

NOTES ON COPPER IMPLEMENTS OF AMERICA.

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IN the Proceedings of this Society for April, 1879, there is an important article by Dr. Valentini on "Mexican Copper Tools and the use of Copper by the Mexicans before the Conquest," translated from the German by Mr. Stephen Salisbury, Jr., and afterwards reprinted by him as a valuable contribution to American Archæology. This interesting paper is mainly based upon a thorough study of the pictures to be found in Mexican codices, and I have thought that a few notes upon it might be worthy of being brought to your attention.

It has already been pointed out by Prof. J. D. Butler, of the University of Wisconsin, that Dr. Valentini has fallen into an error in stating in regard to the natives of Mexico and Central America, as well as those of North America, that "both were trained to the practice of war, and strange to say both had invariably abstained from shaping copper into any implement of war, the metal being appropriated solely to the uses of peace." In the *American Antiquarian* for October, 1880 (p. 33), he calls attention to the fact that more than one hundred copper spear-heads are contained in the very remarkable collection of the Wisconsin Historical Society, at Madison, which is principally the result of the disinterested labors in that State of Mr. F. S. Perkins, carried on by a personal exploration of several counties extended over many months. I have here for your inspection a couple of specimens of these Wisconsin spear-heads, for which I am indebted to the kindness of Mr.

Perkins. One of them exhibits very clearly the kind of surface markings which are supposed by some persons, I think erroneously, to indicate that the metal has been melted and cast. Copper spear-heads of this shape are by no means confined to the State of Wisconsin. Dr. C. C. Abbott in his "Primitive Industry," figures two similar examples found in the State of New York, and he remarks that "it is not improbable that copper weapons were in quite general use at the time of European contact" (p. 418.)

Dr. Valentini makes the following statement in regard to the method by which the Mexicans fastened to their handles their copper axes of the flat celt type: "The wooden handle . . . instead of being chopped off at the top . . . extends further and is bent down to an angle of about 45 degrees. . . . We only *presume* that in order to get a durable handle they sought a curved branch." Since this was written new light has been shed upon this subject by the publication of Mr. John Evans's "*Ancient Bronze Implements of Great Britain*,"* the sixth chapter of which is devoted to a thorough study of "*methods of hafting celts*," and is illustrated by several plates. One of these represents just such a crooked handle, made out of a curved branch of a beech tree, the original of which I have myself examined in the Museum of Salzburg, in Austria. This with three similar handles was discovered in the very ancient workings of the neighboring salt-mines of Hallein, and they were used for hafting those flat winged-celts, of the Age of Bronze, commonly called palstaves. Two photographs of these remarkable relics of antiquity, preserved in all their integrity in such a marvellous manner for so many centuries, are given in the "*Matériaux pour l'histoire de l'homme*," vol. xvi., pp. 220, 211 (May 1881.) The preface to Mr. Evans's work is dated March, 1881. But as early as January, 1875, Prof. Strobel had published his views upon the method of hafting and using palstaves, derived from the discovery of several of these curved

handles in the Terremares of Emilia, and the Lake-Dwellings of Northern Italy. (“*Bollettino di Paletnologia Italiana*,” vol. i., p. 7, tav. 1.) Palstaves with similar curved handles are also plainly delineated upon the celebrated bronze “situla,” a product of the ancient Etruscan civilization, found in the excavations of the Campo Santo at Bologna, and now preserved in the Civic Museum of that city. This is represented upon Plate XXXV. of the splendid work of Zannoni, entitled “*Gli scavi della Certosa di Bologna*.” The socketed celts, also, of the Bronze and the early Iron Ages, were hafted in a similar fashion by means of a curved branch. One handle of this shape which has been preserved in the most remarkable manner to the present time, is now in Mr. Evans’s extensive collection of prehistoric objects at Hemel-Hempsted, Hertfordshire, England, and is figured in the work already alluded to. I had the good fortune to procure this interesting relic for him at Florence in the winter of 1877, and I have here for your inspection a rude drawing of it, which I made at the time. With the exception of a fracture not far from the angle the handle of this specimen is still perfect. It was found in the neighborhood of Chiusi, in Tuscany, about the year 1872, and it appears to belong to that period of transition between the Bronze and the Iron Ages, when the so-called Proto-Etruscans made their appearance in Italy. “The preservation is due,” says Mr. Evans, “to its having been entirely coated with thin plates of bronze, the sides of which overlap, and have been secured round the handle by round-headed nails about $\frac{3}{4}$ inch apart. . . . The fracture exposes the wood inside the plates, which has been preserved by the salts, or oxide, of copper.”

The copper implement with a semi-lunar blade, copied by Dr. Valentini from Dupaix, *Antiquités Mexicaines*, and to be found in Lord Kingsborough’s great work (vol. iv., Part ii., Pl. 25, Fig. 77,) is regarded by him as a hoe or some such utensil for tillage. But our associate, Mr. F. W.

Putnam, in a very valuable paper presented at the October meeting 1882, entitled "Copper Implements from Mexico," prefers to consider it as possibly a knife, although in a note appended he inclines to the opinion that it is a "scraper," perhaps employed in the manufacture of pottery. He there states that Dr. Valentini now believes that such copper implements from Mexico are knives, and he instances in support of this view the fact that several small bronze knives of this shape, found in Peru, are preserved in the Peabody Museum, under his charge, in Cambridge. I wish to bring forward one more example to strengthen this opinion that such objects are certainly knives. In Schoolcraft's great work on the "Indian Tribes" (Part iv., p. 438, pl. 39), is described and figured an object of this shape made of bronze, and found in Chili, although undoubtedly it came from Peru. The blade and handle are cast in one piece, and the handle is made in the form of the inverted leg and foot of a bird. Mr. Ewbank, late Commissioner of Patents, who describes it, calls it "a Peruvian knife proper, with a circular blade," and states that he has "met with one more elaborately worked in the handle in a South American collection of antiquities. . . . When used, the right hand grasped the shank, while the ball of the thumb rested between the open claws. In this way a firm hold and control of the blade was secured." Similar curved knives are used now by workers in leather, and have been from the earliest historical times. Sir Gardner Wilkinson, in his "Ancient Egyptians" (vol. i., p. 233, wood cut No. 65, c. and vol. ii., p. 187), gives a figure of one which is delineated upon a painted tomb at Thebes. The Scholiast upon Nicander, *Theriaca* (v. 423), informs us that a knife of this shape, which was called by the name ἀρβηλος, was also employed by the leather-dressers of ancient Greece.

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