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Plate I

STONE ARTIFACTS from the J. T. WOODS SITE in ALBEMARLE Co., Va.

Henry H. Hutchinson

The Smithsonian Institution, Bureau of American Ethnology, published in 1955 Bulletin Number 160, entitled "A Ceramic Study of Virginia Archeology," by Clifford Evans, with an Appendix, "An Analysis of Projectile Points and Large Blades," by C. G. Holland. (1) This publication led me to visit some of the sites mentioned. On the J. T. Woods Site, where I surfaced hunted many times, I found many broken and unfinished stone artifacts, a few finished points, and one polished and ground greenstone celt. The purpose of this paper is to make a comparison of my finds with those reported by Holland and Evans. Although Holland does not mention stone axes or celts, they make up a large proportion of the artifacts that I found on this site. Some of these are shown on the Cover Plate of this issue, and typical projectile points are shown on Plate 1.

The site is in a narrow valley of the headwaters of Moormans River, where the tillable land is only about 0.12 miles wide and about 5 or 6 acres in extent. The soil is clay with many water-worn field stones mostly of chert and quartzite, with some white quartz - much of it weather fractured, and many large flakes of chert, quartz, and quartzite.

Here Holland found a preponderance of what he calls I (notch stemmed) and L (parallel stem) points. It is interesting to note that only two miles down the river, at an Indian site called the Whitehall Shelter by Evans, Holland reported finding a preponderance of his types A, B, C, and T, all of which are only different sizes of triangular points. On the J. T. Woods Site neither Holland nor I found any of these four triangular types. The Whitehall Shelter also contained pottery of Evan's Albermarle and Stony Creek series; both series are grit tempered and include fabric impressed, cord marked, and stamped ware, and other surface treatments in small percentages. At the J. T. Woods Site Holland reported finding only one potsherd; in my several visits I found none.

The illustrations on our cover show examples (numbers 1, 2, 3, 7, and 8) of the crude stone axes I found at the Woods Site. Most of these have rough notches on two sides, like those on the crude stone axes of the Guilford Focus as described by Coe (2). Although the notches are not as pronounced as those in the one illustration given by Coe (3), they fit his type description. Numbers 4, 6, and 9 are crudely chipped blades with no secondary flaking. Number 5 is a highly polished celt with a sharp cutting edge and "peck marks" on the poll.

The following comparison (percentage-wise) of the projectile points from the Woods Site in Holland's collection with those in mine uses Holland's type letters and nomenclature. Considering the small size of both collections, we might not expect any very close correlation; nevertheless, types L and M are remarkably similar in percentages found.

Type	Name	Percent found Holland	Percent found Hutchinson	Number on Plate 1
D	Crude Triangular	1.1	5.5	2
I	Notched Stemmed	28.	5.5	7
L	Parallel Sided Stem	21.5	22.3	1, 9
M	Side notched	3.2	5.5	17
P	Large Contracting Stem	1.1	5.5	13
U	Large Rounded Base	1.1	27.5	8, 11, 14, 18

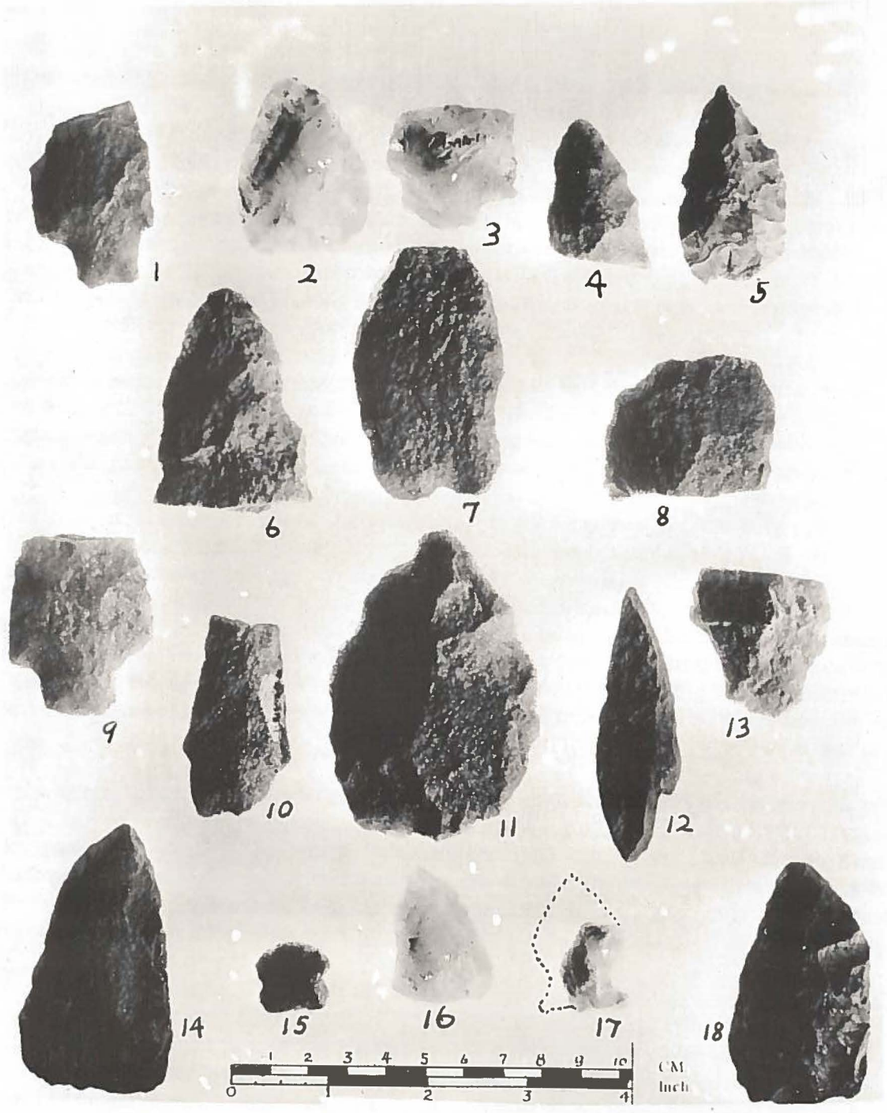


Plate 2

Type	Name	Percent found Holland	Percent found Hutchinson	Number on Plate 1
	Materials			
	Quartz	51.	35.	
	Quartzite	17.3	35.	
	Clear Quartz	21.	0.0	
	Chert	4.3	3.	
	Total number in collection	93.	23.	

Although I found no "clear Quartz" artifacts, I found some clear quartz chips and a few non-classifiable partly worked stone fragments of that material.

Some of the points shown on Plate 1 are not represented in the types reported by Holland. Number 12 is reminiscent of the late Solutrean point illustrated by Osborn (4), but our two points of this shape are of a stone something like argillite and the workmanship is very crude. Their onesided stem suggests the American Sandia point (5), but here again the workmanship and material are not comparable. Their shape is also comparable with Cressman's Type I-p from Oregon (6). Another type not mentioned by Holland is the blunt point number 15 or what is generally called a stemmed scraper. This one is of light colored flinty material and was probably imported to this little valley, for I do not think such stone is found in this watershed.

I think this site was a "work-shop" site where some early tribe hunted and also picked up suitable pebbles and river-stone, roughed them out on the spot and carried the best of their rough-shaped artifacts away to their regular camp or village for final finish.

ACKNOWLEDGMENTS and REFERENCES

1. Wherever Holland or Evans is mentioned the reference is to Bulletin 160, published by the Smithsonian Institution, Bureau of American Ethnology in 1955.

2. Joffre L. Coe, "The Cultural Sequence of the Carolina Piedmont," in Archeology of the Eastern United States (1952), by James B. Griffin, p. 304.

3. Griffin, Figure 162.

4. Henry Fairchild Osborn, Men of the Old Stone Age, 1916, p. 346.

5. H. M. Wormington, Ancient Man in North American, 1949 ed.

6. L. S. Cressman, "Cultural Sequence at the Dalles," in Transactions of the American Philosophical Society, Vol. 50, Part 10, 1960.

THE "SPLINT" BONES OF DEER FEET

David Marine

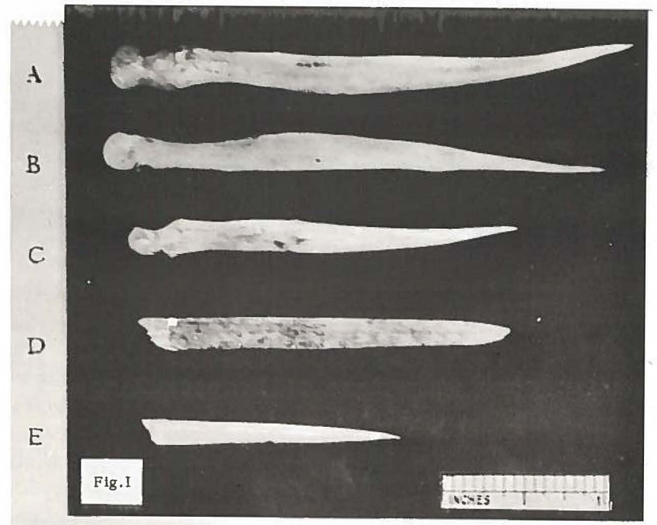
At our February (1961) meeting Mr. Frank Donovan demonstrated a thin splintlike bone which he said he had obtained from Mr. Samuel Schaffer of Greenwood, Delaware, who has taken up taxidermy as a hobby. Mr. Schaffer told him two of these bones are normally present in each forefoot of our native deer (Cariacus virginianus) between the hock and the fetlock. Mr. Schaffer also told him they were locally called "Indian needles". As none of the members present was familiar with this bone and because of its possible archeological interest, the subject was referred to the writer to look up and prepare a report.

DESCRIPTION: Three of these bones are shown in Figure 1, A, B, C. They have a fairly constant shape, but their size varies with the size of the deer. The head or articular surface is rounded and flattened on its external-internal aspects. Just below the head there is a well-defined constriction or neck, and beyond the neck the bone again is widened and thickened for a short distance. Then it takes on a blade-like shape which gradually becomes thinner and tapers to a point. The blade-like portion is very slightly convex on its external surface and correspondingly concave on its internal surface. There is also a slight curvature of the long axis - most marked in the lower (distal) half. The convexity, concavity and longitudinal curvature are due to their location on the outer and inner posterior-lateral surfaces of the "cannon" bone.(See footnote No. 1) On account of their shape and location they are popularly called "splint" bones. The shape of these bones somewhat resembles the scapula or shoulder blade of birds.

COMPARATIVE ANATOMY: Two splint bones (vestigial II and V metacarpal) are regularly present in each fore foot and are absent from the hind feet of our white tailed deer. Many other ungulates or hoofed animals, with the exception of the pig family, have vestigial II and V metacarpal bones. Most of the hoofed animals (horses, cattle, deer, sheep) have greatly elongated and enlarged metacarpal and metatarsal bones (the so-called "cannon" bones), and such animals literally walk on one (horse) or two (cattle, deer) toes (see Figure 2). Hoofed animals have only four metacarpal and metatarsal bones while most quadrupeds have five. In those with four metacarpal and metatarsal bones it is always the first that has undergone complete atrophy.

In the deer the III and IV metacarpal and metatarsal bones are fused to form the much enlarged and elongated "cannon" bone while the II and V metacarpal and metatarsal bones have either atrophied to vestigial remnants (Figure 2) or have completely disappeared and so far as known the latter have no well defined function.

The fact that their distal ends are articulated with the first phalanx of the II and V digits just as the "cannon" bone is articulated with the III and IV digits suggests that they may serve to strengthen, brace and enhance the function of the II and V digits. Since normally in deer only the III and IV digits touch the ground in walking on solid ground, many believe that the atrophic II and V digits "act in the same way as the sprag of a punt-pole, preventing the leg sinking too deeply in soft ground". The flattened and slightly curved long axis of these splint bones is due to their fitting closely to and conforming to the curvature of the posterior-lateral surfaces of the distal end of the "cannon" bone and do not add appreciably to the width of the slender cannon bone. According to the measurements of Hue (1) the average overall length of the fore-foot "cannon" bone is 7-8 inches and that of the hind foot 9-10 inches.



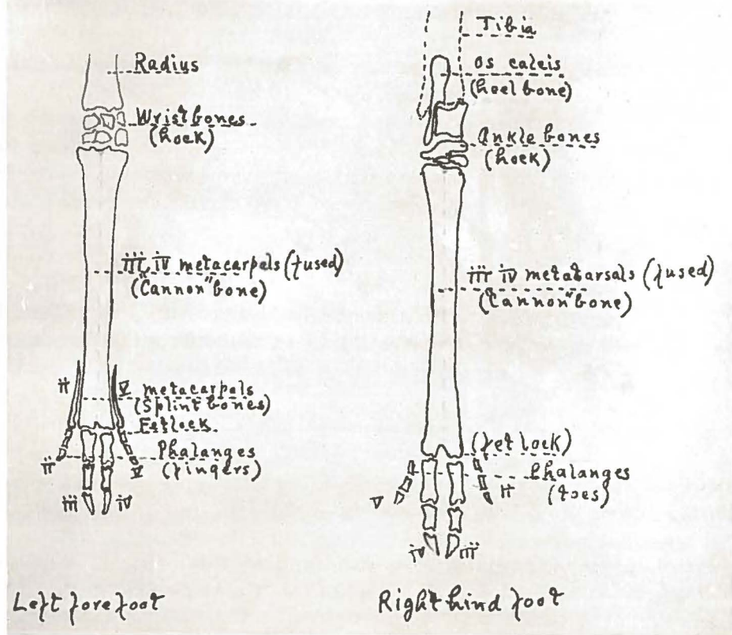


Figure 2. Sketch (schematic) of left fore foot and right hind foot of deer distorted to emphasize particular features.

The relatively much greater length of the "cannon" bones in the equine and cervine families is the major cause of their long slender legs which provide these otherwise relatively defenseless animals with the means of speedy travel as a protection against their enemies. At any rate the horse and deer have the best preserved "splint" bones of all the ungulates.

ARCHEOLOGICALLY the metacarpal and metatarsal bones are important. In the first place, the "cannon" bone (fused III and IV metacarpal or metatarsal) is valuable in identifying the mammaliam bones found in refuse pits despite the fact that the deer usually accounts for about 90% of the bones present in Delaware middens. Secondly, it is very hard (because of its function) and on this account is usually better preserved than many other bones. Also, on account of its density and toughness the Indians often made awls and other tools from it.

The only other metacarpal or metatarsal bones are the vestigial remnants of the II and V - the so-called "splint" bones. As mentioned earlier, Mr. Schaffer pointed out that these bones have been called "Indian needles". They are also hard and, as worked bone, have been found in local Indian refuse pits despite their relatively very large surface area. I have found fragments of what were called bone needles (?) but did not know they might have been deer "splint" bones. Fragments of bone needles that probably were made from splint bones are illustrated in Figure 1, D and E. They were loaned from the collection of Henry H. Hutchinson, to whom we are indebted for permission to use them. Specimen "D" was found at the Russell Site (7-S-D7) and "E" at South Bowers Beach, Kent County, Delaware. With trivial effort these "splint" bones could be shaped into almost ideal hair or tunic pins.

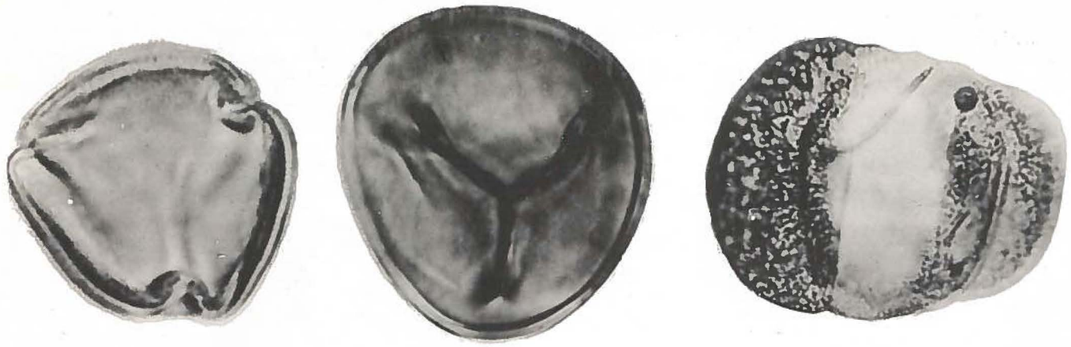
It is of interest to note that Cornwall, (2) states on page 178 "Metatarsal I is always entirely missing and II and V are also atrophied, being represented, if at all, only by small proximal or distal vestiges which are of little importance in the present context."

FOOTNOTE: 1. Canon-bone - sometimes spelled canon-bone probably derived from French canon and Low Latin canon meaning tube. (International Dictionary N.Y. and London, 1898.)

2. After this report was written a member of our Society, Mr. Charles L. Bryant, said he had preserved all four feet of a white tailed deer and that these were available for study. These will be dissected and a further report may be made.

BIBLIOGRAPHY:

(1) Hue, E. Musée Ostéologique, 2 Vols. Schleicher, Paris 1907.
(2) Cornwall, I. W., Textbook "Bones for the Archeologist", Phoenix House Ltd., London, 1956.
(3) Stewart, T. Dale, National Museum, Washington, for consultations.



ANGIOSPERM pollen FERN spore PINE pollen

All these are from upper Cretaceous deposits aged about 60 million years. Actual size one-half the diameter of a human hair.
Photographs courtesy of Johan J. Groot, State Geologist.

POLLEN ANALYSIS

Pollen analysis is an important branch of scientific study in its own right apart from any use archeology is able to make of it. Here in America we have found Carbon 14, with its half-life of about 5,700 years, better suited to our time problems; however with each decade we deal with longer periods of the past, and if we go back further than the present barrier of the Wisconsin glaciation we shall find ourselves out of the range of Carbon 14 and in the nearest field of Pollen analysis.

In his talk before our Society on February 16th, Dr. Groot gave an example which illustrates this point; an excavation in a southern section of Sussex County produced pollens that proved to be of fir and spruce, trees suggesting a sub-artic climate. At the same level a log was found that could not be dated by Carbon 14, the report being only that it was over 15,000 years old. Nearer the surface the pollens were of vegetation of warmer climates and between these two strata must have been the level of the time of the retreat of the glaciers.

In Norway much careful work with pollens has made it possible to plot and date the retreat of the last glaciation over the whole length of the country. There is no present prospect of this being done in Delaware, but some sampling may later indicate a depth below which no trace of post-Wisconsin man could exist.

No excavation we have yet made has reached into these levels of greatly different climate. Our pits have been later than the introduction of agriculture. In some of them small corn cobs have been found and a general use of tobacco is unquestioned, but the date of the introduction of tobacco might be important in deciding whether highly finished stone pipes such as have been found at the Dover site were used for smoking or had some other function.

Pollen analysis could decide such questions, but unfortunately, like Carbon 14, the process is very exacting and hence expensive.

O.H. PEETS

An Obsidian Fluted Point Made by James Parsons

by Orville H. Peets

James Parsons of Lewes, Delaware, who made the 3" obsidian fluted point shown in Figs. 1 and 2, is a careful investigator and collector for whom theorizing and practical testing always go together. He has made many ordinary projectile points from the water-worn flint pebbles that are the only source of flint in the Delaware area, and when he was able to get some good obsidian from the west he decided to try his hand at making a fluted point. Parsons' theory as to how the fluting was done, although formulated only from his own experience, was similar to that proposed by John Witthoft (1) and others. It would be necessary, he decided, to prevent the force of the blow from spreading laterally so that it would carry downward from the base to the tip as far as possible.

It has been suggested (2) that the fluting was the last operation on the otherwise finished point. An Indian craftsman would not have like the prospect of spoiling a usable point, so he must have had confidence in the manner by which the flute was to be produced. The place at which the blow would logically be struck was, Parsons reasoned, at the edge of the base (striking platform) and equidistant from the corners. So he first struck off several flakes on both sides at this selected spot, making relatively large and deep nicks (spall facets) which left the striking platform as a miniature flat-topped promontory (Figs. 1A and 2B).

Using the same small oval stone that he employs for most of his percussion chipping, Parsons then struck this stub a single sharp blow which produced the longer flake (Fig. 1B) and left the flute (Fig. 1A). Because this was the first and longer flute created, we call this side the obverse, although with truly symmetrical channels one could not use the terms obverse and reverse. However, symmetrical channels are not common, probably for the reason that the base is often not thick enough after taking off the first flake to allow a strong stub to be worked out, and a weak one would only be shattered. So the reverse flute (Fig. 2, A) resembles more the scar left by an ordinary conchoidal fracture.

It is interesting to note that the relation here of the obverse flake and flute to the reverse closely approximates that illustrated by tables presented by Mason (3). Before making this fluted point Parsons had not read this important paper by Dr. Mason and, in any case, the character of the fluting of his points is the result of his own technique and not of his reading. He demonstrated his theory to his own satisfaction and has offered to demonstrate it to a group of authorities if satisfactory raw material is supplied. If others hold different theories, it would seem to be their obligation to make their own practical demonstration as Parsons has done.

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(1) Witthoft, John: "A Paleo-Indian Site in Eastern Pennsylvania." Proc. Amer. Philos. Soc., Vol. 96, No. 4, pages 464-95. 1952.
(2) Mason, Ronald J.: "Late Pleistocene Geochronology and the Paleo-Indian Penetration into the Lower Michigan Peninsula." Anthropological Papers No. 2, Museum of Anthropology, University of Michigan, Ann Arbor, Michigan. 1958.
(3) Mason, Ronald J.: op. cit.

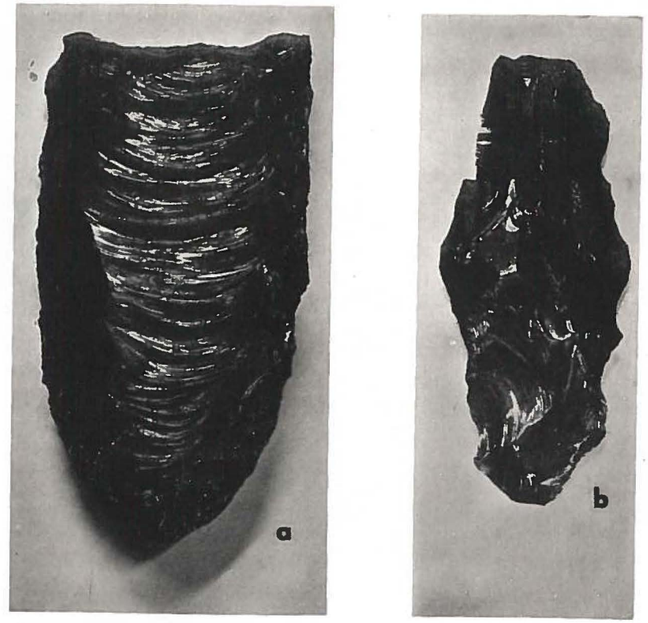

Fig. 1 (A) Obverse side of 3" long obsidian fluted point, and (B) flake struck off to create the flute.

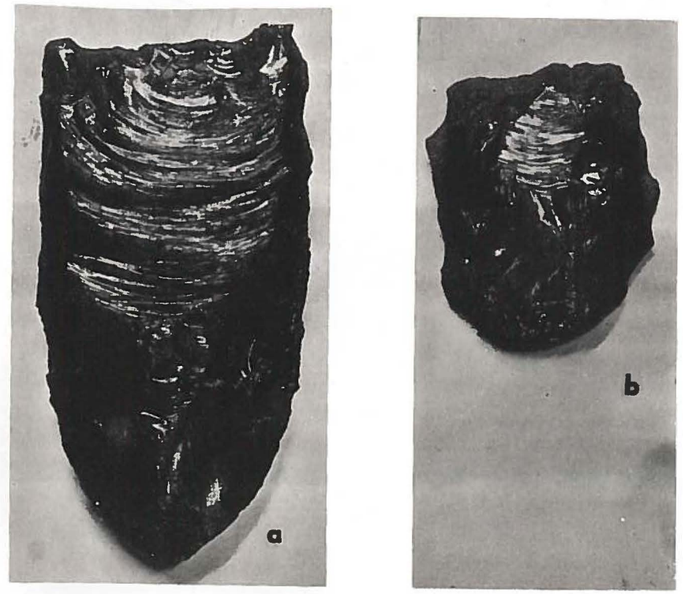

Fig. 2 (A) Reverse side of the obsidian fluted point shown in Fig. 1, and (B) flake struck off to create the flute.

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NOTICES

A very useful aid for the keeping of archeological records and reports has been put out by the Chandler Publishing Co. 660 Market Street, San Francisco 4, California. It is called "The Archaeologist's Note Book" and was devised by Clement W. Meighan, University of California, Los Angeles.

It seems appropriate to say "devised" rather than "written" because detachable printed forms outnumber pages of text ten to one. There is notwithstanding, practical advice for the conduct and recording of almost every sort of excavation (even a sample letter requesting permission to dig is included) and our members who have Heizer's 1953 "A Guide to Archaeological Field Methods" will find readings indicated that greatly expand Dr. Meighan's text. A central feature is the availability of eight different forms in tablets of 60 which may be bought for a dollar each from the store selling the book or from the publishers.

Every small society has the problem of getting forms printed and, after making many compromises, is forced to decide on some model general enough to permit ordering a minimum of I,000 from some local printer only to find, as a rule, that it has serious disadvantages for many sites. By having eight different forms each can be more specific.

Information on back issues of the Archeolog may be obtained by communicating with Henry H. Hutchinson, Bethel, Delaware.