

LETTERS TO THE EDITOR.

Indian Relics from North Carolina.

DURING the past summer the writer was one of a party who tramped through the mountains of western North Carolina for a month. The country was extremely rough, and we were somewhat surprised at the exceeding abundance of Indian relics. Arrow-heads were found almost everywhere, and we often picked them up even in the roads. There was hardly a mountaineer to be found who had not at least a hatchet or a scraper, and often a native would come in smoking a pipe he had found in his cornfield. The favorite material for the pipes and scrapers was soapstone. Some of the former resembled in shape the common clay-pipe bowl;

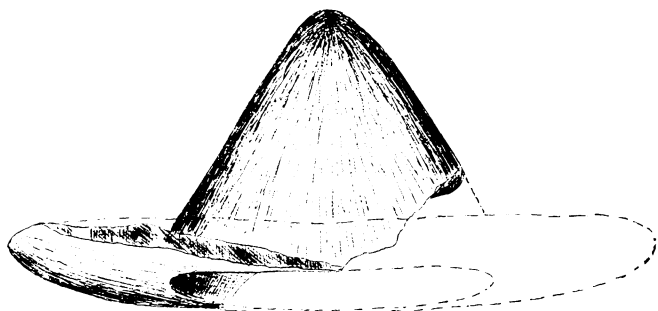


FIG. 1.

and it is possible that such are recent, for it is not more than forty or fifty years since the Cherokees roamed over all that region. Still we saw none such among the Indians on the Reservation, and of many of the relics they know as little as we. The hatchets were of a variety of materials, and none of them highly polished.

In almost every cornfield the soil was filled with fragments of pottery, some solid and showing marks of fire, others crumbling to dust. One could pick up pieces by the thousand, and not one could be found which did not show some form of ornamentation. All the designs were geometrical figures formed by combinations of straight lines and curves, both circular and spiral. The edges of the vessels seemed in some to be plain, and in others raised and scalloped or notched. None were found showing any traces of

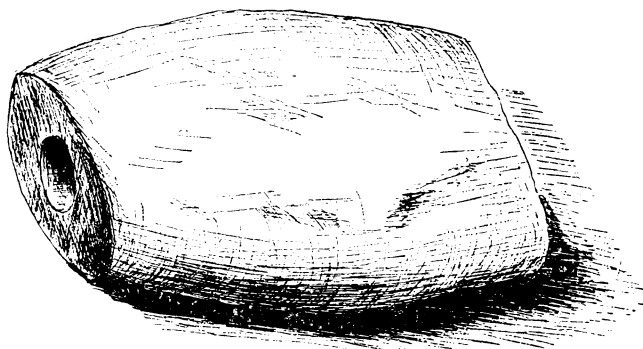


FIG. 2.

handles, or any lines of chafing from cords. The designs were evidently made with a sharp point while the clay was soft. The Cherokees still make much of their own pottery, but it is rude, and as a rule unornamented.

We ran across several specimens which puzzled us. One, which is represented in Fig. 1, was shown to us by the owner of a gold-mine near Cashiers Valley, Jackson County. It was washed out in the gravel. We were permitted to make a drawing of it. It is neatly cut from a greenish soapstone, and is quite smooth. It is badly broken, but the apparent form is indicated by the dotted line. It resembles somewhat one of the old-fashioned sugar-loaf hats, and is neatly hollowed out on the inside. Nearly in the middle of the side, as will be seen from the drawing, is a small hole drilled through the stone. We could think of no possible use for such an implement.

Another interesting one, found in a field near the Nautehala Mountains, in Macon County, is shown in Fig. 2. It is an oval block of soapstone, with perfectly flat ends, and has in one end a

neatly cut circular hole 1.5 centimetres in diameter, and 2.3 centimetres deep. The length of the specimen is 9.7 centimetres, and its greatest breadth 8.5 centimetres. The surface is comparatively smooth, but no attempt seems to have been made to polish it. It is now in the possession of the writer, who would be glad to receive any information as to its use.

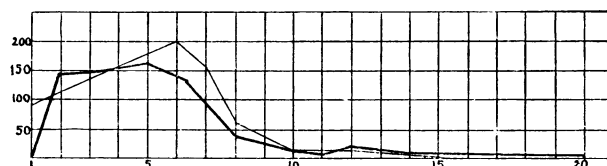
The only mound we saw is close to the town of Franklin, the county seat of Macon County. This stands on the bottom-lands, not far from the Tennessee, and is well preserved. It is an oval truncated cone; and we estimated the greatest diameter of the base at seventy-five feet, and its height at twenty feet. We heard of another on the road from Charleston to the Indian Reservation at Yellow Hill, but failed to find it. Beads, arrow-points, pottery, and other relics, are often ploughed up near these mounds, but the limited time at our disposal prevented any very thorough exploration.

L. N. JOHNSON.

Evanston, Ill., Jan. 19.

The Characteristic Curves of Composition.

I WAS intensely interested in the article *Science* published more than a year ago, by Professor Mendenhall, on style curves, and made up my mind to submit the Bacon-Shakspeare question to a style-curve test at once. But somehow it was only last week that I



got at it. I enclose you the result. The light line is Bacon; the heavy, Shakspeare.

In order to understate it, if possible, I selected the Shakspeare from Oliver's speech (*Twelfth Night*, II. i. 110), — a passage almost as sententious as Bacon's acknowledged work; and the Bacon from his "Essay on Youth and Age." APPLETON MORGAN.

New York, Jan. 19.

The Permian Rocks of Texas.

AS it is evident that the question of the occurrence of Permian strata in America will again be raised at an early day, and that generalizations will be based upon the as yet little studied Texas region, it may be in order to state that we have here a great series of beds, beginning west of the 97th meridian, and succeeding the carboniferous; and beneath the undoubted Wealdan beds of the cretaceous, a great development of strata, the lower half of which cannot possibly be referred to any other age than the Permian, although the upper portion is probably triassic. Professor Cope has long since described the vertebrates of these Permian beds; and the *Mollusca*, I am informed, are now being examined. The stratigraphy, however, has as yet only been reconnoitred, and no section whatever determined. The writer, however, made two journeys across the region into New Mexico last summer, to observe the problem, and was impressed with a fact which should be borne in mind in future discussions of the region. The stratigraphic features agree, as far as could be seen, in nearly every generality with those of the Kanab Valley of Utah as described by Mr. C. D. Walcott, a few years ago, in the *American Journal of Science*, and were the direct eastward continuation of the same. Not only does this similarity agree with the Permian beds, but with the upper beds, which he calls triassic. This connects the Grand Canon and Texas Permian-triassic basin beyond all doubt; and to Mr. Walcott belongs the credit of the first and only intelligible section of the American Permian, a most marked and unmistakable terrain, the discovery of which was made, as agreed, by Professor Jules Marcou. This fact, together with the distinct basin type of structure of the trans-Pecos region, to which I have recently called attention, and the determination of many distinctly western geographic features extending two-thirds the way across Texas, makes this State pre-dominantly western, although its eastern third is within the limit of the timber-covered southern coastal plain.

ROBT. T. HILL.

Austin, Tex., Jan. 21.