a highly polished surface and a shallow groove. An iron hasp with a ring of wide diameter was taken from this area, several hand wrought nails and a spike 30cm. in length. About a meter away were the remains of a wooden post standing upright in the ground, and nearby, at a higher level, a stone knife of Indian manufacture and a broken gun flint. After the removal of the stones, a shallow pit was found in which were small crumbs of charcoal and ash. Time did not permit further work on this area, so it is obvious that no conclusions could be reached as to the part this line of stones may have played in the general history of the site.

In conclusion we extend our sincere thanks to Dr. Glover S. Allen of the Museum of Comparative Zoology at Harvard University for the identification of the numerous bones taken from the site; and to Messrs. J. O. Brow and Frederick P. Orchard of the Peabody Museum at Cambridge for their helpful suggestions and advice in the carrying on of this work. It would be indeed a gesture of ungraciousness did we not record our appreciation to those members of the Excavators' Club of Cambridge and of the Massachusetts Archaeological Society who took an active part in the excavation, for their interest, cooperation, and sincere desire for the success of this project of your Society.
FIRST INTERIM REPORT ON THE EXCAVATIONS
AT SITE M-23-26.

By HALLAM L. MOVUIS, Jr.

During the summer and fall of 1940 the Middlesex Group of the Massachusetts Archaeological Society, of which H. C. Rice of Sudbury is Chairman and E. L. Smith of Concord is Secretary and Treasurer, conducted excavations under the general supervision of the writer on a prehistoric Indian site, known as "M-23-26." The site is located in the valley of the Sudbury River midway between Sudbury and Concord on the farm of William A. Davis. The members of the Middlesex Group wish to take this opportunity of expressing their gratitude to Mr. Davis for his generosity in allowing us to excavate on his land, and for his help and cooperation in many matters connected with the work. Before M-23-26 was selected for investigation by the Middlesex Group several other localities in the Sudbury Valley, as well as one at Harvard, Mass., were considered, but Mr. Davis' site seemed to be the only one which was in part, at least, undisturbed. The undisturbed area consists of a narrow strip, approximately 20m. wide and 150m. long, actually the uncleared portion of a large field. This strip is situated at the base of a low hill 120 feet above the river; only a small portion of it is level, which probably explains why it has never been cultivated. (There is fairly good evidence suggesting that the entire hillside, including the strip, was ploughed during Colonial times, but it seems very unlikely that crops were ever grown in this area.) The lower edge is clearly defined by a 3-foot bank and a dirt road separating the strip from the cultivated field. But the entire field is part of the site, and it has long been known to collectors because of the wealth of antiquities which come to light each time it is ploughed. Since no excavations had ever been attempted here, it was decided to put some test trenches in the area at the base of the hill to determine the stratigraphy and to investigate the culture layer from which the implements found in the field were being derived.

The hill, which rises behind the site to the north, appears to be a remnant of a once more extensive 100- to 120-foot terrace found elsewhere in the valley, probably of Post-Glacial age. Below this level there are two more platforms—one at 12 to 15 feet and the other at 6 to 8 feet above the river—both of which likewise seem to be terraces. The excavation is on the upper of these levels, but the site itself probably extends onto the 8-foot terrace as well. The possibility of finding archaeological material associated with peat deposits either in or on the 6- to 8-foot terrace may furnish the evidence necessary for tying the period of the occupation into the Post-Glacial climatic succession in this region. In the meantime samples taken at 10cm. intervals at two points in Trench A at the excavation are being analyzed by Dr. E. S. Deevey of Rice Institute, Houston, Texas, who visited the site during the summer, and the results of this study are eagerly awaited. A check to the palaeobotanical approach to the approximate date of the occupation is also being considered. Since the site is connected with former high levels of the river, a physiographic survey of the valley combined with an analysis of the sediments may provide an important clue regarding the time-span covered by the settlement at M-23-26 in the Post-Glacial succession in New England.

During the summer two parallel test trenches—A and B—both 2m. wide and 24m. long and running approximately north and south, were dug. Trench B, which was through the middle portion of the undisturbed strip, revealed a very shallow culture deposit overlying undisturbed Late-Glacial sand and silt. Trench A, on the eastern end of the strip, was dug through the center of a flat area. Here the
stratigraphy in the lower part of the trench was as follows:

<table>
<thead>
<tr>
<th>DEPOSITS</th>
<th>AVERAGE THICKNESS</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Humus</td>
<td>0 -- 30cm.</td>
</tr>
<tr>
<td>B. Mixed Layer</td>
<td>30 -- 55cm.</td>
</tr>
<tr>
<td>C. Dark Yellow Sand</td>
<td>55 -- 30cm.</td>
</tr>
<tr>
<td>D. Light Yellow Sand (Glacial)</td>
<td>300cm. (Base not reached)</td>
</tr>
</tbody>
</table>

Deposit A -- This is a typical slope-wash deposit, which at the base of the hill is composed mainly of loam containing sand lenses, silt and small pebbles. Up the hill Deposit A consists of coarser material, but its character is essentially the same. It is somewhat disturbed, probably as a result of ploughing during Colonial times. In addition to prehistoric objects, the humus yields clay pipe stems, china, glass, and fragments of coal as well as brick.

Deposit B -- In places this layer is up to 30cm. thick, but the average is 25cm. At the base of the humus (Deposit A) the nature of the sediments in the lower portion of the trench changes abruptly; they are lighter in color, coarser, more sandy, and do not contain silt and loam except where finer material has been washed in from Deposit A by ground-water. The so-called "mixed layer" is the CULTURE Layer---i.e., the deposit which accumulated during the time of the occupation---and several features connected with it will be briefly described below. It yields no Colonial objects, and in the 35-45cm. horizon there is a definite concentration of implements. The dark color of Deposit B seems in part to be due to the large amount of ash and charcoal that it contains.

Deposit C -- The dark yellow sand is a coarse Post-Glacial accumulation, although it contains very few pebbles. In it a number of artifacts were found. These include a drill, two arrow-heads, a fragment of a polished stone gouge, a fragment of graphite, several quartz flakes, and a hammerstone. Since some of these objects come from between 75 and 80cm. below the surface and are associated with small pits or pockets containing ash and charcoal, it would appear that the evidence clearly demonstrates that the site was occupied soon after the dark yellow sand began to accumulate on the 12- to 15-foot terrace of the Sudbury River.

Deposit D -- Archaeologically Deposit D is sterile, but it may yield pollen which will help to establish the maximum age of the site. It is composed of buff or light yellow sand containing pebbles and small water-worn stones, as well as silt. It seems evident that Deposit D was laid down during Late-Glacial times.

Since the only prehistoric implements in Deposit A are probably derived, (Derived objects are objects not in situ---i.e., they have been brought from elsewhere, either by natural or other forces, and incorporated in a deposit usually of later date,) this layer is useless for dating purposes, notwithstanding the fact that it contains objects that are interesting from a typological point of view. Several structural features observed in Deposit B, both in the lower portion of Trench A and in a 6m. square dug immediately east of Trench A as an extension, call, however, for special comment. In the first place a portion of the floor of what appears to have been a typical long house was found in the top of the mixed layer (Deposit B) at the base of the humus (Deposit A). This was
apparently oriented east and west, but since only a narrow strip of its northern edge has been preserved, it is impossible to be certain. The remainder, which once must have extended out into the adjoining field, was removed when the bank was cut and the road built along the upper edge of the field. But there is very little question that this is a house floor, composed of up to 12cm. of tightly packed, greasy, black earth, and this is further confirmed by the fact that associated with it several post-holes came to light. Undoubtedly these once held the supports for the walls of the house, and during the 1941 season this matter will be further investigated. Also in Deposit B three pits, one of them 12.50m. long and 1.35m. wide, were found that were obviously connected with the occupation layer. The function of two of them remains obscure, as they contained nothing but the light yellow sand of Deposit D, and a few isolated fragments of charcoal. At the base of the large one, mentioned above, there was a small patch of ashes, but otherwise it was archaeologically sterile. The third pit can be called a fire-pit. It was more or less regular in shape with a maximum diameter of 1.70m., and it contained a definite hearth made up of a thick deposit of ash and charcoal resting on a stone paving. In addition to the pits and the house floor, several isolated groups of clusters of small stones were discovered in the occupation layer. At present these cannot be explained. A few comparatively recent-looking bones were found in the humus (Deposit A), but the occupation layer (Deposit B) and the dark yellow sand (Deposit C) yielded only numerous tiny fragments, too small for identification. Most of these seem to have been heavily weathered.

Since the excavations at M-23-26 are still incomplete, it is only possible to make a few tentative statements regarding the evidence from the locality as a whole. At the present juncture it appears probable that the site was occupied over a considerable period of time. This observation is based on the following facts: (1) the dark yellow sand (Deposit C), which contains the earliest material, is undisturbed and it is not a wind-blown or reworked deposit; (2) the archaeological material from this lower horizon is in situ, and it has not been derived from higher up in the section; and (3) typologically there is no apparent fundamental change in the implements from the surface of Deposit B to the basal portion of Deposit C—the horizon of the earliest artifacts. Thus on the basis of our present data, one may conclude that we are dealing with only one occupation at M-23-26 which was continuous for a rather prolonged period. But so far there is no way of dating this occupation, nor of determining its duration. Although based on negative evidence, one fact seems fairly definitely established: the occupation is Pre-Colonial, as no Colonial objects were found below the base of Deposit A. It is hoped that either by palaeobotany or physiography, or both, it will be possible to secure a more accurate dating of the occupation of M-23-26, and that the time-span represented can some day be tied into a more general natural system of chronology here in New England.
EXCAVATIONS IN THE BLUE HILL RIVER WORKSHOP, M-35-1

By JOHN H. ROWE, Director

The Excavators' Club of Cambridge has been conducting excavations in a large occupation site on the Blue Hill River in the town of South Braintree since early last spring. As the work had to be done on weekend trips, and was suspended in the summer months, it has gone slowly, but enough has been accomplished to make available a fairly good picture of the site. The Club expects to continue these excavations as soon as the frost is out of the ground.

The site covers the whole of the property of the Blue Hill Nurseries, and adjacent portions of the Blue Hill Cemetery and the Metropolitan District Commission Reservation, an area of many acres along Route 128. Part of it has been destroyed by grading in the cemetery, and much more severely disturbed by plowing and tree planting. A large plowed field on the cemetery land has been a famous hunting ground for arrowhead collectors for many years, and ships, blanks, and broken points are still numerous on the surface. The Club has a surface collection of over two hundred specimens of worked stone, mostly from this field, and many collected by Mr. Edward Brooks, who secured the site for the Club. Similar concentrations of workshop refuse are scattered all over the Nursery, and the owner, Mr. Victor Heurlin, has a small collection including some pecked celt and a grooved axe. Both he and Mr. Robert Drollett, who owns the cemetery, have in the past given away large numbers of Indian artifacts.

The Club began its excavations in this cemetery field with a trench ten meters long by two meters wide, divided into two meter sections. It was impossible to carry this trench down to hardpan everywhere, as it had to be filled in in June when the Cemetery undertook some further grading, but it indicated that the occupation layer was relatively thin here, scarcely going below plow line in most sections. There were patches of an undisturbed orange sand containing heavy concentrations of chips at the bottom of some of the sections, and evidence for old plowing deeper than the present one and at right angles to it. Test pits all over the field and in the neighboring woods indicated that there was little undisturbed material beyond the edges of the field. Rows of corn hills can be traced in the woods, but may not possess any great antiquity.

The scene of operations was shifted to the other side of the site in the fall season, and a grid of twelve one-by-two meter sections laid out in an area of bullbriars and scrub on the Metropolitan District Commission Reservation, near the spot where Messrs. Edward Brooks and Roger Wilson had previously sunk a test pit. This area proved to be undisturbed, and produced a number of points, two celt, and a curious pecked stone ball about five centimeters in diameter. There was about 50cm. of orange sand containing chips and bits of charcoal beneath the surface humus, and below that were five different pits containing black and brown ash and white sand, extending into the glacial gravel below.

The great bulk of the collection consists of points and blanks chipped from grey felsite, though white and red stones and quartzite were also used. The points are mostly leaf shaped, with round or square butts, and vary considerably in size. A few tanged points have been found, some triangular, some long and narrow. Other shapes found were probably scrapers, but no thumb scrapers are included. The celt are large but not particularly well made. The stone ball is absolutely round, without irregularities except for the pecking, and made of a soft but heavy green stone. One plummet was found. The work has produced no post holes, house floors, or bone, and no implements or containers of steatite.
THE TAXONOMIC APPROACH REDEFINED

By DOUGLAS S. BYERS

Most of us have heard of that mystic and all-powerful thing known to many as "THE McKERN SYSTEM," but to McKern, himself, as the Midwestern Taxonomic Method. Some of us are fairly familiar with its workings, and Mr. Smith has gone so far as to attempt to apply it to material from the Sudbury River Valley, although in a somewhat modified way ("The Midwestern Taxonomic Method and its application to an Eastern Massachusetts Group." M. A. S. Bulletin Vol. II, No. 1). Mr. Robbins presented a slightly condensed version of the archaeological manifestations in New York State which have been segregated and described in terms of this scheme ("Archaeological Cultures of the Northeast." M. A. S. Bulletin, Vol. I, No. 2). From comments that have been made from time to time by various individuals, it is evident that the full meaning of the three words "THE McKERN SYSTEM" is not clearly understood by many members of the Massachusetts Archaeological Society, and that the system itself is either at present misunderstood or may be misunderstood because of interpretations made by others. It is, perhaps, not straining a point to say that the situation does not greatly differ from that in the days before printing presses, when books were reproduced only by the labored efforts of copyists; at the hands of a careless copyist the meaning of whole pages, and even chapters, might be changed because of the mis-copying of a single word.

At risk of being boring it might perhaps be well to reconsider this scheme and see just what it is and how it arose. The Midwestern Taxonomic Method had its inception in the minds of a number of persons in the Middle West who were disturbed by the chaotic condition of archaeological terminology. Archaeological material was often described in terms of linguistic divisions of mankind, as with us in New England, where it is still the common thing to speak of an "Iroquois pot," or an "Algonkian axe." In the Middle West the situation was made even worse by the fact that several linguistic groups, among them Algonkian, Iroquian, Siouan and Muskogean, were believed to have been in the general region in times past. It was clearly evident to all thinking anthropologists that it was not possible to define as "Algonkian" any archaeological material from a site other than one for which there was documentary evidence of occupation by Algonkian-speaking people. The branding of the various archaeological manifestations as the products of the several linguistic groups became extremely risky without such documentary data, and, as most of the sites were undocumented, it was clearly a case of the blind leading the blind. As another example, we know that our coastal New England region was occupied by Algonkian-speaking people at the time of the exploration and colonization of the area by Europeans, but we do not know that the Algonkian speakers were in this region 500 years ago. Parker, Skinner, Ritchie, and others have demonstrated to our satisfaction the fact that a new culture markedly similar to that of the historic Iroquois and probably the product of invading peoples speaking this tongue, came into New York in the fourteenth century; documentary evidence for the Plains and the Southwest showed equally conclusively the opposite situation; that peoples of differing languages can live in close proximity to one another, and subscribe to a culture often uniform, even in small details, over a very considerable geographical area.

In view of these conditions it became evident that there was a crying need for a system for describing in impersonal terms the several combinations of archaeological traits that combine to produce what we call a "culture." At the same
time it was recognized that there was nothing to prevent the establishment of identifications of groups of archaeological material, regarded as the handiwork of a village or tribe, with the proper ethnic groups. In other words, it was necessary to provide an approach that was the opposite of the direct historic approach. By the latter method, a student studies the material from documented sites and proceeds to compare it with that from unknown and undocumented sites before being able to say with some conviction that there is a connection between the two, and that the undocumented site was a village occupied by the ancestors of the inhabitants of the documented site. That this reversal of procedure, proceeding from the unknown to the known, has produced results is evident when we realize that the Oneota Aspect of the Upper Mississippi Pattern has been identified as Chiwore Sioux, and that other identifications have been made with a reasonable degree of certainty.

It seems only fair to ask how the Midwestern Taxonomic Method can accomplish these results, and what it is. Briefly, it is a tool, a tool given to archaeologists to enable them to describe the material secured from excavations in a way which would show the similarities between sites, and suggest possible degrees of relationship. As such it is purely descriptive, and, being descriptive, needs take no account of time or space. It is a question of describing what we have in our hand, not what it was derived from, or what it developed into. In this way the scheme does not differ radically from the classificatory systems of the zoologist and botanist, except that their systems use Latin names. When we speak of *elephas primigenius*, the mammoth, we may be permitted to do so without considering the relation of this species to the other elephants, yet a study of elephants would show other members of the genus *elephas* in their proper evolutionary place and would also consider the less closely related mastodons and their ancestors. The use of the genetic name *elephas* tells a student of zoology that the species *primigenius* is closely related to other species also of the genus *elephas*. It isn't very different to describe the Vine Valley Aspect of the Northeastern Phase of the Woodland Pattern, and say that there are such and such relationships between it and the Onwasco Aspect of the same phase and pattern. They may be evolutionary and temporal relationships, as indeed there seem to be, but the discussion of the evolutionary and temporal side of the question isn't necessary to an adequate description of the forms in hand.

The correspondence between the Midwestern Taxonomic Method and the system of the biologists, the Linnaean Classification, is not complete, for the former does not imply any blood relationship, while the latter does.

In brief, the archaeological scheme involves the orderly grouping of cultural manifestations according to degree of similarity. Its basis rests on excavated material (I quote McKern, W. C., "The Midwestern Taxonomic Method as an Aid to Culture Study." *American Antiquity*, Vol. IV, pp. 301-313.):

"Focus. Starting at the site, as any investigator must, materials and associated data are collected which have cultural significance. Expressed in terms of culture traits, these data provide a trait complex for the site. If the complex of traits so determined, or any important complex of trait units included is found to recur in characteristic purity and practical completeness at other sites, to an extent suggestive of cultural identity, this recurring complex establishes the first of our class types, the focus. A focus may be briefly defined as that class of culture exhibiting characteristic peculiarities in the finest analysis of cultural detail, and may in instances correspond closely to the local tribe in ethnology. It is dangerous, however, to define it as such."

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"The manifestation of any given focus at a specific site is termed a component of that focus. This is in no sense an additional type of culture manifestation, one of the five class types; rather, it is the focus as represented at a site, and serves to distinguish between a site, which may bear evidence of several cultural occupations, each foreign to the other, and a single specified manifestation at a site. In many instances several components, each at cultural variance with the other, may be found to occur at a single site."

Thus, "component" is another term for a site or for a distinct culture stratum at a site; components group together into foci according to manifest similarities. If the focus shows marked similarities with other foci, the similar ones may be grouped together into aspects. It is simply a question of taking larger similarities in each case. Finally the aspects combine into phases, and the phases into patterns.

As outlined by McKern in AMERICAN ANTIQUITY the system is specifically incomplete; so was Linnaeus' when it was devised. Linnaeus was entirely ignorant of much of our American fauna, yet that does not prevent the paleontologists from describing the remains of fossil bison often found in Folsom sites as bison taylori or bison haroldcookii. Further study has shown that our warblers are divided among several families, yet they are described in all their complexity according to the outlines of the scheme laid down by Linnaeus. Only by further study can we expand the Midwestern Taxonomic Method to cover unforeseen contingencies, only in this way can its worth or value be proved.

We have seen briefly what the scheme is; might it not be wise to see what it is not? Specifically it is not a scheme to permit the classification of dust-covered museum specimens. They are only of value as show pieces to be utilized in preparing exhibitions in place of damaged or imperfect specimens of known provenience and association, or with due caution as guides to what was to be found in the ground before the evidence was destroyed. Surface collections must always be secondary to excavated material, and cannot be used to make a classification out of thin air. The Midwestern Taxonomic Method is not such a scheme. Our unfortunate experience in New England has shown that a culture cannot be determined by associations that were "undoubtedly" or "in all probability" so. A proper analysis of cultural material rests on associations observed in the ground by excavation.

Finally, the scheme was not devised as a be-all and end-all. It is not an end in itself. Once material has been classified we have not completed our job. But once we have used a classificatory scheme as a method to describe our material in a common language, we can interpret that material and all that it implies with a greater hope for success. Neither was the scheme devised as a finished plan to provide the answer to all the problems of American Archaeology, but it was devised as a tool for use on those problems.

In every scheme there are weaknesses, some inherent in the scheme itself, but more often in the persons who use or misuse the scheme. A descriptive treatment cannot take chronology into account, nor can it be criticised for failure to take it into account. If means are provided for describing the several stages in a chronological scheme it remains for the worker to use them intelligently. A descriptive treatment such as this cannot, in its formative stages, take into account details that remain to be worked out later. Pottery is present in some of our sites and absent in others, yet the rest of the material culture of the
two classes of sites may be quite comparable. Some means of expressing the relationship between the two classes of sites must be worked out. At present they are set as far apart as the poles, since the Woodland Pattern, as it is now defined, includes the presence of pottery as a determinant, and the absence of pottery would set our non-ceramic sites outside the Pattern. This problem can be handled provided we proceed with intelligence. Finally, any taxonomic scheme leads to the development of what one of our colleagues has termed "the librarian complex"—the pigeon-holing of slightly different forms because they do not exactly fit the scheme. The human equation makes it almost impossible to produce by hand two artifacts that are absolutely identical. It rests with the worker to decide which of the observed minutiae are significant and which are insignificant. Common sense is still one of the soundest things in the world, even in this day and age.

In using the Midwestern Taxonomic Method there are several steps that are necessary. First of all, a site must be excavated and the trait complex must be observed. This is basic. Next we must describe and analyze our collection. Only after the collection has been carefully described and analyzed are we in a position to fit it into its proper place. We cannot classify the site before analysis, and sometimes its place is not evident even after analysis. As an example, the material secured on Martha's Vineyard in 1936 was completely described and analyzed before any attempt was made to fit it into its proper place. Because of inadequate comparative data it was decided that "possible connections with other groups of coastal peoples cannot as yet be determined." Until further material shall have been published it is too early to hazard any statements in this line." It was evident that we had something quite different from the Oswego and Vino Valley aspects of New York. The Coastal was not clearly defined. With one or two more sites we may be able to establish a Southern New England division, be it focus or aspect, but it would be wise not to jump at any conclusions. It may even become clear that we shall have to have a new phase in order to show the proper order of similarity between our material and that from New York. But assuming that enough material is at hand to warrant setting up a tentative focus, then we may proceed to assign a name to it, preferably not that of any tribal or linguistic group until we are sure of the identity of tribal and archaeological expressions. When chronology has been worked out we can say with greater certainty that a possible Bristol Focus represents the remains of the Wampanoags; it would be harder to back water and say that a mis-named Wampanoag focus was really ancestral Narragansett.

In cases in which archaeological sites have been destroyed by one of several activities of our modern life that do destroy them, it may be possible to apply this method to material collected from these sites over a term of years. Yet it should be remembered that any modification of procedure along these lines must be approached with caution. The limitations surrounding surface collections are legion, and it is only with these limitations in mind that we can proceed to a tentative classification of the material. Mr. Smith has made an interesting experiment along this line—whether the method will work remains to be seen. He has cautioned that his attempt is an experiment, and that he is certain that determinants may be altered after further study. The proof of the tool lies in its performance, yet no tool can be used by a person who doesn't know how to handle it.

The limitations of space make an exhaustive treatment of the subject impractical in these pages. Second-hand material is not so good as first hand,
so, one final admonition: go to the original source, read what McKern has to say in "The Midwestern Taxonomic Method as an Aid to Archaeological Culture Study," (AMERICAN ANTIQUITY, Vol. IV, pp. 301-313). This is essential to a clear understanding of the plan, but this, incidentally, cannot be gained by reading over the article while sitting up with a sick baby, or waiting for the coffee to boil in the morning. It requires study, and lots of it. Second-hand sources and hearsay evidence will never give an accurate idea of even the fundamentals of the plan. A careful examination of the article will show just what the taxonomic method was designed to be, and that if we take the original and uncorrupted plan we find that it permits the interpolation of chronology and of a spatial factor, but that this cannot be done properly until a groundwork has been laid by careful study and classification of excavated material. Time has shown that all the archaeological undertakings of recent years in the Middle West (and these included enormously complicated mound sites, by the way) can be described in terms of the Midwestern Taxonomic Method if a reasonable amount of common sense, cooperation, and study be applied to the problem.
SCRAPERS: A PROPOSED FUNCTIONAL CLASSIFICATION

By WILLIAM S. FOWLER

In the preparation and making of many implements and garments in all Indian Cultures, the stone scraper played a very important part. As yet it apparently has not been possible to assign each different type to a specific culture, for few if any have been found in graves from which we derive our chief clues for identification. However, at least one kind has been placed definitely with a particular culture, and eventually perhaps all types will be properly classified. Analyzing the subject purely from a New England aspect, the writer has certain ideas that may prove useful in a further discussion of the matter.

Generally speaking there appear to have been at least six different types of scrapers. Whether they were used by one culture only or by all three of Willoughby's cultures we do not know, but probably with a few exceptions the latter is the case. In an effort to learn more about the various types, we attempted to haft in what we think is the Indian way those which were intended for hafting, and in so doing have made several significant discoveries. These will be mentioned in turn as each classification is discussed.

1. Triangular Scraper - This type has been found in Massachusetts, mostly in the Connecticut Valley although specimens have been found in the Worcester area. It is made of quartzite or quartz and has a blade length of 2 to 3 inches. One of the three sides is curved slightly with a sharp chipped edge and this is the working blade. At the top where the other two sides come together a channel or key way is often chipped out. This, as will appear later on, was apparently done for a purpose, to be utilized when fitting the scraper into a handle. In assigning this type to any specific culture, it is well to note that when the soap stone quarry in the Worcester area, M-32-6, was excavated, ten or fifteen of these scrapers were recovered. These were discovered near the spot where a deposit of soap stone dust was found. This, together with the scraper cuts found on bowl fragments, gave conclusive proof that these scrapers were used at the quarry to scrape thin in a sawing motion the walls of the bowl. Now Willoughby, after opening many graves, says that the soap stone bowl was probably used by his Old Algonquin culture. If this be so, then the scraper about which we are talking was a bowl scraper belonging to the same culture. In looking over the quarry scrapers from M-32-6 we found three or four of them with a channel or key way pecked in their tops. This fact would lead to the conclusion that in some of these scrapers at least, the Indians of this old culture purposely pecked a key way. It seems reasonable to believe that this scraper was hafted, as the bowl scraping was strenuous work and would undoubtedly have raised blisters if no hand grip had been devised. That the tops were channelled for the purpose of improving the hand grip does not seem likely, for the edges are made necessarily sharp and would eventually cut the hand without protection. Furthermore, strips of leather wound around the top of the scraper would have been ineffective as a handle, for they would not have stayed in place, but would have quickly worked loose, especially on the smaller ones.

In a previous article (Vol. I, No. 4, of this Bulletin: "A Discovery - The Indian Keyway") we have described how a wooden handle could be attached to this type of scraper by means of a wooden key or plug driven through a hole in the handle down into the keyway or channel pecked in the top of the scraper. The illustration that follows will serve to show these points, which would indicate that the Old Algonquin Culture apparently knew and utilized the principle of the keyway.
2. **Snub-nose Scraper** (notched shank: both sides). It is quite likely that this scraper was used by all three of Willoughby's cultures as it was doubtless employed to prepare skins for tanning by scraping the fatty substances from the inside surface as is suggested by similar scrapers now in use in South Dakota (specimen in the writer's possession). It was generally made of flint, quartzite or quartz and was much the shape of a large arrow-point except that it had a sharp edged, blunt, wide rounded nose instead of a point. Its shank was notched on both sides so that it might be hafted in the end of a stick and bound on much the same as an arrow-point. The blade varied from \( \frac{3}{4} \) to 2 inches in length and the hafted handle made long enough, up to fifteen inches, to be grasped with both hands as the work required. Although this scraper has gone out of use with the American Indians today, they do continue to scrape their hides with similar ones with the blade made of steel. The writer has a specimen from South Dakota which has a blade made from an old file and hafted in a piece of elk's antler. Instead of being mounted in the end, parallel to the handle it is mounted at a right angle. This method also may have been used by the early cultures, depending upon the required thickness and shape of the notched stone shank of the scraper.

3. **Snub-nose Scraper** (notched shank: one side only). This kind of scraper resembles all others of the snub-nose variety, except that its shank is notched on one side only and its size is generally smaller. In the process of hafting this type, we discovered that the failure to notch the other side of the shank was apparently not a mistake but intentional. The reason seems to be to provide a shank that may be fitted into the end of the handle in such a way that the scraper will be tilted at a 60 degree angle to the handle. As the scraper was generally small, to have operated it with both hands would have been clumsy, and to facilitate its use with one hand only this method of angle hafting was used in all likelihood. The illustration attempts to point out more in detail the interesting features of this discovery and should suggest the need for this classification.

4. **Thumbnail Scraper.** This is a small snub-nose scraper about the size of your thumb nail. It has the same general outlines as its big brother, with a stem or notched two side shank. It was undoubtedly used for removing fatty particles from small skins and for the wrinkled surfaces of large ones. It was probably hafted in the end of a stick, piece of bone, or prong of a deer's antler and the handle was, no doubt held by the fingers and not in the palm of the hand. In the Norris Bull collection is a specimen found in a Connecticut shell heap in which the scraper is inserted in a crack made in the end of a bone. It was probably held in place by the use of hot pitch, the so-called "Indian cement."

5. **Fish Scrapers.** Here is a type of scraper which seems designed not only to remove scales from fish but also hair from hides. It is found in various shapes made out of almost any stone common to the locality. Its scraping edge is always rough, sometimes with irregular sharp points, and its contour is usually decidedly convex. The shape is at times circular, varying in size from \( \frac{3}{4} \) to as much as \( \frac{3}{4} \) inches in diameter. No doubt it was commonly held in the hand without a handle, although the smaller ones might have been hafted. We have one, made of trap rock that shows considerable weathering. It was dug up on a Connecticut River site never touched by the plow. Because of its location it may belong to one of the earlier cultures, particularly as its shape is different from the usual circular characteristics found in most of those scrapers. It is oblong, made from a thin slab of trap rock, with a slightly cupped scraping edge. It measures about three by five inches and on the top side in the center where the forefinger would naturally come, there is a pecked out groove to prevent the otherwise natural edge of the stone from blistering the finger.
6. Shaft and Handle Scrapers. These scrapers, apparently for wood working, are generally of two kinds; one that could have been used for roughing, and the other for finishing the wooden arrow shafts and handles used in hafting. As hafting was practiced by all three of Willoughby's cultures it is likely that each one used about the same procedure and utilized the same kind of stones, which were common to all. In the Connecticut Valley area we find the wood roughing scrapers made pretty generally from the hardest quality of quartzite. We have one that is oblong in shape, measuring about 2 by 4 inches and having a thickness of about \( \frac{3}{4} \) of an inch. The scraping edge is rough, but with sharp points and edges. In our opinion this type was used to wear down the inevitable knots in the early stages of shaping, as well as to wear away undesirable curves and bulges in the branch of sapling being used.

In contrast, the wood finishing scraper was almost always not worked at all, but was apparently a large flake with a sharp edge, picked at random off the ground in some work shop, and used until too dull to be of further service. In some cases, such as arrow shaft scraping, when the flake was thick enough to permit, the worn spot seems to have been chipped sharp again and the process repeated. In time this continuous wear would cause a small concave edge to form. This flake with an edged indentation is picked up today and thought by most to be a finished shaft scraper. Instead it is probably in most cases a worn out discarded one. In the Connecticut River area these flakes are almost always of quartzite or quartz, although flint makes a very effective scraper. Similarly, for working down larger handles for the heavier artifacts these same sharp edged flakes were undoubtedly used, as they do good work and, particularly in the case of quartz, give long wear.

Undoubtedly there were other styles of scrapers for doing special work such as working out the inside of the bowl of wooden spoons, which were in general use when the first whites arrived. This information we have from Champlain, the early Canadian explorer. He also says that the Massachusetts Indians were seen to scrape out the charred center of the log dugout they were making with small sharp stones. These, he said, resembled the flints from the English flint lock muskets. However, in general, the six types of scrapers referred to were probably those in most common use.
TYPE I
Triangular Scraper
Conn. Valley
Showing possible method of hafting

TYPE II
Snub-nose notched Shank
3/3 2 sides

Modern Type II
Used by Indians of
So. Dakota in preparing
Skins for Tanning

TYPE III
Thumb nail notched shank
2 sides
full size.

TYPE IV
Circular with points
probably hafted

TYPE II
Snub-nose notched shank 1 side only
Showing possible method of hafting

TYPE III
Cutting edge
Roughing Shaft Scraper

TYPE IV
Probably held in hand

TYPE I
3 cutting edges finishing flake shaft scraper
LETTERS TO THE EDITOR

The carelessness displayed in Bulletin of the Massachusetts Archaeological Society, Vol. 2, No. 1, leaves one with a decided lack of confidence.

Page 33 reads, "on the shore of Pontoosuc Lake in the Toppan Forest at Lenox." It so happens that Pontoosuc Lake is north of Pittsfield while Lenox is some miles south of Pittsfield.

Page 34 reads, "some 150 years or so ago the early pioneers had some kind of a kiln here, probably lime, although there is today no lime deposit showing anywhere in the vicinity." Holland's "History of Western Massachusetts," Vol. 1, p. 362 reads, "The following estimate of lime burned and sold in Berkshire county in 1853 has been furnished by J. L. Barrett of Lenox the products of whose quarry in 1853 for this article were $3,000. In Adams 5000 bushels, Hinsdale, 5000, Lenox 70000, Pittsfield 12000, Richmond 30000." And that was 87 years ago, not 150. And is one to understand that since then, whatever was not mined, has evaporated?

Page 3 - "Sturbridge to Ware, then westerly to Hadley. Up the Connecticut River to Sunderland, then northeasterly through South Athol to Gardner." The Hadley territory was sold to the English by a party of natives including Umpanchele. He also sold them the Hatfield territory, on the west side of the Connecticut and across the river from Hadley. If the Hadley Indians were Nipmucks, why not the Hatfield ones as well? In 1662, Awonumsa sold to the English the land at South Hadley. In 1653 she was one of those selling the Northampton lands. Again I ask, if the natives of the east side of the Connecticut were Nipmucks, why were not those on the west side also Nipmucks? The Athol-Gardner territory was sold to the English by the sons of Nepuscantamques and Woolunootaumesqua, who described themselves as "Indians of the Scuhtecok tribe." Most definitely Nepuscantamuses and Woolunoo- taumesqua are no part of the Nipmucks.

The relationship of these little "tribes" to one another can be determined solely by a comparison of their languages. Such a comparison shows conclusively that the Indians of the Connecticut Valley were an offshoot of the Mahicans of the Hudson.

It is to be doubted if the Nipmucks extended very much west or north of Brookfield.

It is to be hoped that for the sake of posterity these errors will not remain uncorrected.

Harry A. Wright

An Open Letter:

In the October issue of the Bulletin for 1940 I published an article entitled "The Midwestern Taxonomic Method and Its Application to an Eastern Massachusetts Group." As stated in the introduction, the purpose of the article was to serve as a tool for attacking local problems. The method was not my own, as its name implies, though I believe the application was original.
In order to simplify the use of this somewhat complicated method I attempted to apply it step by step to an eastern Massachusetts tribe--The Nipmuc. This tribe is believed to have inhabited a wide area, and I frankly admitted unfamiliarity with much of the recovered material.

The application was made as accurately as possible within the limits of available time and knowledge, but since publication several people have written to me expressing disapproval of certain features. Objections have been expressed to some of the determinants used, and to the lack of others. One or two have expressed complete disapproval of the method as a whole, and consider it valueless.

May I point out again, as I did in the article, that the outline presented was incomplete, possibly inaccurate when viewed from beyond the Concord area, and also entirely experimental. But, the point is this: The outline has only a local value at present, and the true value lies in a test of the method itself and in the possible results of its wider application. The very fact that several investigators are unable to agree to my determinants is a source of deep satisfaction to me. New foci are probably coming to light.

It is now apparent that there is considerable variation in the Nipmuc Manifestation over the large area in which it occurs; and, as Concord is on the extreme edge, it is to be expected that outside influences should have been present. Also it is possible that outside determinants which do not fit, are not Nipmuc at all. Therefore, if those who have taken exception to my outline will make applications of their own, comparisons can be made which should definitely settle such questions. If, for instance, components in the Brookfields should check with others, say in Milford and Holliston, together they would form a focus; but they might or might not check with the Concord focus. When the true aspect determinants have been set down, it should be possible to say whether the Concord focus does, or does not fit into the new aspect.

The problem will be clarified only when each district has completed its analysis and the results compared at the conference table.

Benjamin L. Smith