

GEOLOGICAL SURVEY OF NEW JERSEY

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BULLETIN 9

A Preliminary Report

OF THE

Archaeology Survey

OF THE

STATE OF NEW JERSEY

MADE BY THE

Department of Anthropology in the American Museum
of Natural History

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Under the Direction of the State Geological Survey

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PREFACE.

In April, 1912, the Legislature by an item in the supplemental appropriation bill, authorized the commencement of Archæological investigations under the direction of the Board of Managers of the Geological Survey. The appropriation made was very small but through coöperation with the Department of Anthropology, American Museum of Natural History, it was possible to expend this amount to great advantage. Nearly one thousand sites, camps, burial grounds and rock shelters were located and are noted in the following pages. Considering the small amount of money available, the progress made is very gratifying. This was due largely to the willingness of many persons to furnish the Survey full information regarding sites known to them. To Messrs. Schrabisch, C. C. Abbott, Edmund Shimp and R. W. Emerson in particular, the Survey is indebted for many facts, the result of years of study by each in the valley of Passaic River, the vicinity of Trenton and the vicinity of Bridgeton respectively.

In addition to the lists of sites given in the report, Mr. Skinner has kindly prepared a preliminary chapter dealing with the types of Indian remains found in New Jersey. Non-technical readers will find in this resumé much information on this subject, while to those more skilled in the science, it may contain considerable of interest. It is, of course, to be understood that in his treatment of any questions about which there may be a difference of opinion among archæologists, the author is expressing his individual views.

HENRY B. KÜMMEL,
State Geologist.

Letter of Transmittal.

AMERICAN MUSEUM OF NATURAL HISTORY
77TH STREET AND CENTRAL PARK WEST
DEPARTMENT OF ANTHROPOLOGY

NEW YORK, October 19th, 1912.

*Dr. Henry B. Kummel, State Geologist, Geological Survey of
New Jersey:*

SIR—We have the honor to submit herewith a preliminary report covering the first season's work upon the archæological survey of New Jersey which we have undertaken in coöperation with the Geological Survey under your direction. As a beginning and for the development of a definite plan for future investigation, a tentative list of sites was compiled, the locations of which have been plotted on maps supplied by your department. Unless otherwise stated in the text of the report, these sites were visited by members of the survey staff and their general character noted in respect to superficial surface indications. Owing to the hearty coöperation of local students and collectors, who gave freely of their time and accumulated data, we were able to formulate what we consider a satisfactory working classification of these sites. From the data at hand it appears that the surface sites so far reported are rare except on restricted areas in the northern, central, and southern parts of the State. Since this corresponds with the distribution of the Lenâpé Indians during the early settlement period, we may conclude that practically all such surface archæological remains belong to the historic Indian and his immediate ancestors. We have not thought it necessary to take up the question as to the probability of a pre-Indian population in the Trenton Valley and elsewhere, since such distinguished men as Dr. C. C. Abbott, Professor F. W. Putnam, and Ernest Volk have given years of patient investigation to that

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problem. Suffice it to say that our preliminary work brought to light no positive new traces of such a pre-Indian culture.

The members of our staff also examined such private archaeological collections as were placed at their disposal and checked over the types of specimens and their known distribution. The statements in the report covering this part of the work are, of course, quite tentative as many localities were entirely unrepresented. It is hoped that the publication of this preliminary report will encourage observers throughout the State to send in further information as to the location of sites and the distribution of specimen, types.

The field-work was chiefly under the immediate direction of Mr. Alanson Skinner, assisted by Mr. Leslie Spier and Mr. Max Schrabisch. The accompanying report was compiled and arranged by Mr. Skinner and the supplementary report by Mr. Schrabisch.

Respectfully yours,

CLARK WISSLER,

Curator.

CHAPTER I.

Types of Indian Remains Found in New Jersey.

By ALANSON SKINNER.

SCOPE OF REPORT.

The archæology of the State of New Jersey is particularly interesting in that certain regions, notably the Delaware Valley near Trenton, are, and for some time have been, battlegrounds for the exponents and opponents of the theory of the existence of man in North America during early times. The claim has been put forward by one group of students that three horizons of human occupation occur: first, and nearest the surface, in the dark earth discolored by decaying organic matter, are the indisputable remains of the historic Delaware Indians; second, in the yellow soil beneath, the remains of a man who used tools and weapons constructed of argillite alone, as opposed to the great variety of materials worked by the Indians; and last, in the river gravels, rough artifacts of a cruder race, paleolithic man.

It seems unnecessary to recount here the history of investigations in and about Trenton under the leadership of such men as Dr. C. C. Abbott, Professor E. W. Putnam, Ernest Volk, and others, since their chief concern has been with traces of the earliest man. The present survey has so far given its chief attention to surface sites, or those pertaining to the Indian period of occupation, to determine their distribution and also to seek evidences for or against their homogeneity, and has not attempted to enter into the vexed question of a glacial man.

CLASSES OF REMAINS.

The remains of the most recent aboriginal inhabitants of New Jersey, the Lenâpé or Delaware Indians, may easily be classified

in the following divisions: camp and village sites, shell heaps, cemeteries, rock shelters, quarries, caches, and trails. Of these, the most abundant are the camp and village sites.

Camp and Village Sites.—These are generally situated near fresh water, often on a sandy, well-drained bluff or knoll, on the north side of a stream or lake, where the southern exposure gives added warmth in the coldest weather. Such sites are distinguished by the presence of stones cracked by fire (the Indians often boiled their food by heating pebbles and dropping them into the water), flint chips and cores, the refuse of arrow making and potsherds and implements of various sorts.

In some cases the shells of oysters and other shellfish litter the ground, and sometimes a circle of burnt stones outlines an ancient fireplace, and marks the exact spot where a wigwam stood. These circles are not infrequently disturbed by the plough in cultivated land, but as a recompense the ploughshare often throws up deer bones, split to extract the marrow, and other traces of aboriginal occupation.

There are no certain criteria for telling a camp from a village site, except that the former are usually smaller, contain fewer relics, and the earth is less impregnated with the dark stain of charcoal and decayed garbage that marks many of the older, long-occupied settlements. Of course, on the shifting sand dunes, especially in the southern part of the State, the discoloration is less likely to appear. It is on village sites that the greatest number and variety of Indian remains are likely to be found.

Another feature of many sites is the presence of sunken fireplaces and refuse holes or pits, long since filled with the débris of camp life. These are bowl-shaped depressions, anywhere from two and a half to four or five feet deep, filled with black earth darkened by charcoal and decayed organic matter, and often containing oyster shells, the bones of fish and animals, implements, whole or broken, potsherds, and other abundant relics of their makers. It is in such pits particularly that bone implements, whole or fragmentary pottery vessels, clay pipes, and other utensils, are most likely to occur. Often, in the winter, when the ground was too hard for digging with their crude tools,

the Indians placed the bodies of their dead in these pits, and covered them with débris. At times, when in peril, perhaps, the Indians concealed their little valuables under the refuse, and never returned, so that to this day, unless discovered by some accident, these treasure stores remain to reward the archæologist.

Shell heaps.—Shell heaps frequently mark the garbage dump of some old Indian village. They often occur near the sites of former settlements, always near water, and sometimes by themselves, far out on the salt meadows. Those on the marshes present the shell mound in its most typical form, and mark the spot where the Indian procured and dried oysters and other bivalves to carry inland for consumption. Often these heaps are of great size, like the mound at Tuckerton, and frequently they contain nothing but shells from top to bottom. Relics are never so abundant in any shell heap as they are on a village site, and often a search of the fields nearby will prove more productive than digging in the mound.

The shell heaps on the mainland are often not heaps at all, in the true sense of the word, although they may have been several feet above the surface in Indian times. The washing of earth or the blowing of sand has covered them with many inches of concealing soil, and they may only be found through the chance burrowing of some animal which throws out the shells, or the passage of a ploughshare through their midst. These mainland heaps are most apt to be true kitchen middens, and in them may often be found many of the objects that occur on village sites, and, as in the firepits, objects that would otherwise decay are preserved by the protecting soil and shells. Beneath the shell heap are often found the skeletons of the Indians themselves, perhaps interred there for concealment from foes, or for some reason unknown to-day. Fire pits and refuse holes are also found under the shell layers.

The late Dr. Frank Hamilton Cushing of Washington discovered that an Indian village stood on piles over the meadow near the great heap at Tuckerton, and in the muck he found the ends of the posts that once supported the lodges. This condition, while rare, is not unique, for many years ago the remains of an

Indian pile village, on Naaman's Creek in Delaware, was discovered and explored for the Peabody Museum, Cambridge, Massachusetts.¹

Not all New Jersey shell heaps are composed of the waste part of the oyster industry. In Cape May County there are piles of clam and other shells that have been broken into many small fragments, probably in the process of manufacturing wampum beads. A typical shell heap can be distinguished from a natural shell bank by the facts that valves are very rarely found together, but scattered about, whereas they would be in contact in a natural deposit; many are broken, and the shells in the artificial shell heaps are nearly all of the same size, few small ones being found; and articles of Indian manufacture, implements, potsherds, fire-cracked stones and flint chips are hidden among the shells. In the case of very old heaps it often happens that crude implements are found toward the bottom, increasingly better ones higher up, and articles of European manufacture, obtained in trade with the whites, scattered on and near the surface. In some cases, shell heaps have been found that were used and abandoned several times. During the periods of non-occupation, sand drifted over the surface, so that excavation reveals several layers of occupation; such strata are to be expected in New Jersey shell mounds, though none have as yet been reported.

Cemeteries.—The typical Indian cemetery in New Jersey is practically impossible to locate except by accident, as there are rarely if ever any surface indications to point out the spot. The place of occurrence of such a cemetery is also uncertain. Often one may be found on a high sandy knoll opposite the village. Again the burial ground may be in an adjoining lowland field under a shell heap, or the bodies may be found in and among the hearths in the heart of the village itself.

The typical graveyard is, however, on a warm, sandy hillock near the village. The skeletons are usually found lying on one

¹Pile structure in Naaman's Creek, near Claymont, Delaware, Archæological and Ethnological papers of the Peabody Museum of American Archæology and Ethnology, Vol. 1, No. 4.

side, drawn up "in a sitting posture", the knees before the face. In the majority of cases no objects are found in the graves, and only the black soil near the bones betrays their presence. However, in some places, notably at Chestnut Neck near New Gretna, at Morgan's Station, at Tottenville, Staten Island (politically in New York, geographically in New Jersey and occupied by New Jersey Indians), many objects have been found in the graves. The most common of these were flat-based, highly polished monitor pipes of steatite, and stone pendants or gorgets, but it does not seem to have been a custom of the Lenni Lenâpé or Delaware Indians to bury pottery vessels with their dead, as did their fierce neighbors, the New York Iroquois. In addition to this variation from the usual Lenâpé custom of putting nothing in the grave, we find other curious features. Sometimes the bodies are laid at length in the grave, as we bury, but this is unusual. Often a mere mass of disarticulated bones, bundled together, with the skull on top, is found. This is doubtless due to the custom, sometimes described by the old writers, of bringing home the bones of those who died at a distance to inter them in their native land. The bare skeletons when exhumed often look abnormally large to the inexperienced amateur archæologist, and hence have given rise to weird tales of a gigantic race.

Artificial burial mounds do not exist in New Jersey. They are frequently reported, but investigation has invariably shown that the Indians have made use of a natural elevation for their interments. No earthworks or mounds of aboriginal manufacture are known in the State, popular tradition to the contrary notwithstanding.

Rock Shelters.—In the northern part of the State, in the mountains, the aborigines took advantage of the shelter offered by nature, and under overhanging cliffs, in caves, and even about the concave sides of huge detached boulders, where there is a southern exposure, or more important still, near fresh water, traces of their occupation may be found. In the cave dirt that litters the floors of these retreats, many objects of Indian make may be exhumed. Mr. Max Schrabisch, of Paterson, who has explored and excavated more of these than any other person,

has made the interesting discovery that the earliest occupants had crude tools and no pottery, a fact that has been corroborated by the rock shelter work of Mr. M. R. Harrington in Westchester County,¹ New York, and Mr. Elmer T. Gregor, in Pike County, Pennsylvania. This, to a certain extent, connects the earlier "cave dwellers" with the nonpottery-making argillite users of the Delaware Valley. Needless to say, the rock shelter is a feature of northern New Jersey, physiographical conditions precluding their presence in the southern part of the State. The rock shelters yield nearly all the forms of implements found on the village sites, and generally they are easier to find, since they are crowded into smaller compass. An interesting feature, common to many rock shelters, is the presence of a dump near at hand where the sweepings of the retreat have accumulated, and where the best relics of its occupants may be found. The importance of the rock shelter as a repository for records of aboriginal occupation, curiously enough, has been slighted, and it has remained for Mr. Schrabisch to make an exhaustive study of those occurring in this State.

Caches.—Here and there, but more particularly in the vicinity of Trenton, hoards, or as they are often called, caches, of implements are found. Flint, when newly quarried, still retains moisture known as "quarry water", and when damp is far easier to work than later, when it becomes dry and brittle. It is assumed that the Indian knew this, and after having blanked out a number of leaf-shaped forms that could be used as they were, and needed only a few finishing touches to specialize them as knives, spears, drills and what not, he buried them in the earth where they might retain their moisture and await his leisure. But not all caches consist of these leaf-shaped blades, for hoards of grooved axes, celts, copper implements, and other things have been found, and for these the explanation fails. Some may have been surplus stock of traders, others, perhaps, were hidden to prevent them from falling into the hands of the enemy,

¹ See M. R. Harrington. "The Rock Shelters of Armonk, New York" (Anthropological Papers of the American Museum of Natural History, Vol. 3, pp. 125-138).

still others were possibly sacrifices to the Powers Below. Who can tell, except the spirit of him who so carefully deposited them for us to find?

Quarries.—In some localities, where there are argillite or quartzite outcrops near the surface, native quarries have been found. Blocks of material lie detached, and with them the chips, cores, rejects, and failures of the process of arrow making. Stone mauls and hammers nearby also tell of the quarryman's industry, but usually there are no perfect examples of the tools at which he toiled, for he took them away as the fruits of his labor. Sometimes, too, he carried off the rough flint, and finished the work at his lodge, or even paused besides some spring at noonday, and there continued his task, for often, on a village site, or far away in the woods, one may find a little pile of chips that remain to show where some solitary workman shaped his points. Often, too, the traces show that he used a chance drift pebble of jasper or quartz for his material and not a chunk of flint wrenched from the quarry.

Trails.—In many different parts of the State, traces of Indian trails still remain. On Dr. C. C. Abbott's farm near Trenton, there still exists part of the old footpath from Chester, Pennsylvania, to Manhattan. It fords the Delaware at Bristol, crossing to Burlington, and passing up the river, crosses Crosswick Creek where the Bordentown trolley bridge stands, goes on to the Assanpink, follows its valley upwards towards its headwaters, parallels the waters of the Millstone along its bank, fords the Raritan, and circles about to Manhattan. Where preserved on the Abbott farm it is worn deep by the passage of countless soft-shod feet, and is green with moss. So fresh and well defined is it, that, standing under the shade of the primeval beeches, one expects at any moment to see a half-clad troop of Lenâpé, loaded with packs of furs, step noiselessly along its course. Again along the east shore, on the mainland behind the bays, there can still be seen in detached fragments, part of the old north and south path of the Indians. In some places, notably in the dense cedar swamps north of Toms River, log causeways are reported, that still serve to keep dry the feet of roving hunters.

These causeways seem surely to have been the work of the Delaware Indians. In other places one may yet see the remains of the stepping stones that the Indians piled in the river in order that they might cross dry shod. These are easily confused with the zigzag stone walls that here and there cross our rivers, marking the old fish weirs of the savages.

DISTRIBUTION OF THE INDIAN.

A persistent tradition among the descendants of the old settlers of New Jersey states that the Indians lived most of the year in the valley of the Delaware, and came to the coast only at certain seasons to hunt and fish. The results of our survey, while only preliminary, tend to confirm this. Along the shores of the great bays of east New Jersey from Navesink to Cape May there are few traces of permanent settlements. The shell heaps and camp sites that abound betoken frequent use of the same spot during the fishing season, but not continuous occupation. Village sites and burial grounds are few and far between, Tuckerton and Beesleys Point being notable exceptions. The great mass of villages and cemeteries, with their countless variety of relics, are along Delaware River and its tributaries. In the sandy interior of the southern part of the State there are comparatively few traces; it was a hunting preserve. In the northern part, there are more, and there seem to have been extensive settlements about New York and Raritan Bays, especially on Staten Island. The lands adjacent to Newark Bay and the valleys of the Passaic and Hackensack are also filled with Indian traces; the ledges of the mountains furnish rock and cave shelters, and there were extensive settlements on the upper Delaware.

In a way, the evidence goes to corroborate our historical knowledge. We are aware that the Lenâpé were divided into three parts; in the northern part of the State, the Munsee; in the central, the Unami; and in the southern, the Unalachtigo.¹

¹ A brief but highly instructive summary of the historical facts supporting the view that the Lenâpé found no other people in New Jersey when they migrated thither was made by Dr. Ales Hrdlicka in a discussion of Trenton Crania. (Bulletin, American Museum of Natural History, Vol. 16, pp. 32-41.)

Our survey so far shows clusters of sites, extensive and long occupied, near Bridgeton on Cohansey Creek, doubtless the headquarters of the Unalachtigo; at Trenton, and on Staten Island and vicinity, are the main Unami settlements; near Belvidere and Columbia the fields are rich with traces of the Munsee.

In the year 1836, Constantine Samuel Rafinesque published in Philadelphia a work entitled, "The American Nations, or, Outlines of a National History of the Ancient and Modern Nations of North and South America."¹ In this collection is included a translation of the "Walam Olum" or "Red Score" of the Delaware, the cosmogony and migration myth of the tribe. For many years the authenticity of the document was doubted, but Brinton and other scholars have proved its genuineness, the final and best translation being made by Dr. Brinton with the assistance of the Rev. Albert Anthony, an educated Lenape Indian.²

After a description of the creation of the world, the Walam Olum, relates that the Lenâpé were living in a cold land to the north, sometimes identified as Labrador. The climatic conditions were so severe that they were forced to leave, and journeying southwest they came to a stream which seems to have been the St. Lawrence, which they crossed on the ice. They tarried for a time in the middle west, and then journeyed east again, warring with the Talega, who seem to have been the Cherokee, who built mounds and fortifications. Having subdued the Cherokee and driven them away with the aid of an Iroquoian tribe, supposed to be the Huron or their kindred, they soon tired of their new territory and pushed eastward until they struck the sea coast. Here they settled, spreading out and splitting up into various divisions, a happy and prosperous people until the white man came. The rest of their story is one of misery and exile, and it can be found in any history of the region.

PREDECESSORS OF THE DELAWARE INDIANS.

The Lenni Lenâpé, although found here by the first white settlers, were not the oldest inhabitants of the region. Beneath the

¹See D. G. Brinton, "The Lenâpé and Their Legends," p. 151.

²Vide, *ibid.*, p. 156.

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immediate surface, darkened by the refuse from Indian habitations, chipped implements of argillite have been found in the undisturbed yellow soil under conditions that suggest considerable historical antiquity. No pottery or implements other than large rough argillite points, blades and the like occur, whereas the Lenâpé layer above is rife with pottery, implements of all kinds, and materials. In the valley of the Delaware this phenomenon has been amply observed and investigated by Dr. C. C. Abbott, Mr. Ernest Volk, and others.¹ Mr. Lockwood is said to have noted it at Keyport, in the shell heaps, and Messrs. Edmund Shimp and R. W. Emerson of Bridgeton have recorded the presence of at least one site on Cohansey Creek, where crude argillite tools alone occur. Mr. Schrabisch in his work on New Jersey rock shelters, Mr. Gregor in Pennsylvania, and Mr. Harrington in New York report the presence of a nonpottery-using people as shown by the bottom, hence the oldest, layers in the debris of the caves.

There has been much controversy about the question, but when the same conditions are found by independent observers in different localities, where these finds and reports are unanimous and consistent, one cannot but admit the truth. The rub comes on the relative age of the finds, and here we find the archæologist and the geologist are at odds. The former often claims great geological antiquity for his finds, the latter denies it. Assuming that each is thoroughly competent in his own science, the writer is forced to take the middle ground, and while convinced of the existence and authenticity of the argillite finds he is obliged to consider them as of great historical age only, and perhaps relatively recent from a geological standpoint. Possibly there was an argillite culture here before the Delaware or Lenâpé Indian that our ancestors knew, but to say that these people were of a different race, a race that could be called pre-Indian, is too much, though they may be called pre-Delaware with some certainty. The *Walam Olum*, also makes it appear that the Dela-

¹ See especially "The Archæology of the Delaware Valley," by Ernest Volk (Papers of the Peabody Museum of American Archæology and Ethnology, Harvard University, Vol. 5); also "Archæologia Nova Cæsarea," "Ten Years' Diggings in Lenâpé Land," and other works by C. C. Abbott.

ware came into New Jersey with a well-developed culture and clinches the case. The Lenâpé of course used argillite implements, often not to be distinguished from those of their predecessors, but they are found commingled with jasper, flint, and quartz, not isolated, and generally in a different cultural horizon.

As for the still older "paleoliths," that such exist in the Delaware Valley seems to be demonstrated by Volk, although some archæologists are not satisfied that the remains are of human origin.

UNSETTLED PROBLEMS.

Lenni Lenape.—We have seen that the problems which present themselves to the student of the archæology of New Jersey are threefold, according to the phases of the work in hand, but there are other minor problems within these that cry for an answer before we can properly take up the greater ones. In the case of the historic Lenâpé Indian we should like to know where he came from, at what place or places, he first entered our borders, how and in what manner he developed and advanced in culture, after arriving, if indeed he did, and lastly, his relations with the peoples west, north, and south. The study of historical and documentary evidence, such as the Walam Olum, bearing on the Lenni Lenâpé, and the investigation of the ethnology and folklore of the tribe as represented by the surviving remnants in Canada and Oklahoma, will help on the first problem, aided by archæological work along the lines indicated by the results of this survey, to see whether the migration can be traced to its source.

It is not improbable that the Lenâpé, as scattered bands, may have struck the boundaries of "the country by the Great Water where Daylight Appears" in several places. On the other hand, according to the evidence so far brought out by our survey, it seems possible that some of the oldest and most extensive settlements of the Lenâpé were on Cohansey Creek near Bridgeton, and therefore that locality may have been one of the first abiding places of the Lenâpé in this State, and the one from which they spread. It is not good to jump at conclusions, however, and we must await further evidence before definitely stating this to be

the case, since there are several other localities which deserve attention, especially some of those in the neighborhood of Paterson investigated by Mr. Schrabisch, which seem to mark very old sites.

In the Paterson region the sites, exclusive of the rock shelters are unusually rich in all the commoner implements, but are poor in pottery, and lack almost wholly the finer articles, especially ornaments of polished stone. This may show, when Mr. Schrabisch's work is completed, and correlated with the results of other workers, that the earliest Lenâpé, or their predecessors, were not so far advanced as the inhabitants of Trenton and the vicinity of Staten Island, where the finest examples of stone work and pottery have been found.

For a definite knowledge of the cultural position of the Lenni Lenâpé as shown by their archæology in comparison with that of their neighbors, we need more detailed information from South Jersey, and from the Delaware Water Gap region. So far as can now be judged, the Lenâpé at their best had reached a higher point culturally than the New England tribes, the New York Coastal Algonkin, or the tribes to the south at least as far as the Powhatan region. They had developed a beautiful and characteristic pottery, excelled in work in stone, and had evolved several types of stone articles that are unique.

The pre-Lenapian argillite users.—The matter of the argillite using pre-Lenâpians of the Trenton region is very interesting. We have seen that argillite finds are reported at least from Bridgeton and Keyport, and it is of importance to know where else their remains are or are not found. It is highly probable that the culture of these people connects itself with that of the nonpottery-making aborigines whose remains occur in the lowest layers of the New York, New Jersey, and Pennsylvania rock shelters. It behooves us to see what can be found in the bottom strata of the great shell heaps along the coast. It is the belief of the writer that the argillite culture represents an eastern migration of Algonkin peoples older than the advent of the Lenâpé, although it would not be altogether surprising if they proved to be the earliest wave of the Lenâpé themselves. So much has been written and said about the so-called paleolithic

remains that their problems need not be discussed here. Further data from other sources than Trenton are much to be desired.

TYPES OF SPECIMENS.

The objects remaining to us of Lenâpé industry may be arbitrarily classed by their material into articles of stone, clay, copper, bone and shell. Since the first of these are the most abundant, the Indian may be regarded as living in the "stone age," at the advent of the white man. This does not mean, however, that he used only implements of stone.

As a matter of fact, wood, clay, bone, antler, fabrics and a dozen other things were used by the savage simultaneously with stone, the latter indeed, only furnished him with such tools for which we employ metal to-day. Our New Jersey Indians, who had reached an advanced stage in the knowledge of the processes of working stone, had many other things besides their implements of this material. Wooden bowls, carved from knots, wooden mortars, pestles, spoons, canoes, masks, bows, and a dozen other things were in everyday use. Bags, garments and nets woven of string made of native hemp or the inner bark of trees; bags, clothes, and utensils of skin; awls, arrow points, knives, cups and scrapers of bone and antler, mats, and basketry of reeds, flags, bark, grass and corn husks, and so on, a thousand and one things, not now preserved in New Jersey, for the most part, but described in the writings of the early travelers were in daily use. A few very old pieces, said to have come from this locality, are still in the hands of the exiled Delaware in Canada and Oklahoma. We cannot truly say that the Indian was living in an age of stone alone, any more than we can call him inartistic because his beautiful aboriginal art products, such as the woven turkey-feather robes and dainty porcupine-quill embroidery have vanished. Thus it is, that in the shell pits and heaps, graves, and old wigwam sites of our Indians we find a number of implements of bone, turtle shell, and antler, the existence of which might never be suspected if we confined our search to the surface.

In the presence of Dr. Abbott's well-known works on the "Stone Age in New Jersey," "Primitive Industry," "Archæologia Nova Cæsarea," and "Ten Years' Diggings in Lenâpé Land," it is useless for the writer to describe and classify each type in detail. It is sufficient for present purposes to discuss only the typical objects of each class.

Articles of Stone.

Stone articles may be subdivided as follows:

- a. Implements of rough or pecked stone.
- b. Implements of polished stone.
- c. Implements of chipped stone.

We further find that the first order may be divided into two parts:

1. Articles of natural stone, shaped by usage and only slightly worked.
2. Objects deliberately fashioned by the exertion of labor and skill.

Rough Stone Implements.—In the first class, we have in order of abundance: first, hammer stones, plain pebbles for various homely uses, generally, but not always, battered upon the ends and sides, and often with a pit pecked in each side to facilitate the grip with the thumb and forefinger, especially when the tool has become greasy, a not unknown occurrence in the case of Indian property. Around Plainfield a number of hammer pebbles with two pits on each side have been collected. Sometimes pebbles were grooved about the lateral axes to serve as mauls or hammers.

Besides these hammer stones there are larger pitted stones, often with a deep abraded hollow on one side only, as though the pebble had been used as an anvil or a lapstone. Then there are stones which have been incidentally shaped while used for grinding and polishing, a process which often wears away the original rind, and thus determines the nature of the tool for the archeologist. Net sinkers are field pebbles, notched on two or more sides to receive a cord, or, more rarely, grooved about the long or short axes for the same purpose. A form found, to

my knowledge, only in New Jersey and Delaware, is a flat pebble with a hole near the edge carefully pecked in from both sides. These perforated stones were probably weights or sinkers. For the milling of their corn, mortars made of boulders were used. These are cupped on the upper surface to receive the grain when the rock is heavy and bulky, but when a slab or a small stone was used, there are often hollows on both upper and under surfaces, and examples are known in which these hollows have been worn through, and the stone rendered useless because of the resulting perforation. This is also true of some of the smaller anvil stones which are double-faced. The long cylindrical pestle, made by carefully pecking at and dressing down a suitably shaped pebble, and therefore falling into our second subdivision, while not uncommon, was not, as many think, used in connection with the shallow stone mortar. It functioned with a wooden mill made from a section of a tree, with a receiving cup for the corn burned and scraped in one end. A round pebble, a grinding stone or muller, was used with the stone mortar. Such specimens have up to very recently, been collected among the New York Iroquois, and there is ample historic evidence concerning the connection of the long stone pestle and wooden mortar. The writer and others have obtained such utensils from living Indians. The round grinding stones or mullers used with the stone mortar show their purpose by the fact that the surface is rubbed away where the tool came in contact with the metate or slab.

Arrow-shaft smoothers are blocks of gritty stone with deep grooves wide enough to receive the arrow and through which the wooden shaft was rubbed to shape it. Related to these are the smooth pebbles with grooves worn in the edges through which thongs or sinews have been run back and forth to dress them. These are sometimes perforated at one end for suspension.

Crude chipped blades are found that may have been used as lances or spades. They are lanceolate in shape as a rule and often the edge is polished as if by contact with the soil. They are crude indeed in comparison with the chipped flint hoes of the Middle West.

Besides these articles of rough stone, we have those that have been pecked carefully into shape by a stone hammer, and often polished highly by way of finishing. These include grooved axes, wedge-shaped implements with a groove entirely encircling the broad base, or with one side flat. Some have two grooves, but none with double blades have been reported. These axes vary in size and weight from toys an inch or so long to clumsy tools weighing fourteen pounds. Some are very highly polished, others only show the pecking. These were probably hafted by splitting one end of a stick, setting in the blade, making the handle fast in the groove, and lashing the split together above and below the stone. When the blade of such an axe was broken it was often used as a maul.

Celts are stone hatchets without the groove, are usually smaller in size, and have a tapering butt. A number of usages are assigned to these implements, but several have been recovered with the original handle still preserved, showing that they were most commonly used as axes. In the American Museum of Natural History of New York, there is one which was dredged from the muck at the bottom of a pond in Thorndale, Dutchess County, New York. Partial charring aided the mud in preserving the wood. The handle was club-shaped, tapering to the grip, and the blade was set in a hole which was pierced through one end, the butt protruding above the top. Smaller chisel-like celts were set in the handle, not through it. Stone gouges, shaped very like our metal tools, and adzes like the grooved ax, with one side flat, are reported.

Pestles were long stone cylinders carefully pecked from river pebbles, and used as described above with hollow wooden mortars. Stone mortars are often found in the shape of boulders cupped on one or both sides.

Polished stone.—The more beautifully finished and polished stone utensils of the Delaware were not many in number. Pendants, flat and perforated at one end for suspension, double-holed pendants, or oblong “gorgets,” with a hole near each end, have been collected in New Jersey in considerable numbers. Surviving Lenâpé claim that they were used as hair ornaments.

A very splendid class of relics, for which we have not data as to use, are the banner stones, beautiful butterfly and pick-ax shaped objects, polished and perforated, and grooved or notched in the middle. They have usually been considered as ceremonials and it is impossible to say anything more definite of them.

Around Imlaystown and Cream Ridge several small polished stone objects, resembling "husking pegs" and so called by local collectors, have been found; they seem not to occur elsewhere.

Stone pipes are uncommon indeed. They are usually of the flat-based monitor type, but a few catlinite pipes are reported. These, of course, have been imported from the west. Stone tubes, perhaps used as pipes, possibly used by medicine men to suck disease from sick persons, as bone tubes are used to-day by Indians in the west, are rare, but occasionally found.

The remarkable stone heads, characteristic of the region, are commented on more fully elsewhere. This is but a brief list of the more common archaeological forms in stone.

Chipped Stone.—Everyone is familiar with the countless thousands of arrow points, knives, "spears," drills, scrapers, and other chipped stone implements found scattered all over the State.

These were made by several processes, the most common one in the east being as follows: The flint, jasper, quartz, or argillite was quarried from the bed rock, or drift pebbles were broken up into rough blocks with a stone maul. The blocks were further dressed roughly into shape by means of a stone hammer, probably just an ordinary pitted pebble, and the finishing touches were made by flaking with a piece of bone or antler. The last tool was of about the size and shape of a lead pencil, and was manipulated by placing one end against the edge of the flint and pressing firmly. The pressure caused long delicate flakes or chips to fly off, and so the work was done.

Pottery.

The typical pottery vessel of the Delaware Indians was shaped "like an egg with the top cut off". That is, it was somewhat conical in shape, and possessed a pointed bottom. In the north-

ern part of their range, where they came into contact with the Iroquois, the Lenâpé adopted or adapted several of their pottery forms. The typical Iroquois vessel had a round bottom, a constricted neck, and a heavy, often square-cornered collar or rim, which was commonly ornamented by incised lines, and the angle between the neck and collar was frequently notched. Several intermediate types occur.¹

In making their pottery the Lenâpé sought good, stiff, tenacious clay which they dug and pounded, mixing with it burned shells or pebbles to temper the material and cause it to hold together more firmly. When the clay was properly prepared it was made into long rolls by the potter, and these rolls were coiled upward, the one upon the other, from a small point which formed the bottom. When the vessel was shaped, it was smoothed over, while the clay was still damp, by means of a slick pebble, and the ornamentation was cut, scratched, or stamped near the rim. Often a paddle wrapped in cloth was patted over the soft sides, leaving the impressions which we call fabric marks. When the vessel was finished it was fired, and was a durable and light receptacle for liquids.

If, by some misfortune, such a vessel was dropped and cracked it was often mended by making a series of perforations along both sides of the crack and lashing or lacing it tightly together by means of a thong or string. It was then still useful for storing corn or dry stuffs of any sort, though too leaky for water.

Fragments of pottery showing the shell and pebble tempering, or broken in such a manner that the edges of the coils that formed the foundation are visible, are often found, and other pieces, still bearing witness to the manner in which the pot was laced together after cracking, the proof being found in the perforations themselves, are frequently picked up.

In size, the pottery vessels of the Lenâpé ranged from large vessels holding four or five gallons to those that are only capable

¹See Skinner, "Archæology of the New York Coastal Algonkin," pp. 222-227. (Anthropological Papers of the American Museum of Natural History, Vol. 3.)

of containing a pint or so. A few vessels are found showing that a sizing or wash of fine clay was spread over the pot to enhance its appearance. More rarely traces of red ochre show that the entire kettle was daubed with paint. Designs painted on the vessel seem never to have been employed, and nearly all the figures in the stamped or incised work are geometric and angular. Curvilinear figures are very rare, and life forms almost unknown. An exception is part of a large vessel of old Algonkian design, with a pointed bottom, found by the writer in a shell pit on a village site at Bowman's Brook, Mariner's Harbor, Staten Island, New York; on the sherds that represented fragments of the rim were several crude human faces modeled in relief. Other crude outlines of the human face have been found on potsherds from Manhattan Island. In each of these cases the specimens were on pottery of the Iroquoian type, although those found by the writer, while on an old Lenâpian vessel were associated with Iroquoian potsherds. Representations of the human face and even the whole body are not infrequent on Iroquois vessels and pipes.

Clay pipes were extensively used by the Lenâpé. They were never so elaborate nor decorated with life forms as were those of the Iroquois, but were smaller and ornamented with very delicate distinctive designs quite similar to those on the kettles. Some were straight tubes, often scarcely expanding to form the bowl. Others had a small bowl turned up at right angles, to the stem, and others again were trumpet-shaped. A few of the latter had a swollen bowl with a flaring rim, resembling a flower to a certain extent. Eccentrically shaped pipes, with thin, flat, broad stems, and large, cylindrical swollen bowls, are found. In these the bowl usually juts off from the stem at an angle of 45 degrees. In nearly all cases the bowl is the only part of the pipe that is ornamented. A few pipes have a swollen mouth-piece, evidently to facilitate grasping it between the teeth.

Very few objects of clay other than the pipes and vessels above described are found in New Jersey. A notable exception is a splendid pottery head, collected by Dr. Abbott from the vicinity of Burlington on Rancocas Creek. This most excellent example

of Lenâpé art is figured and described at length in his "Ten Years' Diggings in Lenâpé Land", p. 29. Dr. Abbott quotes a friend who is inclined to think it modeled by an Indian artist who drew his idea from a meeting with an oriental or an Eskimo. I cannot agree with him, and believe that the Asiatic appearance of the face is more fancied than real, and is due to the limitations of the maker's skill and material.

Bone Implements.

Articles made of bone and antler are much more common in New Jersey than is generally supposed, owing to the fact that the average local collector draws most of his material from surface finds in ploughed fields, and seldom resorts to excavation. Of course, only the most imperishable objects of the Indians' hoard, the stone and clay utensils and weapons, are preserved under such conditions, and for the bone and antler specimens it is necessary to seek in the preserving soil.

Awls are usually made of slivers of bone merely ground to a sharp point at one end. Often, however, they are large and elegantly finished, and, when found under favorable circumstances, show a high polish acquired by use. They were doubtless used to sew buckskin, just as our shoemakers use metallic awls to-day, but, as they are frequently found along with oyster shells, split and charred bones, and all the débris of a feast, it may be that they sometimes saw service as forks for pulling scalding morsels from the kettle. One awl was collected from a shell pit in a field near Fairton, Cumberland County, which was notched at the base, perhaps for suspension.

Bone needles are sometimes found. These were usually manufactured from the thin, flat, curving ribs of some animal, dully pointed, at one end, only, and with a perforation or "eye" in the middle. The Algonkin Indians living in the middle west still use a very similar needle for sewing bullrushes together to make the mats with which they cover their wigwams.

Besides these needles, scrapers, made from the leg bones of deer, split lengthwise and used like a primitive draw shave to

remove the hair from deer skins during the tanning process, are not uncommon. We have not yet heard of any bone fishhooks from New Jersey.

Arrow points were made from bits of bone fashioned into long, triangular shape, or from the pointed, sharp-edged fish plates of bone. No doubt the Delaware also used the tip of the tail of the horseshoe or "king" crab, and the claws of birds and animals for arrow-heads, but none have been reported. Cups made of shell of the box tortoise are found, but, although we have records of hoes with bone blades, no doubt the scapulae of large mammals, none have been reported within our area. In a grave at Tottenville, on Staten Island, New York, an implement of bone resembling a hoe or scraper, has been found. We know of but one of the hollow, cylindrical, tubular bone beads so abundant in western New York, and harpoons of bone have not been reported.

In antler we have a pin with a round head from Staten Island; cylinders, probably used in flaking out arrow points by pressure (see p. 25), and tines hollowed and sharpened for use as conical arrow points. This seems to be all that we have in the way of bone and antler utensils, a meager showing as compared with the finds in western New York.

Articles of Shell.

Shell articles are very rare in New Jersey. We might expect to find wampum beads, since they were extensively manufactured by our Indians, yet few, if any, have ever come to light. This is true of all New England and the Middle Atlantic Coastal region. No doubt all the wampum (cylindrical beads of blue or white shell, a quarter of an inch in length and about an eighth of an inch thick) was traded inland. Some shell beads of recent type, representing animals, fish, etc., have been found in an historic Indian cemetery at Trenton.

Metallic Articles.

Metal implements are exceedingly scarce throughout the State. Four native copper articles, two of which are now in the Pea-

body Museum at Cambridge, are reported by Dr. Abbott from Trenton. These are three spears or knives and a celt. They were perhaps made from copper mined within our boundaries, or, possibly from one of the drift boulders of this material that sometimes occur.

All the old deeds signed by Indians contain a multitude of references to metallic articles received in exchange for their land. We know that tomahawks, hoes, axes, adzes, awls, fish-hooks, guns, knives, beads, wampum, and a thousand other things were given the Indians by the whites, yet how rarely do we find an iron trade ax, a brass arrow point, or a glass bead. On Burlington Island, it is true, Dr. Abbott excavated the site of an old trading post, and there found many things of this nature, but on the sites of the Indian villages these things are rare indeed. I cannot explain it. All trade articles used by the Iroquois are found in great profusion on all the sites of their historic towns in western New York.

LENAPE IMPLEMENTS COMPARED TO OTHER TYPES.

The material culture of the Lenâpé Indians, as shown by their archæology, presents a number of strong contrasts with that of their neighbors, and possesses an individuality which in many instances sets it off as distinctive. Although the Lenâpé may have been, when they first entered the country, "skilled in many crafts, yet not preminent in any," as Dr. Abbott says, it is certain that their remains, as we know them, show that they were indeed past masters in the art of shaping stone by every primitive process. The abundance, variety, and workmanship of Lenâpian stone implements by far exceeds that of the Iroquois.

The grooved stone ax in many varieties, the long stone pestle the delicately fashioned and handsomely polished monitor pipe, the banner stone, the double-holed gorget, and the remarkably made stone heads of the Delaware country were rare or unknown

to the Iroquois,¹ as were the innumerable forms, often highly artistic, of chipped-stone weapons and tools.

The stone pipes of the Iroquois, at their best, probably surpass most articles of Lenâpé manufacture, but, taken all in all, the Delaware as much exceed the Iroquois in stone work as they fall behind them in the potter's art. The clay vessels of the Lenâpé were good. In form they resemble, as a rule, the typical, nearly conical vessels of the Coastal Algonkin. In decoration they are distinctive, for the Lenâpé employed many not inartistic incised combinations, particularly of the "chevron" and "herring bone types", which we have not seen duplicated outside their territory, and which may have been influenced by the art of their neighbors further to the south. On the other hand, the remarkably graceful outlines of the Iroquois vessels are wanting. So far as shape is concerned, the typical Lenâpé jars are monotonous, except in specimens from later sites, situated in the northern part of the area, where Iroquois influence had crept in, and where Iroquois styles had been adopted in whole or part. In like manner the simple trumpet, angular, and tubular clay pipes of the Lenâpé cannot be compared in abundance, number of forms, or finish, to those of the Iroquois, but their decoration consists of delicate incised tracery found in no other region.

In bone, antler, and shell, the story is the same. Just as the Lenâpé surpass their Algonkin neighbors in New England in regard to the abundance and elegance of these products, they fall equally short of their Iroquoian foes. The bone awl, arrow point, cylinder, tortoise shell cup, and a few other implements make a good showing perhaps as against the relatively fewer remains of this nature from New England, but sink to insignificance before the splendid array of Iroquois artifacts, bone and antler combs, harpoons, dolls, gorgets, wedges, fish-hooks, awls, needles, cylinders, tubes, spoons, and what not. Then too, the tremendous abundance of shell articles, especially

¹While objects of this nature are occasionally found on the surface in the Iroquois country, we have no record of the finding of any of them during the systematic excavation of the older true Iroquoian sites by trained archæologists. On later sites which mark the villages where Algonkin or other captives were kept and adopted en masse, we may, however, expect to find them.

on later Iroquois sites, has no Lenâpian analogy. The New England area has a greater relative number of pendants, gouges, adzes, semilunar knives, and perhaps, long stone pestles, but all these things are found, though sparingly, or even rarely in some instances, in Lenâpé territory, along with the multitude of common types. On the whole, it may be said that the Lenâpé had few original forms in stone, but that they perfected the art of making the types they knew to a degree beyond most of their neighbors.

Nevertheless, it is only fair to say that the Delaware did have some types that are unique. Take for example the large stone heads, a number of which have been found in various places in New Jersey, on Staten Island, and in Lenâpé territory, or the territory of their near ethnic and linguistic relatives on the Upper Hudson. These heads were no doubt the outgrowth of certain religious concepts, common to the Delaware and their closest relations, which are recorded by Brainard and other early authors and are still in vogue among the surviving Lenâpé in Canada and Oklahoma,¹ where examples, representing the faces of mythological characters carved in wood are still to be found. Some of these ideas are, indeed, similar to those of the Iroquois, yet Iroquois religion and mythology seems to have found no corresponding outlet of art in stone of this precise nature. A single example of a head in clay, possibly of this type but smaller, is present in Dr. Abbott's so-called "American Sphinx," a pottery head found on the Assiscunk Creek at or near Burlington, which is equal to many Iroquoian specimens.² Unlike any of the stone heads known to me, it shows the enormous ear ornaments described by Heckewelder and other early writers as used by the Delaware and Shawnee for the reception of which the lobes of the ears were slit and fearfully distended. If the face resembles that of an oriental, as Dr. Abbott thinks, we must look rather to the limitations of the maker's art and material than to any preconceived idea on his part due to contact, as Mr. Evarts Tracy is pleased to fancy.³

¹ See M. R. Harrington, "Vestiges of Material Culture among the Canadian Delawares," p. 416. (*American Anthropologist*, Vol. 10, 1908.)

² Abbott, C. C., "Ten Years' Diggings in Lenape Land," p. 29.

³ *Ibid.*

For the handicraft of the modern expatriated Lenâpé, now in Canada and Oklahoma, our two chief sources of information are the collections in the American Museum of Natural History in New York, and the Museum of the University of Pennsylvania in Philadelphia. The collection in the American Museum represents the Munsee band, now in Canada, and the specimens in Philadelphia are largely from the Unami of Oklahoma. Both collections were made by Mr. M. R. Harrington of the Philadelphia institution, who is preparing a monograph on the Lenâpé, the fruits of several years' detailed study of the tribe. A few scattered specimens may be in the hands of individuals from whence it is to be hoped they, like the various archæological specimens, will find their way into some permanent museum to be carefully preserved for the benefit of the people at large, and as a memorial of those "long ago people," our predecessors, the Lenâpé Indians of New Jersey.

CHAPTER II.

Indian Camp Sites and Rock Shelters in Northern New Jersey.

By MAX SCHRABISCH.

POPULATION.

In the following paper mention is made of 370 aboriginal camp sites, villages and rock shelters in northern New Jersey and the enumeration is probably far from complete, being full in some parts and scanty in others.

The aborigines whom the whites found in undisputed possession of the present State of New Jersey belonged to the Algonkin stock. By reason of their laying claim to an ancestry more remote than that of any of the other Indian tribes they proudly called themselves Lenni Lenâpé, *i. e.*, original people. In view of the large number of aboriginal camp sites and villages to be found in northern New Jersey, one may be tempted to imagine that this territory was once peopled by large numbers of the Lenâpé. This, however, does not appear ever to have been the case. As a matter of fact, the historian Smith, flourishing about the middle of the eighteenth century, estimated the total number of Indians then living in the State of New Jersey to have been less than ten thousand.¹ If, then, the hypothesis of a thickly inhabited country falls to the ground, we may still satisfactorily account for the frequency of sites and of prehistoric remains by remembering, first, that the Indian was of a roving disposition, shifting his abode at frequent intervals within his allotted and narrowly circumscribed hunting-grounds; and, second, that his occupation of the area in question extended, no doubt, through untold centuries, nay, many thousands of years. Accepting the latter theory as correct, the well-nigh astounding ubiquity of ancient remains does not seem in the least surprising, the sparseness of the Indian population notwithstanding.

¹ Some well-informed persons regard this number as probably considerably too large. H. B. K.

GENERAL, CHARACTER OF SITES.

In looking for a suitable place to pitch his tent the redskin would naturally enough select a spot close to some water, be it river, brook, spring, lake or swamp. The site thus chosen had to be high and dry, that is, free from inundation, more or less level, and if possible well sheltered from north winds. Forks of brooks and rivers were usually looked upon with favor provided the lay of the land and, above all, the opportunities for hunting were such as to promise an easy sustenance. Shallow lakes and bays were preferred to deep water as affording the best fishing grounds, and the fords and rifts of rivers were chosen for the same reason. However, it is in the river valleys that the evidences of ancient settlements are most abundant, for the rivers were the natural avenues of communication, particularly at a time when the country was covered with an almost unbroken expanse of nearly impenetrable forest. In any event due regard was had to the soil. Highland or lowland, our aborigines always shunned a stiff clay when possible, and chose a sandy or gravelly loam. This was the common rule even in temporary camps.

FAVORED DISTRICTS.

Some sections in northern New Jersey are remarkable beyond all the others for the exceptionally large number of sites and the profusion of remains marking these scenes of prehistoric activity. And, to be sure, in considering the distribution of aboriginal sites in northern New Jersey, thus far explored and mapped, it is at once obvious that the various river valleys offer the most fertile field for archeological research. Foremost among these valleys is that of Delaware River. Of lesser importance, both in point of sites and remains, must be regarded the valleys of Pompton, Passaic, Saddle and Hackensack Rivers.

Delaware Valley.—As already stated, the Delaware River valley appears to have been the headquarters of the Lenni Lenâpé by reason of the many advantages offered by a water course of such dimensions. It is no exaggeration to say that its banks were dotted by an almost unbroken succession of camp

sites and villages, and nowhere in the State are the remains of their industry more plentiful or more diversified. In addition, it would seem that the implements found here are superior in workmanship to those of any other region within the State and, moreover, there is no lack of artifacts hereabouts that are exceedingly rare elsewhere, such as banner stones and pipes. Thus, it is certain that within the area watered by Delaware River the culture of the Lenni Lenâpé had attained a high point of perfection.

Pompton Valley.—This is another important section associated with Indian lore and the reminders of that vanished race. At its northern end it is watered by the Wanaque, Pequannock and Ramapo Rivers, which unite below Pompton forming Pompton River and joining Passaic River at Two Bridges. A thorough search of this region has revealed the presence of numerous camp sites and villages, showing that it was much frequented by the red huntsman. The largest village site in this valley is situated at Pompton Plains, and if we are to judge by the number and variety of the implements recovered at this spot it must have been the headquarters of the Pompton Valley aborigines. Lying about 1,000 yards from the foot of the hills bounding the plains on the west and 1½ miles from the banks of the Pompton River, this locality afforded indeed an ideal camping ground, sheltered, as it was, from north and west winds and with plenty of water conveniently near furnished by a brook and a swamp. Under these circumstances this site is found to be replete with many indications of prolonged occupation. Other village sites within this territory are at Pequannock, Wayne and Mountain View, all of them flanking the banks of Pompton River. That a well-trodden trail connected all these settlements, beginning at the Great Notch, a gap in the first Watchung Mountain, and passing through the Pompton Valley northward to Greenwood Lake, may therefore be taken for granted. At Pompton several other paths met, the most important being the Suffern trail, which ran along the base of the Ramapo Mountains, and the Butler trail passing in a westerly direction to Lake Hopatcong.

Passaic Valley.—Many a fishing place and camp site lined this once beautiful stream and the country through which it flows supported at one time a comparatively dense Indian population, for the river abounded in fish and the forest in game. That this region was the scene of busy life may be inferred from the fact that an important trail, the Wagaraw trail, traversed it on the Bergen County side of the river, connecting with the Goffle and Totowa trails at the northernmost point and bend of the river. The former ran north to Sicomac and Franklin Lake, the latter in a southwesterly direction to Totowa and thence to Singac, closely following the meanderings of Passaic River. Again, there are many indications of primitive workshops along its banks and here the surface soil is even now littered with raw material and flakes. Flint, quartz and jasper were the materials most highly prized and they were almost exclusively employed by the later or so-called modern Indians. Many facts apparently indicate that further back in time, argillite was mainly made use of, and this period has been designated as that of the argillite Indians. In still more remote ages primitive man rudely chipped his material and the products of his industry are called paleolithic, in contradistinction to the more recent ones, which are known as neolithic.

Aside from the remains of aboriginal origin left on the banks of Passaic River there are other evidences of the Indian's activity, such as fords and weirs crossing the river at various points and plainly discernible to this day, especially at low water-mark. Between Passaic Park and Two Bridges, a distance of about 20 miles, no less than sixteen fords or weirs may be distinguished, namely, one each at Passaic Park, Garfield, Clifton and Broadway bridge (Paterson), six more up the river to the Falls, four between Totowa and Singac, and two opposite Two Bridges. A peculiar feature of all these fords is that the rocks used in their construction are not laid across the river in a straight line, but are arranged so as to form midstream an angle, with the apex pointing downstream.¹

¹ The fact that many similar rock fords and weirs have been constructed by white men must not be overlooked. The mere occurrence of V-shaped lines of rocks in streams cannot be regarded as proof of Indian workmanship without some independent evidence which shall differentiate them from those of the white man.—H. B. K.

A particularly good section within the Passaic Valley is that level tract of land, which lies 6 miles west of Paterson, with the village of Fairfield as its centre. This section is well sheltered to the north and west by Towaco or Hook Mountain, a range of hills consisting of two arms, each about 5 miles long and forming a right angle, the apex of which is at Towaco. Passaic River flowing along the southern and eastern base of this ridge and parallel to it also forms a right angle, thus likewise enveloping this section on two sides, viz., north and west. Within it there are many small swamps alternating with knolls high enough to be exempt from inundations in times of freshets. All these knolls bear witness to ancient occupation as evidenced by the numerous traces of primitive art. It was a stretch of land peculiarly suited to the tastes of the Redman. With wits sharpened by the iron laws of necessity he was always partial to places of this kind; hence, the remains of his industry reminding the white intruder at every turn of his erstwhile presence. The most important settlement of the Indians of the Fairfield region lay in the very corner of Hook Mountain on high land, called Tom's Point. Like a promontory it projects far out into, the marshy lands, its southernmost point almost reaching Passaic River. The principal pre-historic highway hereabouts was the Caldwell-Fairfield-Mountain View trail. West of it another trail skirted along the eastern base of Hook Mountain between Pine Brook and Towaco, and also around the Great Piece Meadows in an easterly direction to Singac.

Saddle River Valley.—The banks flanking this easterly tributary of Passaic River tell an eloquent tale of ancient occupation. Again, the lay of the land justifies us in assuming that a trail wound along the western bank of this picturesque water course, beginning at Garfield and running thence in a northerly direction to Paramus and points beyond. While along this trail there are many traces of archæological significance, the opposite side of the river is likewise dotted with aboriginal sites.

Hackensack River Valley.—This section is likewise remarkable for the large number of ancient sites occupying the banks of the river and those of its tributaries. As, however, only a few

of these have thus far been determined and explored, no definite statements can as yet be made.

ROCK SHELTERS.

Apart from building his hut in the open, so to speak, by the banks of rivers, brooks, lakes or swamps, the Indian would, whenever possible, dispense with the work of providing an artificial shelter by availing himself of natural shelters, that is, rock formations affording more or less protection from the rigors of the climate. In this sense, then, he partook of the habits of the troglodyte or cave-dweller. As a matter of course, places of this description occur in mountainous districts only, in rough and broken country, where there are shelving rocks or overhanging ledges, which, if necessary, may easily be improved and made more habitable by leaning poles against the sides of the rocks and covering them with bark or skins. It is only within recent years that these rock shelters have attracted any attention, nay, their existence in these parts had, until a short time ago, hardly been suspected. Twenty of these natural shelters have thus far been discovered and investigated, all of them situated amid the foothills and mountains of northern New Jersey, and distributed as follows: Three on the east bank of Delaware River in Warren County, two of them being at the foot of Pahaquarry Mountain, near Delaware Water Gap, the other at the foot of Scott's Mountain and 3 miles south of Belvidere. In Passaic County, there are one at the foot of Kanouse Mountain, three in Upper Preakness, one on the slope of Federal Hill and three on Garret Mountain. In Morris County they are found one at the foot of Rock Peon Mountain (Bear Rock), three on the hills west of Pompton Plains, two in the corner formed by Towaco (Hook) Mountain. In Bergen County two occur in Ramapo Mountain and one east of Saddle River.

An essential requisite of prospective occupancy was water sufficiently near to suit the comfort-loving Indian. To be sure, all the shelters once occupied and hitherto examined were favored in this respect. When this condition was not fulfilled, the Indian would not use it, no matter what its other advantages

might have been. And, indeed, the writer knows many a fine rock house, large and comfortable, facing southward and affording ample protection against the elements, which was spurned and severely left alone obviously for no other reason than that water was too far away.

While most of these rocks served only as temporary dwelling places, as a sort of headquarters used before and after the chase to rest and feast on the spoils, some of the more accessible ones, *i. e.*, those not lying high up amid the mountains but at the foot of them, were more permanently occupied. While the former saw probably only male sojourners, the latter would harbor entire families, that is, husband, squaw and papoose.

The culture layers covering the floor of these rocks and representing the accumulated debris of ages have in every case been found undisturbed, and it is for this reason that important inferences as to a succession of culture horizons may be made. Since we meet here with the original conditions, that is, with such as existed at the time of the Indian's final departure, these rock shelters are quite unique and therefore exceptionally favorable to research along certain lines. As stated above, some of them lie far away from the beaten track and the camping grounds in the valleys below and to reach them required considerable physical stamina, more so at the time when the country was a vast wilderness. In these no traces of pottery were found owing to the difficulties of transportation; but wherever the débris contained fragments of pottery, these fragments lay invariably in the upper layers, a fact tending to prove that pottery was of comparatively late introduction.

CHAPTER III.

List of Sites, with Notes, Southern New Jersey.

By ALANSON SKINNER.

GEOGRAPHIC DISTRIBUTION.

A glance at the map of the Indian sites in south New Jersey, as far as reported, shows that they fall naturally into a number of groups, which are:

- I. The New York and Raritan Bay group. This includes the remains on Staten Island and up South River. There must be more sites upon the Raritan and its affluents than have been reported.
- II. The Atlantic Coast group. This includes the sites found along the coast from Sandy Hook to Cape May. It is evident that the Atlantic side of New Jersey was sparsely inhabited by the Indians.
- III. The Lower Delaware Valley group. This includes the great Unalachtigo headquarters on Cohansey Creek, and the settlements in Salem County.
- IV. The Middle Delaware Valley group. This centers in the cluster of sites at the Unami headquarters at Trenton and runs down below Camden. The inhabitants of this region were closely related to those of the New York and Raritan Bay group, who were also Unami Delaware.

It will be observed that the interior is practically devoid of sites, except on the headwaters of the more important creeks and rivers. This lends support to the tradition that the sandy interior of South Jersey was more of a hunting ground than anything else.

The readers of this report must remember that it represents but the work of a preliminary survey of two months' duration, and therefore, while much has been accomplished, the work is in

no way complete, and the conclusions arrived at are in no case final.

GROUP I, NEW YORK AND RARITAN BAY.

Constable Hook.—There is a village site with shell pits on the sand hills behind the Standard Oil Works on Constable Hook. The shell pits in this instance might more properly be styled mounds, since the surrounding sand has largely been blown or dug away, leaving them standing above the present surface. The writer has found a club head, arrow points, potsherds, net sinkers, sturgeon plates and fish and mammal bones in and near these pits. (26-23-8-8 and 9.)¹

Greenville.—The writer has seen some potsherds daubed over with red paint, probably ochre, that were said to have been collected on a site on the point at Greenville. (26-23-5-2-7.)

Constable Hook.—A camp site on Constable Hook was located and reported by Mr. Leslie Spier. (26-23-7-1-9.)

Bayonne.—Camp sites occur on or near the shore of Newark Bay in Bayonne, near the foot of 25th street, along the Central Railroad, and at the tip of Bergen Point. (26-23-4-7-9; 26-22-9-6-2; 6-7.)

Carteret.—The writer once owned a grooved ax from Carteret, and other objects have been reported from there. (26-32-4-5-8.)

Elizabethport.—In grading streets in Elizabethport, near the shore, relics are said to have been found, but the exact locality is unknown.

Perth Amboy.—Graves and shell heaps were found by contractors in grading streets in Perth Amboy. There are arrow

¹ The system of numbering followed is that described in the Administrative Report of the State Geologist of New Jersey for 1911, Bulletin 6, pp. 13-15. Persons having the published topographical maps of the Survey, Nos. 21-37, can locate on them the exact sites by applying these numbers as there described. In brief, the system is as follows: The first number refers to the topographical atlas sheet; the second number to the major subdivisions of this sheet, each 6 minutes of latitude and 6 minutes of longitude, the numbers commencing in the upper left-hand corner of the sheet, the first tier being 1 to 5, the second 11 to 15, the third 21 to 25, etc.; the third number refers to one of the nine 2-minute rectangles making up the 6-minute subdivisions, the numbers commencing in the upper left-hand corner; the fourth number refers to one of the 9 equal subdivisions of the 2-minute rectangles; each of these subdivisions is still further divided into 9 parts similarly numbered, to which the last number refers.

points and other implements in the collection of the Staten Island Association of Arts and Sciences that were found in fields along the shores of Raritan River. Heckewelder tells of an old Delaware Indian whom he met in Western Pennsylvania or Ohio in the early days of the nineteenth century who remembered catching rabbits to sell to the workmen employed in building Perth Amboy.

Staten Island.—Although not occurring within the political boundaries of New Jersey, the following sites on Staten Island, New York, are so obviously within the geographical limits of the survey that the writer has included them. They are valuable to us from, an archaeological standpoint in that they are remains of the same people with whom we have been working in New Jersey, and the absence of any number of Indian sites on the Jersey shore of the Staten Island Sound or Kill van Kull is due to the more favorable aspect of the Staten Island side of the narrow stream.

The Raritan, Hackensack and Tappan divisions of the Lenni Lenâpé, or Delaware Indians, were the original owners of Staten Island, and their presence is still well attested by many and rich sites.¹

Pelton's Cove.—There was formerly an Indian village site and cemetery at Pelton's Cove which is now obliterated. (26-23-7-8-3.)

West New Brighton.—The cemetery situated on the grounds of Ascension Church, West New Brighton, occupies the site of a still older graveyard of the aborigines. Relics are still found occasionally when graves are being dug or improvements made. (26-23-7-8-4.)

Mariner's Harbor.—At Mariner's Harbor and westward along the shore to Howland Hook the early non-obliterated traces of a series of ancient Indian villages and camp sites may yet be seen. The writer and others have collected many hundreds of implements of stone, clay, bone and antler on these sites. (26-22-8-8 and 9 and 9-7).²

¹ For a detailed description see Alanson Skinner, "The Lenâpé Indians of Staten Island." (Anthropological Papers of the American Museum of Natural History, pp. 4-17, Vol. 3.)

² For a detailed account see Anthropological Papers of the American Museum of Natural History, Vol. 3, pp. 5-8.

Old Place Neck.—There is a large village site at Old Place Neck. Near the point are many traces of former lodge sites and refuse pits. A burial ground is reported and relics are abundant. Camp sites are to be found far back toward South Avenue. (26-32-2-2 and 3.)

Watchogue.—At Watchogue camps and relics are scattered over the sand dunes. The writer has found a few trade articles, such as brass arrow points, here. (26-32-3-4, 5.)

Chelsea.—There is a big camp site at Chelsea on the north side of Prall's Creek. (26-32-2-7-3.)

Linoleumville.—Village sites, shell heaps and scattered relics are found over a wide area at Linoleumville, on Long Neck. (26-32-5-1, 4, 2.)

Long Neck.—South of Long Neck, close to Fresh Kills, there is a little camp on the meadow island. (26-32-5-5-5.)

Lake's Meadow Island.—On Lake's Meadow Island south of Fresh Kills there is a village site. This place was once visited by Henry D. Thoreau, who found arrow points there. (26-32-5-7-1.)

Lake's Island.—Opposite Lake's Island a small camp site occurs on the mainland. (26-32-5-7-8.)

Rossville.—A shell heap and village site occur at Rossville near the post office and in the vicinity, wherever there are sandy knolls remains are found. (26-32-7-5-4.)

Woodrow.—At Woodrow a village site and obliterated cemetery have been identified. (26-32-7-8-3.)

Rossville to Tottenville.—Continuous camps occur along the shore from Rossville to Tottenville with scattered relics in nearly every field.

Tottenville.—A burial ground, immense shell beds, camps, villages, and scattered relics cover a wide area at Tottenville. This is the most important single site in a wide area.¹

Mt. Loretto.—Small shell heaps occur along the shore near Mt. Loretto (26-42-1-8-7), also at Wolfs Pond (26-42-2-4-6), Seguines Pond (26-42-3-1-7) and Great Kills (26-33-7-5-5). Scattered relics are found in many nearby fields.

¹ See Anthropological Papers of the American Museum of Natural History, Vol. 3, pp. 11-16.

Arrochar.—There are scattered relics and camp sites at Arrochar.

Silver Lake.—Camp sites occur at the northwest and southwest ends of Silver Lake (26-33-2-1-2; 1-4) and scattered relics on Pavilion and Wards Hills, Tompkinsville. (26-23-8-8-8, 9.)

Valley Lake.—Camp on Nannyberry Hill near Valley Lake. (26-33-1-6-2.)

There are other sites on Staten Island, but the foregoing list gives the most important ones.

Near South Amboy.—At Morgan along the bluff on the north bank of Cheesequake Creek there was formerly an immense shell heap, village site, and burial ground, which is now largely destroyed by grading for the railroad. A number of skeletons were dug out by the steam shovel, and refuse pits and fireplaces were exposed in some numbers. It is reported that relics were found with skeletons in a cemetery nearby. This is unusual in New Jersey, as the only other finds of like nature that are so far reported were made at Chestnut Neck, near Columbia, and in the Indian cemetery at Burial Ridge, Tottenville, Staten Island, nearly opposite and in plain sight from Morgan. (28-1-3-1-1, 5.)

Morgan.—Large heaps of shell are visible along both sides of the road to Keyport on the opposite side of Cheesequake Creek from Morgan. They contain few relics and do not seem to extend to the bluff overlooking Raritan Bay. (29-1-3-2-8.)

Camp sites and scattered relics are also reported from other points in the neighborhood of Cheesequake, but their exact location is unknown.

Marquis Creek.—There is a small shell heap on the bank along Marquis Creek (29-1-3-6-4), a camp site on the high point east of the creek (29-1-3-6-5), and two small camp sites close together near the bay (29-1-3-6-3). At the latter oyster shells and flint chips abound.

Cliffwood.—A small camp site with flint chips and shells lies north of Cliffwood near Whale Creek (29-2-1-4-9). On the bluff above Matawan Creek opposite Keyport there is a large heap of shells containing few relics (29-2-1-9-1). It is appar-

ently a place where the Indians dried shell fish, but had no permanent settlement.

Keyport.—Shell heap at Keyport near Conaskonck Point, described by Charles Rau.¹ Many implements have been found here, including some clay beads, a type of relic not reported from any other New Jersey site, and of which the writer has no knowledge except as occurring on the Iroquois site at Hochelaga, Montreal. Possibly Mr. Rau erred in the identification of some broken pottery pipestems which are not rare on such sites. (29-2-2-5-9 and 6-7; -7-5.)

Sayreville.—There is a village site among the sand dunes along South River near the Sayreville clay pits. Fireplaces marked by burned earth and heat-cracked stones are abundant. Over the surface are strewn countless flint chips and potsherds, while arrow points and other implements are not rare. Quantities of small burnt pebbles still lying in heaps seem to indicate the location of ancient sweat baths. (28-5-1-4-8.)

South River and Old Bridge.—The following sites lie north of Old Bridge on the east side of South River beginning at the north near the Raritan River Railroad. The exact location of each is indicated by the numbers.

An old, nearly obliterated village site where potsherds, arrow points, and the like, are still to be found. In a sand pit near the river the writer has found an excellent colt and some finely decorated pottery fragments (28-5-1-5-7).

Camp sites near the second brook south of the railroad were noted. Flint chips and arrow heads were abundant. (28-5-1-8-1.)

A village site with some nearly obliterated fireplaces and shell pits. In the latter the writer has found European glazed pottery, glass, and nails, mingled with flint chips, Indian potsherds, and other aboriginal traces. (28-5-1-8-4.)

A small village site, nearly obliterated. Here the writer has obtained some interesting specimens including a notched ax. (28-5-4-2-1.)

¹ Annual Report of the Smithsonian Institution for 1884 in a paper entitled "Artificial Shell Deposits in New Jersey." pp. 370-374.

Second small site nearly connected with preceding, much debris, such as flint chips, from arrow; making. (28-5-4-2-2.)

Large village site. Arrow points, chips, pottery. (28-5-4-2-5.)

Scattered relics are found between all the sites in this vicinity.

Large much-used site 1½ miles northeast of Old Bridge, now destroyed by the railroad, except on the edges (28-5-4-2-9). A small village site occurs a little southwest of this point (28-5-4-5-3).

Runyon Pond.—There is a large village site beside Runyon Pond. Arrow points, pottery, a pestle, axes, and other relics have been collected hereabouts. Men employed in digging artesian wells for the waterworks have informed the writer that skeletons were exhumed during this work many years ago. (28-5-4-3-6.)

Old Bridge.—A village site with scattered shells and relics occupies the east bank of the river. (28-5-4-4-6.)

Deep Run.—Near Deep Run, east of Old Bridge, a large area among the sand hills shows indications of former habitation, but only a few relics have been noted. (28-5-4-5-8.)

Iresick Brook.—Many camps and scattered relics occur along Iresick Brook, south of Old Bridge.

Few if any of the Sayreville, Runyon, or Old Bridge group of sites will repay excavation. The shifting of the sand in the wind has uncovered most of their treasures to the gaze of the passerby with the inevitable result that very little has been left. The sites themselves are slowly becoming obliterated.

Matchaponix.—Mr. Wm. T. Davis of Staten Island reports a village site near Matchaponix. (28-14-3-6-7.)

Jamesburg.—Mr. Davis also reports a camp site on the shore of the lake at Jamesburg. Doubtless other sites are abundant along Manalapan Brook. (28-14-2-4-7.)

Matawan.—Mr. Waldron de Witt Miller of the American Museum of Natural History of New York, has located and reported a camp site in "Thirteen Oak Forest," 4 miles southwest of Matawan. (29-1-8-4-7.)

Oceanic.—Mr. Leslie Spier reports a camp site an acre in extent on the bank of a small brook east of Oceanic, at which shells are fairly abundant. (29-4-7-9-2.)

GROUP II, ATLANTIC COAST SITES.

Belmar.—Mr. Wm. S. Yard, of Trenton, obtained many implements through workmen who found them, in grading Belmar streets in what is now an obliterated village site. Among the specimens is a polished grooved ax said to weigh twelve pounds.

Manasquan.—Mr. C. E. Seage reports that scattered specimens have been found on the point of land at Brielle and Manasquan (29-33-6-5, 8). Scattered relics are found on the points of land between Manasquan and the ocean front.

Point Pleasant.—Mr. Seage reports that implements have been found in the borough of Point Pleasant, but exact locations are not given.

Mantoloking (?).—"In the extreme upper end of Barnegat Bay, and on the west side, is a piece of land, a sandy spit, projecting into the bay, known to many people in the neighborhood as the site of an old Indian camp, and where a great deal of pottery, etc., has been found. * * * The spot referred to is said to have been a camp for Indians when they went to the shore for fish and oysters." Reported by Mr. Wm. J. Lovell, of Moorestown, N. J. (29-43-3-7-2 ?)

Burrsville.—Two miles east of Burrsville, a sand hill on the Metedeconk River is called "The Indian Stage," and is so referred to in the old deeds and records. Here is the site of an Indian village where A. C. B. Havens, of Toms River, has found relics. (29-43-1-3-7.)

In the Orchard Field between Burrsville and Wardel's Neck is a very much used Indian village site. Mortars and other fine specimens have been found. (29-43-1-1-1.)

Beaver Dam Creek.—A very interesting causeway of logs is situated on the Indian trail that ran parallel to the coast from north to south. It is on the south fork of the south branch of Beaver Dam Creek, and is a raised pathway of logs which was certainly not made by the settlers. There are said to be similar causeways on the same trail further to the south.

Pumpkin Point.—On Pumpkin Point, Toms River, and nearly on what is now the property of John P. Haines, Indian relics

were formerly found during spring ploughing. (33-2-4-6, and 4-4.)

Island Heights.—At Island Heights, a village site and cemetery were found in grading streets. These are now destroyed. (33-2-6-8-1, 2.)

Ocean Grove.—There are camps on the Grant farm at Ocean Grove. (33-2-5-9-6.)

Toms River.—Traditional Indian burial ground on main branch of Toms River where an old mill road crosses near the bridge. Nothing now to be seen, however. (33-2-1-4-3.)

Mosquito Creek.—There is a camp on the knoll at the mouth of Mosquito Creek.

On David G. Clayton's farm, 3 miles northeast of Toms River, there is said to be a large camp site, with circles of dark earth about 30 or 40 feet in diameter. This is thought by the residents to have been an old dancing ground.

Pine Beach.—Shell heaps on the point near the hotel at Pine Beach, southeast of Island Heights.

Barnegat.—There are two small shell heaps at Barnegat on a point running out towards the salt meadow. On visiting them the writer found potsherds, chips, and a very small pitted hammerstone. (33-22-4-6-7.)

There is a small shell heap on a point near the brook below Barnegat (33-22-9-9-5) and a smaller shell heap 100 feet from the last (33-22-9-9-1). A large shell heap, apparently very thick, extends all over the point. In the sandy fields nearby potsherds are fairly common. There is another smaller heap at hand (33-22-9-9-5). A very small shell deposit is bisected by the road (33-22-9-9-2). A shell heap, apparently large and thick, seems to cover a small rise in the meadow, but mosquitoes and vegetation rendered careful examination impossible (33-22-9-9-7). Mr. Clarence Woodmansie, of Barnegat, reports a shell heap on the point between Waretown and Barnegat (33-22-2-7-8).

Ostrom.—A very small shell heap lies on the upland near the edge of the meadow on Forked River at Ostrom. The writer

was unable to determine absolutely whether it is Indian, though the locality makes such an origin highly probable. (33-12-8-1-8.).

Forked River.—There is a shell heap on Forked River near the salt meadow. The exact locality was not given when this site was reported.

Waretown.—A camp site is reported in the woods northeast of Waretown. (33-22-2-1-3.)

Waretown Creek.—There is a shell heap on the edge of the meadow just south of Waretown Creek. (33-22-2-2-4.)

Mayetta Station.—Near Mayetta station the railroad cut exposes a very small shell bed. (33-31-2-9-4.)

West Creek.—In the town of West Creek there was a village on Cox's farm. A dug-out canoe was found, and a skeleton with implements exhumed. (33-31-4-9-7.)

The following item appeared recently in the "New Jersey Courier":

"The first road from Toms River to Lakehurst," said Mr. Irons, "was the 'old Indian trail', from Toms River to the Delaware River. The road to Lakehurst followed this trail to the New Furnace, the trail running up the east side of Toms River to that place. New Furnace was built by Samuel G. Wright somewhere about 1800, and was two miles northeast of Federal Furnace, afterwards Manchester, and now Lakehurst." As near as Mr. Irons could recall the straight road to Manchester via Wright Bridge must have been built about 1830.

"Naturally, the talk of the Indian Trail recalled the fact that over on the northeast of the village on the Manasquan road, is Indian Hill. Mr. Irons said that he had been told as a boy that it was named that because Indian Will, a straggler from the tribe, lived there under the hill for a long time. The Indian's hut stood, as he had been told, just under the hill on the place where the father of B. F. Pierce afterward lived."

We are also indebted to the editor of the "Courier" for the following:

"While working on the new road to the Long Beach Turnpike Company's bridge, at the Manahawkin end, the workmen

unearthed two skulls, supposed to be Indian. The peculiar feature of the discovery was that the skulls were complete, lower jaw and all. The skulls were found buried about three feet deep in what is known as Boat House Knoll at Company Landing. They were taken by William Bennett, who still has them in charge."

Another correspondent writes that there were four skeletons in all unearthed while plowing up the new road, and that "the heads were the most perfect part, all the teeth being in the jaws on several."

Tuckerton.—There is, on the property of the Jillson brothers of Tuckerton, a shell heap and a burial ground in which were found thirty-two skeletons. Eighteen of these were buried in one trench. The position of the bones was such as to lead the discoverers to believe the Indians to have been the victims of a massacre or pestilence. One woman had a child laid across her breast, another skeleton lay over the bones of a woman flung beneath it, and the remains of a child lay between her knees. Many of the bones showed breaks or other injuries. The only relics were a small trumpet-shaped clay pipe, with incised decoration on the bowl, which lay close to a skull as though it had been thrust in the owner's hair, and a stone pendant or single-holed gorget that lay on an infant's breast. (32-44-4-4-8.)

There is an immense shell heap on the salt meadow at Tuckerton, visible for miles, as it stands above the surrounding level and is covered with trees. The late Dr. Frank Hamilton Cushing of the Smithsonian Institution visited this mound, and made some preliminary investigations, finding traces of a pile village in the salt meadows close by. His death interrupted his work, which has never been completed. (32-45-1-8-9.)

There is a cemetery in Tuckerton on the Sapp Farm. (32-35-7-9-8.)

Wells Island.—There are shell heaps on Wells and Osborne Islands, and scattered implements. (32-44-6-4,5.)

Chestnut Neck.—A large village site and cemetery on Chestnut Neck opposite New Gretna. Messrs. Jillson of Tuckerton have partially explored the burial ground, finding seven

skeletons, most of which had buried with them a quantity of arrow points and raw material (jasper) for their manufacture. With one was found a fine large monitor pipe of steatite. (32-44-3-7-7, 8.)

Pleasantville.—Pleasantville now occupies an old Indian village site, relics have been found all about, especially some fine banner stones. There are said to be shell heaps along Dowdy's Creek behind Atlantic City. (36-13-5-1-9.)

Smith's Landing.—There is a large shell heap at Smith's Landing on the shore near Pleasantville, located by Leslie Spier. (36-13-5-4-6, 9 and 5-4.)

Mt. Pleasant.—A camp site at Mt. Pleasant an acre in extent. It is located at the source of a branch of Absecon Creek. Arrow points were reported from this site. Located by Leslie Spier. (36-13-5-2-2.)

Leed's Point.—Scattered shells on Leed's Point indicate Indian occupation. Reported by Leslie Spier. (36-4-5-1-6.)

Port Republic.—Spier reports indications of occupation all along Nacote Creek, and a shell heap east of Port Republic. Axes and arrow points are said to be fairly abundant. The absence of potsherds on this and all other sites reported by Spier is notable. He concurs with the writer in believing that most of the east-coast sites were temporary fishing stations. (36-3-3-5.)

West Cape May.—A site is reported at West Cape May by Dr. C. C. Abbott. Here were found a number of objects, including a bead beaten from a nugget of native gold. (27-11-3-7-2.)

Holly Beach.—At Holly Beach there was a site, now obliterated, where many relics were gathered. (37-2-9-5-2.)

Dennisville.—There was a large Indian village where Dennisville now stands. Several caches of implements are reported, and there are said to be shell heaps all along Dennis Creek at the bends. (37-34-6-1-6.)

Tuckahoe.—Specimens have been reported from Tuckahoe and vicinity. There are probably shell heaps all along the bends of Tuckahoe Creek. (37-21-4-1-6.)

Flat Creek.—There is a shell heap on Flat Creek near Great Egg Harbor. (37-22-4-5-3.)

Great Egg Harbor.—Prof. P. W. Putnam and Dr. C. C. Abbott found traces of prolonged occupation on Great Egg Harbor. At Somers Point, directly opposite, there is presumably much more, as this place has a southern exposure and more favorable conditions prevail. It was too heavily forested when last visited by Dr. Abbott to permit any observations. (37-22-4-3 and 5-4.)

Port Elizabeth.—There is said to be an extended settlement along the creek at and near Port Elizabeth. (37-23-1-3, 5, 6 and 8.)

Cape May Court House.—Frank Leaming of Cape May Court House has a conch shell cup and other specimens from a sand dune in the woods on Coxalle Creek on the Delaware Bay side of Cape May. He says there are very few sites on the west shore. This site is near Town Bank where the first settlement in Cape May County was made in 1680 or thereabouts. (37-1-8-2-1.)

There is a group of sites, probably all more or less connected, around the headwaters of Crooked Creek at Cape May Court House. Shell heaps, village and camp sites are all apparent, but were hard to distinguish when visited by the writer because of the thick vegetation. Shells, chips, potsherds, and fire-cracked stones abound. The writer was unable to locate a cemetery supposed to be near Cape May Court House. (35-44-6-3-7 and 8; 5-2; 5-6; 5-7; 5-8.)

At Joe Holmes' place there are three or four shell heaps which local authorities think represent seats of the wampum industry. There is some reason for this belief, as the shells are broken into small angular fragments like those found in the shell heaps of Long Island, New York, that are known to be made up of wampum refuse. There is also historical evidence in favor of this hypothesis. (35-45-4-1-4 and 7.)

Nummy's Island.—On Nummy's Island tradition states that the last chief of the local Indians is buried. After his funeral the Indians are said to have left for Wabash River. I have never

seen an Indian burial in a salt meadow, and such Nummy's Island appears to be. (37-3-1-7 and 4-1.)

Avalon.—On Ben Godfrey's place on the road to Avalon there is a large site from which Mr. Frank Leaming of Cape May Court House, has specimens and pottery. Mr. Leaming considers this the best site he has seen in the county. (35-45-1-3-6.)

All the shell heaps along the coast are characterized by a dearth of instruments, at least on the surface. A few tiny potsherds and chips may be found. Deer bones, charcoal, and fire-cracked stones seem from a superficial examination to be almost totally wanting. Local tradition everywhere states that the main Indian settlements were along the valley of the Delaware and its tributaries, especially on the New Jersey side, and the results of this survey seem to bear out this story. All the river sites produce enormous quantities of implements and show signs of extensive occupation. The coast remains are chiefly camps and shell heaps with few relics. There are no doubt, many more sites on the coast as yet unreported.

GROUP III, LOWER DELAWARE VALLEY.

Manumuskin.—Opposite Manumuskin station on Manumuskin Creek, the railroad cut has exposed quantities of potsherds, chips, shells and fire-cracked stone indicating a large camp or a small village. (35-13-7-9-6.)

Small camps on Manumuskin Creek near the railroad cut. (35-13-8-7-8.)

Port Norris.—Camp ground near Port Norris just west of the railroad track; scattered relics near at hand. (35-22-9-7-1, 2, 3.)

Stone axes, arrow points, potsherds, etc., are found on the points southwest of Port Norris post office. (35-22-9-7.)

Leesburg.—Scattered relics reported at Leesburg. (35-23-7-2.)

Cohansey Creek and Vicinity.—Along Cohansey Creek, in Cumberland County, there is a nearly continuous string of sites of all kinds for about 20 miles, mostly on the south side of the stream. The group probably represents the headquarters of the

Unalachtigo band of the Lenni Lenâpé, as the Trenton group represents the Unami, and the Belvidere sites the Munsee. The writer is indebted to P. K. Reeves, Edmund Shimp and R. W. Emerson, of Bridgeton, for information and assistance in visiting and locating these remains.

Cohansey Creek Sites.

Harrow Brook.—There is a good village site on Harrow Brook near Deerfield Street. (34-4-3-6-9 and 9-2, 3.)

Beebe Run.—Relics north of Beebe Run (34-4-6-5-7) and relics also occur at the mouth of Beebe Run (34-4-6-7-3).

Barrets Run.—Camp and relics on Barrets Run near Shiloh and at the mouth of the stream. (34-4-8-4-8.)

Cornell's Run.—A few specimens occur in the woods on Cornell's Run. (34-5-7-1.)

Bridgeton.—On Stone Bridge Run, north of Bridgeton, scattered relics occur (34-5-7-4, etc.). On a village site opposite Bridgeton, R. W. Emerson of that city has collected three stone mortars; on the west side of the creek as far as Cedar Grove there are scattered relics (34-4-9-9-5, 8). Some fine specimens were found on the brook above Irving St. Station, Bridgeton (34-5-79-4, 5.) Also, relics are found on a nameless run east of Bridgeton (34-5-7-8 and 6).

In the southern outskirts of Bridgeton is an old site where no implements except large-stemmed blades of argillite are found. Neither pottery, points nor hammerstones have been collected. This seems to have been a spot utilized as a camping ground by the argillite-using predecessors of the Lenâpé. (34-15-1-4-7.) Five hundred yards or less from the last-mentioned locality is a site from which many triangular points of quartzite have been gathered, but where no argillite implements occur. The ground is black from débris and decayed animal matter accumulated during long occupation (34-15-1-7-1).

Scattered relics were found along the point down as far as Parvin Branch (34-15-1-7-4 and 5). At a small camp on Parvin Branch potsherds and many flint argillite and jasper points

occur (34-15-17-8). A village site occurs at the mouth of Parvin Branch on the south side where many large argillite points, drills and axes have been collected. Relics are scattered along the south side of the branch east from here. At 34-14-1-8-4 a solitary cache of 60 large yellow jasper bevelled blades was found (34-15-1-7-6 8). At the foot of Doneghy Street there is a large site. Many relics have been collected here, several fine pestles among them (34-15-1-3, 6).

Fairton.—A village site in the woodland near Fairton is noted for the quantity of argillite chips and specimens. Scattered relics connect the camps which are to be found on all the knolls (34-15-4-4-3, 6 and 1-9). At Fairton relics are scattered along both sides of Mill Creek and its tributary. (34-15-4-5, 6, 8.) West of Fairton, along the south side of Cohansey Creek, is a continuous string of sites from which thousands of implements have been obtained. Potsherds, chips and arrow heads innumerable litter the surface. All types of specimens occur, perforated stones, clay pipes (usually fragmentary), broken and perfect gorgets, bannerstones, arrow-shaft smoothers, grooved axes, celts, pieces of soapstone vessels and other things are abundant. (34-14-5-9-1, 2, 3 and 6-7-1, 2, 3, and -8-1, 2, 3, and 9.)

Tindells Landing.—At the head of Back Creek, and 2 miles southwest of Tindells Landing, is a field which was long occupied by the Indians. Here is an exceedingly rich deposit of black earth throughout which countless deer and other animal bones, potsherds and other débris can be found. Edmund Shimp, of Bridgeton, once counted 80 or more shell and fire pits exposed by a spring ploughing. Mr. Shimp has collected three bone awls and a bone arrow point (made from a scale of *Lepidosteus ferox* of the Mississippi River) from one of these shell pits. A perfect clay pipe in his collection comes from a field close at hand. On a knoll touching the site skeletons have been disinterred, and to the east the sand hills show prolonged occupation. Flint and quartzite chips betray the presence of workshop sites and potsherds abound.

On August 4, 1912, the writer visited this site under the guidance of Messrs. Shimp and Emerson. Scratching a single

hole with trowels and a shingle yielded a fine notched bone awl, a clay pipestem, dozens of fish, bird and mammal bones, chips and potsherds. On one of the sand dunes to the eastward most of a pottery kettle, cracked in Indian times, and mended by making a row of perforations along each side of the flaw and lacing the break together with a thong, was found. (34-14-8-3 and 9-1.)

Cohansey Creek.—Scattered relics occur along Cohansey Creek beyond Green Swamp on an old farm and as far down as the upland runs to Back Neck. (34-14-4-7-1, 2, 5; 5-7, 8, 9, and 6; 6-7, 8 and 34-14-7.) On the west side of Cohansey Creek enormous quantities of specimens have been gathered all the way to Dutch Neck, and turning the bend, on as far as Greenwich. (34-14-3, 4, 5 and 6.)

Greenwich.—At Greenwich there is a rich site on the west bank of Molly Wheaton Run. Quartzite chips abound, and a quartzite quarry occurs in one of the fields by the side of the stream. Two grooved stone mauls, one made of quartzite, the other of argillite, were found here by Shimp and Emerson, and there can be no doubt but that they were used in the quarry. Scattered relics are found along the bank as far as the spot where the run enters the Cohansey. (34-13-6-3.)

Sheppards Mills.—There are two small camps on Mounces Creek near Sheppards Mills. (34-14-1-8-8.)

Othello.—A small but rich site is situated at Othello, north of Greenwich. Jasper, quartzite, and flint implements, many fragments of pottery pipestems, decorated potsherds and numerous tiny triangular points of superb workmanship have been gathered. (34-13-3-5 and 6.)

Davis Mills.—Scattered remains occur around Davis Mills, on the shores of the pond and stream. (34-13-1 and 2.)

Seventh Day Mills.—Small camp in the woods near Seventh Day Mills. Potsherds and arrow points (34-4-4-8). Scattered remains occur near pond at Seventh Day Mills. (34-4-4-8-1 and 2.)

Mickles Mills.—Scattered remains on Sarah Run below Mickles Mill. (34-3-5-6-3.)

Jericho.—Scattered remains occur at Jericho. (34-3-5-9.)

Long Branch Run.—Relics occur on both sides of Long Branch Run. (34-3-9-1.)

Large camp opposite 34-3-7, with many large points was reported. (34-3-7-3-1, 2, 3, etc.)

Stow Neck.—Relics occur all over Stow Neck along the shores of Stow Creek.

Cumberland Causeway.—A camping ground runs from the road to a point on the shore of the pond where the Cumberland Causeway crosses. Perhaps this was a battlefield, as triangular, so-called “war points” are found in great quantities.

Stow Creek.—At Wood Landing on Stow Creek there is a large boulder once utilized by the Indians as a permanent mortar. In its deep cavity a bucket of water can be held. (34-3-7-6-7 and 8.)

Stow Point.—A burial ground on Stow Point where Mr. Shimp has found skeletons buried at depths varying from a few inches to 5 feet from the surface. Many relics were found on the surface, but one only, a crude ax, was obtained in a grave. (34-13-1-1-3, 6 and 2-1.)

Maskall's Mill.—Big camp or village all around the pond at Maskall's Mill. (34-3-4-3, 6 and 5-4.)

Quinton.—There is a large village site at Quinton on Alloway Creek. (30-43-4-5.)

A village site is opposite Quinton and scattered relics along both banks of the Creek to Alloway. (30-43-4-5.)

The “last Indian” in this region was buried near Alloway about 1820. His body was exhumed recently and stone implements found in his grave.

Hancock's Bridge.—There is a village at Hancock's Bridge on Alloway Creek whence Mr. Shimp has fine specimens. (34-2-3-7-4.)

Village all along the upland on the south bank of Alloway Creek, from Hancock's Bridge to the road. (34-2-2-9-8 and 6.)

Alloway Creek.—Camp on a knoll near Alloway Creek. Relics scattered all along both banks of the creek. (34-2-2-8-7.)

Salem.—Several hatchets were pumped out of the creek

bottom at Salem when dredging, and much material has been reported from the vicinity of Salem. (30-42-2-8-3.)

Lower Penn's Neck.—There is a village on Mr. I. O. Acton's farm on Lower Penn's Neck. (30-32-8-1-6.)

Churchtown.—A burial occurs north of Churchtown. (30-32-1-9-2.)

Mannington Creek.—A series of seven burial places along Mannington Creek and Swedes Run from Salem Creek to Alloway Junction. (30-32-9-6-2; 9-2; 8-6; 30-33-7-5-7; 8-2; 9-6; 30-43-2-1-3.)

Welchtown.—Near Welchtown on Mannington Creek is a village site. (30-33-7-9-7.)

Harrisonville.—A camp site covering about 2 acres is situated on the Tigh farm on Oldmans Creek immediately south of Harrisonville station. At this place there is said to have been a boulder hollowed out to a depth of 9 inches which is thought was probably used as a cooking utensil but was more probably a stationary mortar. This was removed several years ago. (30-34-1-2-2.)

Pedricktown.—Dr. Abbott reports remains at Pedricktown on Oldmans Creek. (30-23-4-3-6.)

Mullica Hill.—Mullica Hill village on Raccoon Creek occupies the site of an old Indian settlement. (30-25-4-7-6.)

Bridgeport.—Many objects are reported from Bridgeport by Dr. Abbott. (30-13-9-8-7.)

Swedesboro.—About one-quarter of a mile below Swedesboro station in the railroad cut is a layer of camp refuse 1 foot below the present surface. (30-24-4-5-8.)

Mr. Acton has reported a series of five burial places extending from Bridgeport to Oldmans Point along Delaware River. (30-23-1-7-1; 1-4-9; 2-1-4; 2-2-2; 3-9-7.)

Gibbstown.—Scattered remains were found below Gibbstown on Repaupo Creek. (30-14-7.)

Thompson's Point.—A burial at Thompson's Point (near the site of the Du Pont powder works) where many teeth and a jaw bone were dug up is reported by Dr. George Laws, of Paulsboro. (30-14-4-9-2.)

Glassboro.—Implements have been found in the sand pits at Glassboro. (31-21-9-8 and 3-3.)

Mt. Royal.—A number of finely worked and polished articles, including a bird amulet, a monitor pipe, and wampum have been found at Mt. Royal near Clarksboro. (30-15-7-6-9.)

Mantua Creek.—Scattered relics occur all along Mantua Creek. (30-15-4 and 7.)

Paulsboro.—Dr. Abbott reports remains, and Mr. I. O. Acton, a village site, at Paulsboro. Specimens are found on all the points along Timber Creek for a couple of miles back from the river. (30-14-9-3.)

Paulsboro.—Cache of small jasper leaf-shaped blades on Locke's place, 1½ miles below Paulsboro. (30-14-9-1-8.)

A burial is reported 1 mile north of Paulsboro about 2 feet deep and covered with a layer of broken stone. (30-14-6-9-3.)

Mantua Point.—At Mantua Point a pot, 16, inches in diameter at the mouth, rough argillite celts, and knives, banner stones, and great numbers of flakes and rejects were found. (30-15-4-4-4.)

Billingsport.—Dr. Abbott reports a village with abundant remains at Billingsport. (30-14-6-6.)

Woodbury Creek.—All along Woodbury Creek scattered remains are found. (31-11-4 and 5.)

Tradition reports that the Wood family burial ground near the mouth of Woodbury Creek at a place where the Indians interred their dead before white men came into this region. In September, 1912, there was no sign of the former presence of Indians at this place. However, this point of land is an ideal one for such a purpose. (31-11-1-8-9.)

Red Bank.—At Red Bank is a camp covering a considerable area. Fire-cracked stones, flakes, and rejects were found in abundance. (31-11-1-8-9.)

GROUP. IV.—MIDDLE DELAWARE VALLEY.

Pensauken Station.—Scattered relics on south branch of Pensauken Creek, due east of Pensauken Station. (31-2-6-5-3.)

Hellings Hill.—Mr. Chambers reports scattered relics on the north branch of Pensauken Creek from Lenola to Hellings Hill with village sites at the Evesboro road and at Hellings Hill. (31-3-8-3 and 31-4-7-4.)

Fellowship—There is a burial near fellowship on the south branch of Pensauken Creek. (31-3-4-9-4.)

Moorestown.—At Indian Spring, near Moorestown, are scattered remains. (31-3-2-7, 8, 9.)

South of Moorestown is a village site. Implements of all kinds were found here in abundance, showing an extended occupation of this region. Occurring in the same layer and mixed with the implements usually associated with the historic Indian are many crude argillite blades. Harry Chambers, who has located and reported this site, has several rubbed argillite implements, heart-shaped, with short stems. A number of steatite pots were found nearby. (31-3-5-3-7.)

Riverton.—Scattered relics are found between Riverton and Palmyra.

Mt. Laurel.—All about Mt. Laurel are signs of an extensive camp site. Axes, arrow points, wampum (?), and pottery are ploughed up here. A small pot of Algonkin type about 6 inches in height and 6 inches in diameter at the mouth was found by Mr. Chambers. (31-4-4-7-9.)

Brown Station.—Camp site near Brown Station. Axes, arrow points, etc., are found along Haynes Creek. (31-5-4-4-7 and 31-4-9.)

Lumberton.—Scattered relics are found on the banks of Rancocas Creek at and near Lumberton. (31-4-6-3-1 and 2.)

Centerton.—A cache near Centerton, reported by Mr. Harry Chambers, of Moorestown, contained about two dozen net sinkers and several other implements. (31-4-1-2-2.)

Mt. Holly.—Scattered implements, etc., occur at Mt. Holly and along Rancocas Creek and its south branch. Excellent trumpet-shaped pottery pipes have been found in the vicinity; one in the possession of Mr. Wm. Wright, of Mt. Holly, is decorated with representations of deer. (31-4-2, 3.)

Wood Lane.—Camp site at Wood Lane on headwaters of Assiscunk Creek. (27-44-6-6-5.)

Burlington.—There is a large village site at Burlington on Assiscunk Creek. (27-34-8-3.) Abbott obtained a collection from this spot, including the remarkable modeled clay head described by him in his "Ten Years' Diggings in Lenâpé Land." The whole of Burlington Island is a large Indian village site.

Assiscunk Creek.—Several camp sites were located by the writer along the south side of Assiscunk Creek. They contained nothing except quartz and flint chips, fire-cracked stones and a few potsherds. These indications probably mark the location of a few isolated wigwams. (27-34-8-9-4.)

Rancocas Creek.—Scattered remains occur on Rancocas Creek opposite Bridgeborough and at Rancocas. Great quantities of argillite implements are reported to be found elsewhere along the banks of the creek.

Bordentown.—There is a camp or village 1 mile east of Bordentown at or near the forks of the brook (28-31-3-4-9.) There is said to have been an old camp or village site at the mouth of Blacks Creek in Bordentown. (28-31-2-5-8.)

Indian Mills.—Just below where the Indian Mills Brook crossed the road $1\frac{1}{4}$ miles northwest of Indian Mills is the cemetery used by the Indians inhabiting the old mission settlement of Edgepillek. The last survivors were removed to New York, probably to the Seneca Reservation at Cattaraugus, about 1820. (32-31-1-1-2.)

New Egypt.—On Crosswicks Creek, south of New Egypt, and at Brindle Park are scattered implements. (28-43-1-3; 5-1, 2.)

The following note appeared in the "New Jersey Notes" in the *New York Sun* during August, 1912: "Clifford Horner, while working in Frank P. Gabel's cranberry bog near New Egypt, unearthed an Indian mortar and pestle. They are of flint and show signs of hard usage." (28-33-8-7-7.)

Walnford.—Abbott reports a village site at Walnford on Crosswicks Creek, where objects are very abundant. (28-33-2-7-8.)

Prosperstown and Vicinity.—In the neighborhood of Prosperstown and north towards Red Valley is a group of camp sites all

very much of the same type. Several have been long and frequently inhabited, but none have the accumulated débris of true villages. In nearly all of them circles of burnt stones that outlined the fireplaces still mark the sites of wigwams. F. W. Emley, to whom the writer is indebted for guidance to these sites has a collection from them consisting of several grooved axes, a small adze, two broken gorgets, and many arrow points. One of the latter is apparently carved of soapstone, and has a perforation, rimmed from both sides, in the stem. It was doubtless a charm or ornament designed for suspension. Mr. Emley has also an old pouch of dyed buckskin ornamented with colored porcupine quills and deer hair. Old metal "jingers" and tassels of red-dyed deer hair serve as a fringe. While data are lacking, it is obviously an example of eastern Indian work, perhaps that of local Lenâpé.

Camp site, chips, fire-cracked stones, etc., occur at Prospertown. (28-34-1-4-4; 4-6; 7-3; 8-7; 9-3.)

A camp site, traces of wigwams and fireplaces, occur north of Prospertown. (28-33-3-9-6.)

Burksville.—Small camp site at Burksville, northeast of Prospertown. (28-34-2-1-4.)

Groveville.—A single grave and wigwam site were found on Major Woodward's farm above Groveville on Crosswicks Creek. (28-32-1-1-5.)

Bonaparte Park.—An Indian village once occupied the curved banks of Crosswicks Creek at Bonaparte Park opposite White Horse. Traces and relics are still common. (28-21-8-6, 9 and 9-7-1.)

Crosswicks Creek.—There was formerly an Indian ford across Crosswicks Creek where the trolley line to Bordentown now crosses. (28-21-8-6-8.)

White Horse.—Village site is located about the springs back of White Horse. (28-21-8-3-1.)

Trenton and Vicinity.

Abbott Farm.—Village site occurs on the Abbott Farm on a sandy knoll at the beginning of the lane. (28-21-8-2.)

Another village site, or series of sites, is intimately connected with the preceding, and is undoubtedly the best known of all Indian sites in New Jersey. The entire bluff from Abbott's Brook to the railroad track shows signs of prolonged Indian occupation, and from the fields Abbott and Volk have collected many specimens which are now in Princeton, Cambridge, New York, Chicago and elsewhere. Several burial grounds have been explored, and wigwam sites, caches and other remains have been exhumed.¹ (28-21-7-2-3 and 8-1.)

Somewhere in this neighborhood, the Lenâpé chief, Teedyuskung, the successor of Tammany, is said to have been born.

At the point on Abbott Brook, opposite the Abbott farm, Volk exhumed some skeletons from very deep graves. (28-21-8-1-9.)

On the slight sand ridge running out into the flat below, the bluff Volk found a village site with scattered graves among the lodges. Many excellent specimens collected at this place are in the American and Peabody Museums. (28-21-8-1-8.)

Volk found a cache of chipped pieces in the outskirts of Broad Street Park. (28-21-8-1-5.)

Lalor Field, near Trenton.—The Lalor field, near Trenton, has long been a source of harvest for local collectors, and even to-day, after so many years of searching, specimens are still common after the first ploughing every spring. The writer has found a number of relics there which are now in the State Museum. The locality is undoubtedly one link in the continuous chain of village sites which occupies the sandy bluffs for some distance and marks the headquarters of the Unami division of the Lenni Lenâpé. At the particular spot designated on the map Volk found a single wigwam site surrounded by ten graves. This is on Sassafra Lane. Near here also he found a fragment of bison bone. (28-21-7-3-4.)

¹ The literature of this site is extensive, and the student is referred to the following works for a detailed knowledge of the field.

Abbott, C. C.—The Stone Age in New Jersey.
 Primitive Industry.
 Archæologia Nova Cæsarea.
 Ten Years' Diggings in Lenâpé Land.
 Volk, Ernest—Archæology of the Delaware Valley.

Deutzville.—Volk found fragments of human parietals and a femur in the gravel.¹ (28-21-7-2-1.)

Assanpink Creek.—There was formerly a large village site at the mouth of the Assanpink Creek in Trenton. Charles Rau has collected and figured articles from this locality. (28-21-4-4-4.)

Hancock Avenue.—Volk found here the fragments of musk-ox bone and elk antler, figured and described in his "Archæology of the Delaware Valley," p. III. (28-21-3-8.)

Bile's Island.—On the shore of Delaware River nearly opposite the point of Bile's Island there was an historic Delaware Indian cemetery, now nearly obliterated. From this site were collected some interesting shell beads (wampum) and little bird-shaped shell pendants. Such objects are common enough in the old territory of the Iroquois but are practically unknown in New Jersey. Without doubt they show the influence of the Iroquois. These specimens are now in the collection of the Peabody Museum of Archæology and Ethnology at Cambridge, Mass. Dr. Abbott informed the writer that some modern Delaware Indians, from the west, visiting Trenton with Buffalo Bill some years ago, were in possession of so vivid a tradition of the location of this cemetery that they were able to find it, although none of them had ever seen the place before. On arriving at the spot they held a ceremony in memory of their dead. (28-21-7-5-1.)

There was an Indian village on the point of Bile's Island and many relics have been collected on the northeast shore of the island. (28-21-7-4-5.)

Moon's Island.—Volk has collected specimens all along the northeast and east bank of Moon's Island. There was probably an Indian village at this spot. (28-21-7-1.)

Titusville.—Remains are reported at Titusville. (27-14-4-8.)

Washington's Crossing.—Specimens have been collected at Washington's Crossing. (27-14-7-3-3.)

¹ See Ernest Volk, "Archæology of the Delaware Valley," p. 113, *et sec.*

Scudder's Falls.—Remains are reported from Scudder's Falls. (27-24-2-2-3.)

Princeton.—Abbott reports an argillite find on the Olden farm near Princeton. (28-12-1-7-8.)

Lambertville.—The presence of abundant Indian remains is reported all about Lambertville. The town probably occupies the site of a former village. (27-3-8-5, 8 and 9.)

Bulls Island and Raven Rock.—On Bulls Island and at Raven Rock many specimens have been found under conditions indicating prolonged Indian occupancy. Just opposite, on the Pennsylvania side at Point Pleasant, Mercer has made a series of investigations in the argillite quarries worked by the aborigines (27-2-5-6 and 6-7.)

List of Sites, with Notes, Northern New Jersey.

By MAX SCHRABISCH.

SITES IN THE DELAWARE VALLEY.

Delaware Water Gap.—A rock shelter was found at the western base of Blockade Mountain, within 100 yards of Delaware River. The finds made included some twenty or more arrow points and scrapers, one rude celt, unio shells, numberless bones, mostly deer, as well as large quantities of chips and potsherds, the latter, as usual, lying in the upper layers. The decoration of the potsherds was partly Iroquoian, partly Algonkin. One large fireplace and several bone pits were unearthed. (21-41-2-9-3.)

Camp sites and fishing places have been noted along the river in the Gap at several points (21-41-3-4-4; 7-4, 7; 7-5, 6). At another of these (21-41-3-4-1) a profusion of flakes, mostly flint, indicates a workshop.

A small shelter at the base of Blockade Mountain facing west and less than 100 yards from the river contained potsherds only, both plain and ornamented. It may, therefore, have been a so-called menstrual shelter, serving as a place of retirement for the women, in accordance with usages common among primitive peoples (21-41-3-7-4).

Below Delaware Water Gap as far as Columbia a series of camp sites has been identified on the east bank of the river. (Localities 21-41-6-2-4, 5; 2-7, 8; 5-2, 5; 5-6; 9-4; 9-4; 9-5; 9-8; 9-9.)

Manunka Chunk.—Two camp sites were found on a hill near a brook, 2 miles north of Manunka Chunk and 1 mile east of the Delaware; another site occurs half a mile south of these (24-2-5-9-2; 9-5).

Oxford Township.—There are camp sites and fishing places near Manunka Chunk (24-28-2-4; 4-5), a camp site south of Manunka Chunk (24-2-8-4-6), camp sites near Belvidere (24-

12-1-2-1; 5-4), and along Buckhorn Creek (24-12-4-2-2, 5; 2-3; 2-3, 6); a burial ground on top of Jenny Jump Mountain (24-2-9-6-1); a rock shelter 3 miles below Belvidere on the east bank of Delaware River (24-11-6-3-6).

There is also a village site in Hope Township on the southern shore of Green Pond, near the foot of Jenny Jump Mountain (24-3-7-4-3).

SITES IN THE WANAQUE VALLEY.

Stonetown.—There is a camp site 1 mile south of Stonetown and west of Winbeam Mountain. A large rock, hollowed out on top and evidently used as a mortar by the aborigines occurs on this site (23-31-1-6-7).

Upper Midvale.—Two small camp sites occur at Upper Midvale on elevated ground north of swamp (23-31-5-2-3).

Midvale.—Two camp sites occur near Midvale on the east bank of a tributary of Wanaque River (23-31-5-2-9; 5-8).

Pompton Junction.—A small Indian cave has been located high up on the southern slope of Federal Hill (23-31-7-9-7).

North of the Junction three camp sites were found between the railroad and a tributary of Wanaque River (23-31-8-4-7; 7-1), and another was found on the east bank of Pequannock River just south of the Junction (23-41-2-1-1)

SITES ON POMPTON PLAINS AND VICINITY.

Riverdale.—At Riverdale and vicinity five camp sites have been located (23-41-1-6-3; 6-5; 6-5: 6-6; 6-6).

Pompton Plains Station.—Three rock shelters occur on the eastern slope of the hills, 2 miles northwest of the station. Two of these (23-41-1-4-8; 4-9) are in a gully. The third (4-8) lies 150 yards south of the others. This shelter is the best of the three and its exploration yielded various remains of the Indian's handiwork, such as potsherds, scrapers, knives, drills, points and spearheads. A brook in front supplied its tenants with water and there is also a spring close by.

Southeast of these shelters five camp sites occur along a small brook and on the top and flanks of a wooded hill east

thereof, 1½ miles north by west of Pompton Plains station (23-41-1-8-1; 8-2; 8-4; 8-4, 7; 8-7). Scattered relics, probably lost while hunting occur in the fields toward the station (23-41-1-8-3; 9-1).

Five camp sites and fishing places have been located on and near the west bank of Pompton River north of Pompton Plains station (23-41-2-4-4; 4-5; 7-1; 7-5; 8-4).

A village site is found on elevated ground a short distance north of Pompton Plains station between the Erie Railroad and Pompton River (23-41-2-7-5, 6, 7, 8). A camp site is west of it (23-41-2-7-5), another east (23-41-2-8-7).

A large village site is found on Sander's lots, 1 mile west of Pompton Plains station. This locality has proved most prolific in specimens of aboriginal origin, and it is evident that it has been the site of a populous Indian village, occupied for many centuries. It does not appear to have been a temporary abiding place, abandoned every now and then, but seems to have been continuously occupied for long periods. On the other hand, we may assume that its population constantly shifted. Bands would leave it now for a while and others would come to take their places. Every kind of artifact characteristic of ancient village sites, has here been found, in contradistinction to mere camp sites or temporary fishing places, where certain kinds of implements are hardly ever met with (23-41-4-2-3, 6).

Another village site lies a short distance south of the former. Judging from the abundance of artifacts found here, we may conclude that this level and high tract of land was once occupied by an Indian settlement of no mean proportions. One thing is certain beyond peradventure and that is that Pompton Plains was one of the most frequented aboriginal sections in Northern Jersey, and there is good ground for assuming that these genuine Americans of the Lenni Lenâpé nation were in the habit of holding their powwows on these plains (23-41-4-3-4, 7).

South of Pompton Plains station no less than nine sites have been identified, one of them a village site and fishing place (23-41-5-2-8). Their exact locations are as follows: (23-41-5-1-2; 1-5; 1-6; 1-3, 6; 2-2; 2-4; 2-7; 5-1). Scattered relics were also found (23-41-5-2-2; 5-5).

Pompton.—Eleven aboriginal sites have been noted in and about Pompton, Wayne Township, Passaic County. The most important of these is a village site on elevated ground east of Pompton River and south of the junction of Pequannock with Ramapo River (23-41-2-4-5, 6, 7, 8). Of the remaining ten sites two lie on the east bank of Wanaque River (23-41-2-1-9; 4-3), the others are distributed along the east bank of Ramapo River and some of its tributaries. Two of these sites lie respectively north and south of point where Peacock Brook empties into Pompton Lake (23-41-2-3-4; 3-7). The exact location of the others is as follows: (23-41-2-5-3; 5-6, 9; 5-9; 9-1; 9-4; 9-5). Scattered relics were found both on the west bank of Peacock Brook and on the east bank of Ramapo River (23-41-2-3-9; 8-2, 3; 8-3).

Jacksonville.—Numerous traces of erstwhile Indian occupation have been found in and near Jacksonville, 2 miles southwest of Pompton Plains. Altogether eleven camp sites have been located on the ridges bounding Bog and Vly swamp on the west. (23-41-4-1-5; 1-5, 6; 1-7; 2-1; 2-2; 2-4; 4-3; 4-6; 4-8, 9; 5-1; 7-1, 3.)

Pequannock.—A village site and fishing place lay on the west bank of Pompton River about 500 yards east of Pequannock station. The flood of October, 1903, overflowing the banks of the river and tearing up the soil, laid bare numerous prehistoric artifacts, among them fragments of pottery. The ornamentation, particularly the incised line pattern, is identical with that found on the village site at Pompton Plains. This is not surprising if we reflect that those who designed it were members of the tribe roaming over the Pompton Plains, viz., the Opings or Wapings. There was an old tradition that this clan formerly lived on the shores of Long Island, migrating thence westward in the sixteenth century. (23-41-5-5-8, 9.)

Another village site lay a short distance south of the former. These fields, once known as the "Indian Orchard," have also been very prolific in aboriginal specimens. A much-trodden trail connected this place with the Indian villages at Wayne and Pompton Plains, following in part the course of the river. (23-41-5-8-2, 5.)

Almost opposite these villages two camp sites have been noted on the east bank of Pompton River, Wayne Township, Passaic County (23-41-5-8-9; 9-1, 4).

In addition to these, five more sites have been located some distance west of the river between the Erie Railroad and the Bog and Vly. Two lie a short distance east of the Bog and Vly about 1½ miles from the station (23-41-4-6-5; 6-5, 8); the remaining three, one of them a village, occupy the elevated ground bounding a large swamp north and west (23-41-4-9-3, 6. 9; 5-4-6; 4-8).

Wayne.—Two camp sites occur north of Wayne, two more on the bluffs east of it and another farther south near the powder works, all of them east of Pompton River (26-1-2-2-2, 3; 2-3; 3-2; 3-6; 6-1).

Mountain View.—Two village sites occur here in the southernmost part of the Pompton Valley, one of them west of Pompton River at the southeastern extremity of Towaco Mountain, the other east of Pompton River, between Mountain View and Two Bridges (26-1-2-6, 9-7, 8, 1, 2 ; 3-7-4, 5, 7, 8).

Lincoln Park—The country about Lincoln Park reveals many traces of aboriginal occupation and no less than seven sites including two villages have been identified. It is watered by several brooks and topographically is well defined, being bounded to the west by Bog and Vly swamp, south by Towaco (Hook) Mountain and east by Pompton River. The light sandy soil covering the fields has yielded numerous implements of primitive art and scattered relics occur all over this region. One village lay north of the D. L. & W. Railroad in the angle formed by it and Pompton River, the other south thereof between the railroad and Towaco Mountain, a patch of swampy ground separating the two sites. (26-1-2-1, 4-8, 9, 2, 3; 4-1,2.) Four of the camp sites were distributed along the north bank of a tributary of Pompton River, the fifth one occupied a bluff near the railroad bridge. (26-1-1-3-5, 6; 2-1-7; 1-5; 1-6; 5-1.)

TOWACO SITES.

West of Lincoln Park a number of sites have been located in the undulating country known as Towaco. Two of these lie at

the southern base of Turkey Mountain, two others a short distance north of Towaco station and the two last between Towaco and Lincoln Park on the southern edge of Bog and Vly swamp. (25-5-1-1-5; 1-6; 2-8; 2-9; 26-1-1-1-4; 1-5.)

SITES IN THE NORTHERN HIGHLANDS.

Morris County.

Jefferson Township.—A camp site and fishing place occurs on Raccoon Island, and a village site and fishing place on Halsey Island, both at Lake Hopatcong (22-42-4-3-5 ; 3, 6-9, 3).

A camp site was found half a mile south of Milton and another half a mile east of Milton on the banks of Rockaway River (22-33-8-4-9; 5-2).

Rockaway Township.—A camp site and fishing place has been located at the southern end of Splitrock Pond. (22-44-4-1-4.)

Montville Township.—A rock shelter, called Bear Rock, occurs near Brook Valley, 4 miles north of Towaco. It lies in a valley formed by Stony Brook Mountain and Rock Peon mountain and is unique for the reason that it hangs over on two opposite sides, the result being a double rock shelter, facing east and west, respectively. The rock itself is a granite boulder of enormous size, deposited here during one of the glacial periods. While the excavation yielded many implements of aboriginal handiwork, pottery was not plentiful. It lay, as in all the other shelters thus far explored by the writer, either on the top of the débris or a little below, but nowhere near the bottom. From this we may infer, as heretofore, the existence of two distinct horizons of culture. (22-44-6-1-9.)

Passaic County.

West Milford Township.—This region, like all the land north and west of it, is a mountainous territory, known as the Jersey Highlands. Owing to its inaccessibility it was merely a hunting resort, traveled over occasionally, with no permanent village sites and but a few lodge sites and rock shelters denoting the

Redman's former presence. An interesting place of this kind is a rock shelter situated at the eastern base of Kanouse Mountain about a quarter of a mile north of Macopin (Echo) Lake. It faces east and some 50 yards from it a brook flows past into the lake. The dirt covering the floor contained only a few arrow points, but there was a profusion of potsherds, showing Algonkin designs, some flakes and indications of two fireplaces. (22-34-2-9-4.)

Bergen County.

Hohokus Township.—A few sites have been discovered in the interior of the Ramapo Mountains, and we may assume that the aborigines occupied them only when on hunting trips. At all other times land of this character was, as a rule, not invaded by human beings.

A camp site lies on the western bank of Bear Swamp; a second camp site and workshop occurs south of it at the lower end of Bear Swamp. (23-32-1-2-1; 2-4.)

A small rock dwelling has been found 1 mile east of Bear Swamp and about 3 miles northwest of Darlington. It occupies a gully in one of the most inaccessible portions of the Ramapo Mountains and it contained but few traces of Indian origin, among them being chips, fire-cracked pebbles and some rejects. (23-32-1-3-8.)

Franklin Township.—Another rock shelter has been located in the southwestern part of the Ramapo Mountains, 3 miles north of Oakland. The scarcity of relics imbedded in the soil under the rock proves that this spot was but seldom visited by the red huntsman. For this several reasons may be adduced. In the first place, the shelter was quite inaccessible, lying almost on top of a hill, some 800 feet above sea level. Secondly, the condition of the surrounding country shows that water may not always have been available, for, although there is in its immediate vicinity a small swamp, it is altogether probable that it dried up during periods of drouth. Apart from this however, the configuration of the shelter is such as to have met with the requirements of any roving redskin. (23-31-6-6-5.)

SITES IN THE RAMAPO VALLEY.

Hohokus Township.—A village site has been identified on the south side of Ramapo River, 1 mile north of Darlington (23-32-2-5-3).

Franklin Township.—Two camp sites occur within a distance of 4 miles on the north bank of Ramapo River (23-32-4-4-5; 31-9-4-3).

Wayne Township.—Two neighboring camp sites have been found on the flats between the N. Y. S. & W. Railroad and Pompton Lake (23-31-8-9-1; 9-2).

SITES IN THE PASSAIC VALLEY.

Pine Brook.—There are three camp sites south of Pine Brook on the west bank of Rockaway River, a tributary of Passaic River. (25-5-7-5-9; 5-2, 5-3.)

Another camp site occurs half a mile east of Pine Brook on the west side of a swamp near Passaic River. (26-1-7-1-7.)

Horse Neck Bridge.—There is a camp site on the west bank of Passaic River, between Horse Neck Bridge and Towaco. (25-5-1-9-8.)

Tom's Point.—In the angle of Towaco (Hook) Mountain two rock shelters have been located. At the westerly one investigation disclosed two fireplaces filled with charcoal, chips, potsherds and bones. In addition, the culture layers yielded several arrow points, scrapers, one pitted hand hammer, knives and a broken steatite bead. The bones were mostly those of deer, but among them there were also the jawbone of a raccoon and a couple of oyster shells. Most of the pottery was plain; the ornamented pieces were either cord-marked or incised, the zigzag design predominating. (26-1-1-4-1.)

The easterly shelter yielded still fewer relics. However, there was among them a gorget perforated on both ends. (26-1-1-4-3.)

Tom's Point proper was once occupied by a village of large size. Both the variety and number of specimens occurring in this locality give evidence that the aborigines have lived here in

considerable numbers. Its sheltered position in the bend of Towaco Mountain made it eligible as winter quarters, and the nearness of Passaic River permitted its occupants to supplement their meat fare by many kinds of fish with which this river was then well-stocked (26-1-1-4, 5-6, 2, 9, 7). All of the sites in the Passaic Valley thus far mentioned are in Morris County.

Franklin.—A camp site occurs on the north bank of Pine Brook between Hatfield Swamp and Franklin. (26-1-7-6-4.)

Pine Brook Bridge.—There is a camp site between Long Meadow and Passaic River (26-1-7-2-9).

Clinton.—Half a dozen camp sites occur in the vicinity of Clinton between Great Piece Meadows and Long Meadow (26-1-4-8-6; 6-5; 6-6; 9-3; 5-4-1; 5-7-2).

Fairfield.—Archæologically speaking, the Fairfield section is one of the best in the Passaic Valley for several reasons. In the first place, it is well sheltered, Towaco Mountain enclosing it north and west, and the North Caldwell Hills on the southeast. Secondly, Passaic River, then teeming with fish, envelops it on three sides; and, thirdly, it is a level tract of land, pitted by swamps, with many knolls composed of light sand rising above the low-lying meadows. Each of these knolls reveals to this day the traces of ancient occupation in the shape of aboriginal utensils littering the soil. Altogether, eleven sites, one of them a village, have been located within this territory. The village lay on land owned by David Demarest, on the southern bank of Passaic River, south of Two Bridges and opposite the confluence of Passaic and Pompton rivers. Innumerable objects of primitive art have here been recovered of late years. In front of the village a ford or fish weir crosses Passaic River a little below the county bridge (26-1-5-3-3, 4, 5, 7, 8). The camp sites have been located as follows: (26-1-5-9-4; 9-1, 2; 9-1; 8-3; 5-9; 6-6; 5-2; 2-9; 2-9; 2-6). The position of the ford is: (26-1-5-3-2). All the sites in the Passaic Valley mentioned under the side heads of Franklin, Pine Brook Bridge, Clinton and Fairfield are in Essex County.

Singac.—There is a group of sites in the vicinity of Singac, three being on the south side of Passaic River and four north

of it, the latter lying between Singac Brook, a tributary of Passaic River, and the Greenwood Lake branch of the Erie Railroad. (26-1-6-5-5; 5-5, 6; 6-1); (26-1-6-1-6; 4-5, 6; 2-7; 5-1.)

Little Falls—Five sites have been noted near Little Falls, three of them south of Passaic River, two north of it. Of the former, one lies north of Cedar Grove, on the east bank of Peckman's Brook, a tributary of Passaic River, the next one about 1½ miles farther north, also on the east bank, and the third one near its mouth. (26-2-4-7-9; 5-3; 2-8, 9.) The northerly ones lie close together on the bank of the river, about opposite the mouth of Peckman's Brook (26-2-4-2-5; 2-5, 6). There are, moreover, three fords across the river, two above High Bridge, one below it, running from its south bank to Laurel Grove Island (26-2-4-3-4; 3-6; 3-3).

City of Paterson.—There is no doubt that the territory now occupied by the City of Paterson was once a favorite resort of the Indian, and this assumption is amply borne out by the traces of prehistoric activity discernible to this day. Again, it is certain that in the course of building operations many sites, including even rock shelters, have forever been obliterated. Still, wherever the natural conditions of the land have not been disturbed, many sites can, even now, easily be identified. Most of these occur, obviously enough, along the banks of the river, but more particularly on the extreme east side of the city, where there are few houses. In the following we shall enumerate all sites occurring directly within the city limits and then proceed to mention those lying just outside of them in the vicinity of the river.

Four sites have been found on the west side of the city, called Totowa, on the flats extending north of the river to the foot of Totowa Hill. (26-2-2-4-7; 4-9; 1-5, 8; 1-8.)

There was a site at the Falls, another on Paterson Island and a ford crossed the river below Main Street Bridge (26-2-2-5-6; 6-1; 6-2.).

Along the northernmost course of the river there occur the following: a camp on Bunker Hill, a ford north of it, two

fords between Wagaraw and Fifth Avenue Bridges (23-42-6-7-8; 7-8; 9-4; 9-7, 8).

There are twelve camp sites and one ford between Broadway and Wesel Bridges along the west bank of the river (26-2-3-3-1; 3-1; 3-4, (ford); 2-6; 3-7; 6-2; 6-3; 3-1-4-1; 2-3-6-6; 6-9; 9-6; 9-6, 9; 9-8, 9). All the sites given under the side heads of Singac, Little Falls and Paterson are in Passaic County.

A few more sites, also in Passaic County, occur north of Passaic River, as follows:

Ashley Heights.—A camp site and workshop near a swamp at the southern extremity of Goffle Hill (23-42-5-9-2).

Hawthorne.—Two camp sites occur near the mouth of Goffle Brook, four more to the eastward, between Goffle and Wagaraw Brooks (23-42-6-7-4, 7; 7-5); (7-2; 7-3; 7-6; 8-4)

North Paterson.—There are two camp sites on the east bank of Goffle Brook, about 1½ miles north of Passaic River (23-42-6-4-2; 1-8).

Van Winkle.—A site occurs at the forks of Deep Glen and Goffle Brooks, opposite the schoolhouse (23-42-6-1-2, 3).

Bergen County, *i. e.*, that part of it which lies east of Passaic River, is replete with the signs of ancient occupation. But while it is quite certain that there is not a single square mile in this territory entirely devoid of such signs, it is, nevertheless, certain that the region adjoining the river ranks first in point of aboriginal traces, and here again it is that part of it which lies opposite the City of Paterson, *viz.*, just beyond its boundaries.

Some fifty sites have been noted on the level strip of land lying between the river and the Bergen County short cut of the Erie Railroad and extending 8 miles downstream from Fairlawn to Garfield. While most of the sites occur in close proximity to the river, others are some distance away. The former were, no doubt, more desirable than the latter, as fishing places, and therefore resorted to more or less permanently.

Ferndale.—Five sites have here been located, all within 1½ miles north of the great bend of Passaic River. Three of these are west, two east of Wagaraw Brook (23-42-6-3-8; 6-1; 6-4, 7); (6-6, 8; 6-8, 9).

Fairlawn.—A village site lies west of Wagaraw Brook near its mouth (23-42-6-5, 6, 8, 9-9, 7, 3, 1). Two more villages have been identified east of Wagaraw Brook, and there was a workshop on the bluff parallel to the river, between Wagaraw and Fifth avenue bridges (23-42-6-9-2, 3; 9-3, 6; 9-8). Four camp sites occur along a brook, 1½ miles east of the river, and scattered relics are found on both sides of the railroad. (23-42-6-9-3; 43-4-4-7; 4-7, 8; 4-8; 7-1; 7-2; 4-9; 5-4.) An isolated site has been noted one-half a mile east of Fairlawn, near a brook, a westerly tributary of Saddle River (23-43-4-8-9).

Bellair.—Twelve camp sites, mostly fishing places, and one village site have been noted along the bank of the river between Fifth avenue and Broadway bridges (26-2-3-3-4, 5; 3-4, 5 ; 3-5; 3-6; 3-6; 3-7, 8; 3-9; 3-1-1-7; 1-7; 1-7, 8; 1-8; 1-8; 4-2, 5).

Warren Point.—There are two camp sites at Warren Point on a brook north of the station (26-3-1-2-8; 5-2).

Passaic Junction.—Two sites have been found north of Passaic Junction, east and west of the railroad (26-3-1-8-5; 9-8).

Dundee Lake.—Many sites have been located north and south of Dundee Lake, all but one on the bank of the river (26-3-1-7-1; 7-4, 5; 7-7; 4-1-2; 1-5; 1-8; 1-8; 4-2; 2-1, 2).

Dundee Dam.—There is a fishing place both above and below Dundee Dam. (26-3-4-4-5; 5-4.) A ford crosses the river between the two. (26-3-4-4-6.)

Plauderville.—A site occurs northwest of Plauderville, about two-thirds of a mile from the river. (26-3-4-5-3.)

Belmont.—There is a ford crossing from the east bank of Passaic River to the island, opposite Belmont. (26-3-4-8-2.)

Garfield.—A site has been found south of Garfield, at the mouth of Saddle River. (26-3-7-3-5.)

Carlton Hill.—There is a site near the railroad bridge, opposite Passaic Park (Passaic Bridge). (26-3-7-5-7.)

The remaining sites in the Passaic Valley are on the west side of the river south of Paterson.

Lake View.—Three sites have here been located, one of these on the bank of the river near the Paterson boundary line, the others south of it, on opposite sides of a brook, some 300 yards

from the river (Godefroy's estate). (26-3-4-1-4, 7; 2-6-6-2; 6-3.)

Clifton.—A site occurs above Dundee Dam, near the mouth of a brook. (26-3-4-4-4.)

City of Passaic.—Most all the signs of aboriginal occupation have long ago been effaced hereabouts. It is known, however, that two Indian villages were situated within the city limits, one of these on the peninsula in the eastern section of the city, the other I mile to the west of it in the vicinity of Prospect Street station. (26-3-7-1-6, 9; 3-4, 7.)

Nutley.—While the sites mentioned under the last three side heads are in Passaic County, there is one occurring just across the county line near the mouth of Yantecaw or Third River, at Nutley, in Essex County. (26-12-3-6-3.)

It is worthy of note that sites occur most frequently at the Great Bend or northernmost point of the river, where it changes its northeasterly course into a southerly one, and that south of Paterson they decrease in number, with the exception of a stretch of land south of Dundee Dam, on the east bank of the river. Again, no sites have been found in the undulating country extending westward from Passaic River to Garret Mountain, and this may seem the more surprising as it is watered by several brooks, all flowing into Passaic River.

SITES ON GARRET MOUNTAIN.

City of Paterson.—Three rock shelters have been located at the northern extremity of Garret Mountain, one of these is at the foot of Garret Rock, the others on the eastern slope of the mountain, on Catholina Lambert's estate, South Paterson. (26-2-2-9-4; 5-3-2; 3-2.)

Little Falls Township.—Scattered relics have been found in two places, and a camp site occurs a half mile west of Albion Place, all on top of the mountain. (26-2-5-3-1; 2-6; 2-6.)

Acquackanonk Township.—There is a camp site at the foot of the mountain on the west bank of Yantecaw or Third River, near Great Notch, 3 miles south of Paterson. (26-2-5-7-9.)

OTHER SITES BETWEEN POMPTON-RAMAPO RIVER AND SADDLE RIVER.

Haledon.—A site has been noted west of a brook, on Haledon Hill. (23-42-5-7-2.)

North Haledon.—Two sites have been found on Haledon Hill, one of these at the head of a small brook, the other, a workshop, half a mile north of it, on the west bank of High Mountain Brook. A site occurs at the intersection of High Mountain Brook and the Haledon turnpike. Three other sites and scattered relics have been noted east of Squaw Brook. (23-42-5-4-8; 4-2, 5; 5-4; 2-6; 2-8-7; 7-6; 7-3, 6.)

Lower Preakness.—This locality was much favored by the Redman by reason of its advantageous position. It is in a valley sheltered on the northwest by Packanack Mountain and on the southeast by Totowa Hill. Water is supplied by Singac Brook and its tributaries, and the fields bordering them are level and dry and covered with light alluvial soil. Half a dozen aboriginal sites have here been identified, five of them on the south side of Singac Brook, the other one north of it. (26-1-3-3-8, 9; 6-7; 6-9; 6-6; 2-1-4-5; 4-3.)

Upper Preakness.—An isolated camp site occurs in the valley west of Packanack Mountain, half way between Upper Preakness and Wayne. (26-1-3-1-3.) Half a dozen skirt Singac Brook and its affluents south of what was once known as Barbour's Mills (Hinchman and Hausamann farms, &c.). (23-41-6-6-4; 6-3, 6; 42-4-4-4; 4-4-6; 4-9; 5-2.) Three sites occur in Preakness Mountains, one of them on the southern slope on High Mountain, two others east and southwest of Beech Mountain, and scattered relics lost during the chase have been picked up in several places hereabouts. (23-42-4-3-3; 1-8-6, 9; 4-1-3; 3-6; 1-8-4.) Five more sites have been noted on opposite sides of a swamp (headwaters of Peacock Brook) north of Point View. (23-41-3-8-1; 8-4, 7; 8-3; 8-6; 8-8, 9.)

South of Franklin Lake.—A most interesting district lies south of Franklin Lake, for it is here that three rock shelters occur, each showing the earmarks of ancient occupation. The principal one is situated at the southern

end of the Clove, a narrow ravine extending northward in the direction of Franklin Lake, 1 mile distant. That this ravine was the site of a much-trodden trail may be inferred from the evidence extant. Though one of the poorest of shelters as to size and configuration, it proved one of the best with respect to aboriginal remains. The evidence suggests a few general conclusions relative to its character. In the first place, we may take for granted that it was often tenanted, not only by single hunters, but also by whole families. Second, such occupation would be more or less permanent, and all this we may confidently assume both because of its favorable location and the thickness of the culture layers accumulated under its roof. Furthermore, the relic-bearing strata reveal two distinct horizons of culture, as indicated by the presence of potsherds in the upper layers and their complete absence in the lower ones. (23-42-1-7-2.)

The next shelter lies also in the Clove, a short distance north of the former, and it contained nothing but fragments of pottery in great abundance. (23-42-1-7-2.)

The third one occurs in a neighboring gully, which runs west of and parallel to the Clove, on Thomas Fleming's farm (23-42-1-7-1).

In addition, there is a camp site at the northern end of the Clove, half a mile south of Franklin Lake (23-42-1-4-8), and another near the southern entrance to it, between the forks of Singac Brook, on Thomas Fleming's farm (23-42-1-7-4).

Scattered relics occur on the fields west of the Clove (23-41-3-9-2).

Franklin Lake.—There are three sites on the western and one on the eastern shore of the lake, just across the county boundaries (23-42-1-4-2; 4-2, 5; 4-6; 2, 5-8, 2). A fifth one lies south of a swamp, near a brook, some 400 yards east of the lake (23-42-1-5-3). Moreover, an aboriginal burial ground is said to be situated two-thirds of a mile northeast of the lake, a short distance north of the Sicomac road (23-42-2-2, 3-6, 4).

The Indians, in their flowery language, called this sheet of water "Crystal Eye," on account of its pellucidness, and they often came here to fish; hence, the camp sites dotting its shores.

Blauvelt Lakes.—An ancient village occupied the level tract of land extending northwest of Franklin Lake. There is also a camp site east of Blauvelt Lakes, and about half a mile north of Franklin Lake. (23-41-3-3-6; 42-1-1-2.)

Sicomac.—In the section of country, known as Sicomac and lying between Franklin Lake and Midland Park, two camp sites and one burial ground have been located. The former are on the banks of Squaw Brook, not far from its headwaters, 1½ miles east of the lake; the latter is on the old Van Blarcom farm, 2 miles west of Midland Park (23-42-1-6-6; 2-4-4; 6-4, 5).

Midland Park.—Scattered relics have been found east of Deep Glen Brook, 1 mile southwest of Midland Park (23-42-3-4-9; 7-3).

Wyckoff.—There is a camp site on the bank of a small brook, west of the railway station (23-32-8-6-7).

Ramsey.—A site has been noted on a knoll south of a swamp, ¾ miles south of Ramsey, and east of the Erie Railroad tracks (23-32-6-6-5, 6).

SITES IN THE SADDLE RIVER VALLEY.

If the comparative scarcity of sites may be accepted as a safe criterion, there can be no doubt that the territory through which Saddle River flows was to the Indian of secondary importance to the Passaic Valley. Saddle River being but a tributary of Passaic River, the aborigine was, naturally enough, attracted to the larger water course, a few miles to the westward, with its superior opportunities for fishing and hunting.

Thus far only eighteen sites have been ascertained within the region watered by Saddle River, a few of them occurring along the banks of its two principal affluents, namely, Hohokus Creek to the west, and Sprout Brook to the east.

Town of Saddle River.—Two camp sites and one rock shelter have been found on the east bank of the river, about 1 mile south of the town of Saddle River. The rock shelter lies some 300 yards east of the river on the western slope of a ridge, which runs parallel to the river, on Mrs. Isabel Miller's estate. Investigation disclosed a fireplace, containing charcoal and fire-stained

pebbles and in the soil covering its floor there were found some fragments of pottery, chips, bones and a few arrow points of inferior workmanship. (23-33-7-6-6; 8-4-7; 8-4-5.)

Paramus.—On the plains of Paramus, 3 miles downstream, there are three sites near the river, one of them west, the other two east of it (23-43-2-7-1; 7-6; 7-9). Two sites have been noted southeast of Paramus, at the headwaters of Sprout Brook (23-43-5-2-5; 3-1).

Ridgewood.—East of this town there occur two sites on the east bank of Hohokus Creek (23-43-1-6-4; 6-8).

Dunker Hook.—There are three sites at a place called Dunker Hook, 2 miles south of Paramus, two of them west, the other east of Saddle River (23-43-4-6-5, 6; 5-7-1, 2; 5-4-4).

Arcola.—A number of sites have been identified in the neighborhood of Arcola, 2 miles east of Passaic River. Three of these ancient camps were distributed along the western bank of Saddle River, the fourth and most southerly one lay east of it. (26-3-2-1-1, 2; 1-4; 1-8; 5-4.)

An exceptionally good site, probably a village, if one may judge by the profusion of artifacts recovered here in years gone by, occupied the elevated ground east of Sprout Brook, a short distance north of its confluence with Saddle River, between Arcola and Rochelle Park (26-3-2-8-2, 3).

SITES IN THE HACKENSACK VALLEY.

Few data have as yet been obtained concerning the location of aboriginal sites in the region watered by Hackensack River and its affluents. Best known thus far is a section of country lying about 3 miles west of Hackensack River in the townships of Hillsdale and Washington. Six sites have here been noted on or near the banks of Musquapsink Creek, which flows into Pascack Brook, a westerly tributary of Hackensack River.

Wearimus.—The northernmost site is at Wearimus, 1 mile west of Hillsdale (23-33-9-7-4).

Westwood.—Four others lie close together, 1½ miles west of Westwood (23-43-3-4-2; 4-4; 4-5; 4-9).

Emerson.—The southernmost and last site occurs 1½ miles, west of Emerson (23-43-3-8-7)

Spring Valley.—A group of four sites has been located on the banks of a brook which flows through Spring Valley, Midland Township, 1 mile west of Hackensack River. The two westerly ones are on the Stagg and D. H. Hopper farms. (26-3-3-1-6; 1-9; 2-4; 2-8.)

One site each occurs near *New Milford*, *New Bridge* and *Bogota*, all on the east bank of Hackensack River (23-44-4-7-6; 26-4-4-1-2; 4-4).

Teaneck.—There are two large sites on the elevated tract of land west of Overpeck Creek, an easterly tributary of Hackensack River (26-4-4-6, 9-9, 3; 9-6).

Highwood.—A site occurs on the east bank of a brook, 1 mile west of Highwood station, Northern R. R. of N. J. (26-4-2-8-5).

Additional Information Wanted.

Inasmuch as the foregoing list of sites is necessarily incomplete, the Survey is anxious to obtain any further information possible with especial reference to sites and their location. We would be very glad to hear from anyone interested in the subject, and suggest that information be sent to the following address:

STATE GEOLOGIST,
Trenton, New Jersey.

The particular data which we desire to secure are the following:

1. The exact location of any sites in your neighborhood which have been omitted or misplaced on the map.
2. The type of site, whether camp, village, cache, rock shelter, shell heap or cemetery.
3. Abundance and nature of relics found there.
4. Do you know of any old New Jersey Indian relics of a more perishable nature than those found in the ground or on the surface in the possession of any person? We refer to wampum, garments, wooden bowls; wooden mortars and the like.
5. Are there any living descendants of the old New Jersey Indians in your locality, or are any traditions of them still preserved?
6. The names of persons having collections of Indian relics. Donations of these to the State, through the Geological Survey, are invited.

BIBLIOGRAPHY.

- ABBOTT, C. C. The Stone Age in New Jersey. (Smithsonian Report for 1875, Washington, 1877.)
 Primitive Industry; or Illustrations of the Handiwork in Stone, Bone and Clay of the Native Races of the Northern Atlantic Seaboard of America, Salem, 1881.
 Second Report on the Paleolithic Implements from the Glacial Drift in the Valley of the Delaware River, near Trenton, New Jersey. Salem, 1878.
 Eleventh Annual Report, Peabody Museum of American Archæology and Ethnology. Cambridge, 1878.
 Archæologia Nova Cæsarea. Trenton, 1907-1909.
 Ten Years' Diggings in Lenâpé Land. Trenton.
- ADAMS, R. C. Legends of the Delaware Indians and Picture Writing. Washington, 1905.
- ANTHONY, A. S., AND BRINTON, D. G. A Lenâpé-English Dictionary. Philadelphia, 1888.
- ATKINSON, JOSEPH. History of Newark, New Jersey. Newark, 1878.
- BRAINERD, DAVID. Memoirs of, Rev. David Brainerd, based on the life of Brainerd, prepared by Jonathan Edwards, D.D. New York, 1891.
- BRINTON, D. G. The Lenâpé and their Legends; with a complete text and symbols of the Walam Olum. Philadelphia, 1885.
- COLDEN, CADWALLADER. The History of the Five Indian Nations of Canada, which are the Barrier between the English and French in that part of the world, with particular accounts of their religion, manners, customs, laws and government, etc. London, 1747.
- DANKERS, JASPER, AND SLUYTER, PETER. Journal of a Voyage to New York, etc., in 1679-80. (Memoirs of the Long Island Historical Society, Vol. 1, 1875.)
- DENTON, DANIEL. Brief Description of New York, etc., 1670-1845. (William Gowans Bibliotheca Americana.)
- DE VRIES, DAVID PETERSON. Voyages from Holland to America. New York, 1853.
- HARRINGTON, M. R. Some Customs of the Delaware Indians. (Museum Journal, University of Pennsylvania, Vol. i, Philadelphia, December, 1910.)
 Vestiges of Material Culture among the Canadian Delawares. (American Anthropologist, Vol. 10, pp. 408-418. Lancaster, 1908.)
 The Rock-Shelters of Armonk, New York. (Anthropological Papers, American Museum of Natural History, Vol. 3, pp. 125-138. New York, 1909.)
- HARVEY, HENRY. History of the Shawnee Indians from the year 1681 to 1859, inclusive. Cincinnati, 1855.
- HAYNES, HENRY W. The Argillite Implements Found in the Gravels of the Delaware River, at Trenton, New Jersey, compared with the Paleolithic Implements of Europe. 1881.
- HECKEWELDER, REV. JOHN. An account of the History, Manners and Customs of the Indian Nations who once Inhabited Pennsylvania and the neighboring States. (Transactions of the Historical and Literary Committee of the American Philosophical Society, Vol. 1. Philadelphia, 1819.) Words, Phrases and Short Dialogues in the Language of the Lenni Lenâpé or Delaware Indians. (Transactions of the American Philosophical Society. Philadelphia, 1819.) Comparative Vocabulary of Algonkin Dialects. Cambridge, Mass., 1887.

- HOLM, THOMAS CAMPANIUS. A Short Description of the Province of New Sweden, etc. (Memoirs, Historical Society of Pennsylvania, Vol. 3, part 1. Philadelphia, 1834.)
- HOLMES, W. H. Are there Traces of Man in the Trenton Gravels? (Journal of Geology, Chicago.)
- HRDLICKA, ALES. Skeletal Remains Suggesting or Attributed to Early Man in North America. (Bulletin 33, Bureau of American Ethnology, Washington, 1907.)
The Crania of Trenton. (Bulletin, American Museum of Natural History, Vol. 16, article 3, pp. 34-40. New York, 1902.)
- LEE, FRANCIS B. New Jersey as a Colony and as a State. Chapters I and II. New York, 1902.
- LOSKIEL, GEORGE HENRY. History of the Mission of the United Brethren among the Indians of North America. London, 1794.
- MERCER, C. A New Investigation of Man's Antiquity at Trenton. (Proceedings of the American Association for the Advancement of Science, Vol. 46, 1887, with appendix by Arthur Hollick.)
- MONTANUS, ARNOLDUS. Description of New Netherland. Amsterdam, 1671.
- NELSON, WILLIAM.. The Indians of New Jersey. Paterson, 1894.
Personal Names of the Indians of New Jersey. Paterson, 1904.
The Salem Interpreter, recorded in office of the Secretary of State, Trenton, and printed by Nelson. (See The Indians of New Jersey.)
- PLANTAGENET. New Albion, 1648.
- RAU, CHARLES. Artificial Shell Deposits in New Jersey. (Annual Report, Smithsonian Institution, 1864.)
- RUTTENBER, E. M. History of the Indian Tribes of Hudson's River; their origin, manners and customs, tribal and sub-tribal organization, wars, treaties, etc. Albany, 1872.
- SCHRABISCH, MAX. Indian Rock-Shelters in Northern New Jersey and Southern New York. (Anthropological Papers, American Museum of Natural History, Vol. 3, pp. 141-165, New York, 1909.)
- SKINNER, ALANSON. The Lenapé Indians of Staten Island. (Anthropological papers, American Museum of Natural History, Vol. 3, pp. 3-62, New York, 1909.)
The Archæology of Manhattan Island. (Anthropological Papers, American Museum of Natural History, Vol. 3, pp. 113-121, New York, 1909.)
Archæology of the New York Coastal Algonkin. (Anthropological Papers, American Museum of Natural History, Vol. 3, pp. 213-235, New York, 1909.)
The Indians of Manhattan Island and Vicinity. (Guide Leaflet, No. 29, American Museum of Natural History, New York, 1909.)
- SHARP, WILLIAM. (Ed. Smith's) History of New Jersey. Trenton, 1877.
- THOMAS, GABRIEL. Historical and Geographical Account of Pennsylvania and West New Jersey in America. London, 1879 (1698).
- VOLK, ERNEST. Archæology of the Delaware Valley. (Papers of the Peabody Museum of Archæology and Ethnology. Vol. 5. Cambridge, Mass., 1911.)
- WOLLEY, CHARLES. A Two Years' Journal in New York, etc. London, 1701. (Reprinted, New York, 1860.)
- WHITEHEAD, WILLIAM A. The Model of the Government of the Province of East New Jersey in America. Edinburg, 1685.
- ZEISBERGER, DAVID. Diary of David Zeisberger, a Moravian Missionary among the Indians of Ohio. Translated and edited by E. F. Blin, Cincinnati, 1885. 2 vols.
Indian Dictionary, Cambridge, Mass., 1887.
Grammar of the Language of the Lenni Lenapé or Delaware Indians. Translated by P. S. Duponceau. (Transactions of the American Philosophical Society, Vol. 3, Philadelphia, 1830.)

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