III.

NOTICE OF TWO BRONZE IMPLEMENTS FROM INDIA; WITH OBSERVATIONS ON THE ONE SAID TO HAVE BEEN FOUND AT NORHAM, AND NOW IN THE SOCIETY'S MUSEUM. By SIR WALTER ELLIOT, of Wolfelee, K.C.S.I., F.S.A. Scot.

Several years ago my attention was attracted by some bronzes in the Calcutta Museum, acquired shortly before, and I succeeded, through the curators, in purchasing two similar specimens of each kind, but of a third form in the museum, like a partizan or halberd with lateral processes, no more remained in the finder's possession.

The simplest of the two forms, of which a specimen is now exhibited, is a long heavy blade of nearly equal width for about two-thirds of its length, and tapering thence to the point with an elliptical curve. It has a stout midrib running down the centre of the blade, and terminates at the butt end in a flat tang about one-third of the width of the blade, which has a curved spine-like projection on one side. (See fig. 1 in the accompanying woodcut.) Its dimensions are, length, $28\frac{3}{4}$ inches; width at the butt, 4 inches; length of tang, 4 inches.

The other weapon is much more complicated in construction, resembling a triply-barbed harpoon, but so massive and heavy that if handled and used as a harpoon it could only be wielded with difficulty by a very strong man. It consists of a tapering blade rather more than 6 inches long, having a strong midrib which thickens as it proceeds backwards till it merges in the rounded stem of the weapon. This blade is terminated by two strong rounded barbs, bent back till they converge somewhat towards the stem of the weapon, and other two pairs of stronger barbs of similar character are placed about an inch apart, and the same distance behind the first. A shorter cross-piece, having one of its arms pierced by a small round hole, is placed behind the barbs, and the weapon terminates in a blunt, tapering, rounded tang about 3 inches in length. (See fig. 2 in the accompanying woodcut, which is here repeated from vol. viii. p. 293.) The whole length of the weapon is 12 inches, its greatest breadth $2\frac{1}{4}$ inches. It weighs $25\frac{3}{4}$ ounces.

In looking through the Proceedings of the Asiatic Society of Bengal for 1868, I observed a notice of the presentation of a copper spear-head,

Fig. 1.

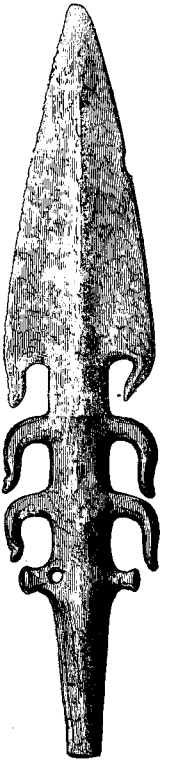

Fig. 2.

copper bangles, and other implements, from Manipuri, different from anything now in use.

Dr Oldham, director of the Geological Survey in India, remarked on their great interest, and described one as a fine specimen of a flat celt.

Another, he said, "appeared to be a spear-head of peculiar form, the sides of the implement being cut into a series of teeth pointing downwards and projecting from the central rib." With these were a number of rings, which were obviously bangles or wristlets, and identical in form with what the Antiquaries of N. Europe were wont to call "ring-money." But what he considered most important was the fact, that no implements of copper, brass, or bronze had hitherto been found in India.

I wrote and told him of the bronze weapons I had seen in 1841, to which he replied that there was a record of some such article, but it could not now be found, and added that I was mistaken in describing them as bronze, and that if I examined my own specimens, he had no doubt I should find them to be copper. At first I thought he was right. They certainly appeared on casual inspection to be of pure copper, but a careful analysis by Dr Stevenson Macadam of the two specimens now presented to the Society shows them to be true bronzes,[1] of which the constituents are as follows:—

The Long Blade.		The Barbed Weapon.	
Copper,	95·68	Copper,	93·18
Tin,	3·83	Tin,	6·74
	99·51		99·92

Meantime I had searched the published Proceedings of the Asiatic Society, Bengal, from their first appearance in 1831, but could find no other trace of those I had seen in 1841 save a letter from the Secretary of the Royal Society of the Antiquaries of the North, dated 18th October 1838, acknowledging the receipt of "two specimens of ancient warlike weapons of copper"[2] in the preceding year, by the hands of Dr Theodore

[1] For an analysis of the bronze harpoon of this type previously in the Museum, see *infra*, p. 695.

[2] The two bronze weapons sent by Mr Prinsep, secretary of the Asiatic Society of Bengal, to the Royal Society of Northern Antiquaries, were found "at Niorai, in the province of Etaweh, lying between the Ganges and Jumna." They were described and figured in "Det Kongelige Nordiske Oldskrift-Selskabs, Aarsberetning, 1838." The account given of them in the Royal Northern Society's Report represents them as not uncommon in the Punjab, and indeed says "they are frequently dug up in the neigh-

Cantor, a Danish assistant-surgeon in the E. I. Co.'s Service, and a nephew of Dr Wallich, and inviting a more frequent intercourse, which does not seem, however, to have taken place.

Notwithstanding the somewhat loose description of the spear-head quoted above in Dr Oldham's words, I have little doubt that it refers to a weapon of the same form as these now before us. His observations called attention to the subject, and other specimens were brought forward.

Two or three months afterwards, Colonel (now General) Strachey exhibited an axe, described by the president as resembling those found in Europe, with a long curved and sharp edge, gradually attenuating behind into a kind of straight handle, which had the edges flattened so as to be easily held in the hand. If it were of bronze he expected it to be the first example of a true bronze weapon of this kind found in India. It was afterwards analysed and found to consist of

Copper,	86·7
Tin,	13·3
	100[1]

Two or three years later (in 1871) Captain Samuells of the Trigonometrical Survey sent two articles of copper from the Rewah District, which he thought were bronze or copper. Dr Oldham states one to be a flat piece of rough copper, just as run from the smelting furnace; the other had one-half of the surface rough as it had cooled, while the other half had been "hammered into two shoulders or semicircular recesses, admirably suited for the application of a handle of split bamboo or other wood, so as to serve for a very effective axe or club, but not a cutting instrument," and he expresses astonishment that people who could hammer the one part so neatly should not have beaten out the edge still more, so as to make it cut.

Unfortunately, none of these descriptions are accompanied by figures to give a more definite idea of the forms so vaguely described. But this want was supplied in transmitting 8 silver and 17 copper implements as

bourhood of the Hindoo towns Mathura and Bindraband, and the natives regard them as belonging to the heroic age of the Mahábhárata." (See Proc. vol. viii. p. 298.)

[1] General Strachey has since informed me that it has been lost.

specimens of a much larger find exhumed in 1870 near the village of Gungeria, in the province of Mhow. Those of silver were in the form of rings and thin plates, some circular, some cornuted, the edges bearing marks as if they had been inserted in wood or mortar for purposes of ornamentation. Those of copper were of various shapes and thickness, mostly long, like spades or ploughshares, others like chisels or axes. They were found neatly arranged in transverse layers, the silver lying in a heap by their side.[1] The ruins of an ancient Buddhist temple were to be seen about three miles off. General Cunningham describes and figures a very ancient copper celt excavated at Mathura last year. (Archæol. Rep. vol. iii. p. 18.)

The people of India have practised the reduction of copper ore from an early period. Mr V. Ball of the Geological Survey has described the remains of extensive mining operations in the rich copper districts of Singbhúm and Mánbhúm, in Central India. He attributes them to an extinct race whom he conjectures to have been Aryan colonists, who, he says, carried their metallurgical habits everywhere, even to the silver mines of Spain. The present inhabitants have a tradition that they were exterminated by the ancestors of the Kóls and Hós 700 years ago, but Colonel Dalton assigns to them an antiquity of not less than 2000 years. They call them Seraks or Sráwaks, a term applicable to Jains or Buddhists, who were distinguished for their proficiency in literature, science, and the arts.

From what has been said, it appears that bronze implements of nearly the same composition, but often of forms differing widely from the bronze instruments of Europe, are characteristic of Indian archæology, and Mr Anderson's subsequent examination of the specimen at Copenhagen received from Calcutta enables him rightly to assign the Norham specimen to an Asiatic source.

How it has travelled so far to the west is another question. Examples are not wanting of the most incongruous objects occurring in close juxtaposition which could not have had a common origin. Witness the Chinese vase found by Sir Gardner Wilkinson in a mummy case, and the ancient Hindu gold ring dug up on the Fort Hill at Montrose, and described by Colonel Tod in the "Trans. R. As. Soc." ii. 559.

[1] I have since seen some of these in the British Museum.

A possible mode of conveyance for this article may be imagined. Every year invalided soldiers are embarked at Calcutta for England. When a regiment is relieved, most of the men volunteer into other corps, but a certain number prefer to return home. We may easily suppose one of these men to have become possessed of such a curiosity, and to have carried it home to his native Berwickshire.

It may be interesting, for the purpose of comparison, here to repeat the analysis of this "Norham Harpoon" made for Dr J. A. Smith by Dr Stevenson Macadam:—

"ANALYTICAL LABORATORY, SURGEONS' HALL.

"The bronze implement found near Norham, which you sent me ten days ago, has the following chemical composition:—

Copper, . . .	91·12	
Tin, ...	7·97	
Lead, ...	0·77	
Loss, ...	0·14	
	———	100·00

"These proportions indicate a hard bronze capable of taking and retaining a somewhat fine edge, which would be specially serviceable in a defensive arm or cutting instrument."

Mr Franks of the British Museum has since informed me that he has received a large consignment of bronze and copper implements from Central India, which he purposes to describe on his return from Stockholm, and I am glad to observe that he has presented the Museum with one of the flat celts from Gungeria for comparison with our British series.