A PECULIAR GROUP OF TRONATTAS.
(PLATE I., II., III.)

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As the Aborigines of Tasmania called their stone implements "tronatta," I think it advisable to use this word in preference to all others when speaking of them. "Tronatta" means a stone implement manufactured by the Tasmanian Aborigines, and it does not bear on the vexed question whether we have to consider these amorpholitic implements as eolithes or as archaeolithes. I may, however, add that I have no reason to alter the conclusion arrived at in my first paper, read before the Fellows of the Royal Society (1), viz., that the tronatta represents the typical archaeolithic stage in the evolution of the stone implements, somewhat modified by a considerable admixture of implements of eolithic character.

Since I commenced these researches my collection of tronattas has greatly increased. I also obtained a large collection of oligocene, miocene, and diluvial archaeolithes and eolithes from Belgium and France, and this has enabled me to fix the position of the Tasmanian tronattas somewhat more accurately in the ladder of evolution.

In none of the collections that have been sent to me are there specimens which in any way approach the high finish of some of the tronattas. On the other hand, it would be going too far to assume that those who kindly sent me these specimens included in their collection some highly finished ones, unless these were pretty common. The well-finished tronattas are by no means very common; I almost doubt whether they represent

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(1) Notes on the Tasmanian Amorpholithes, Pap. and Proceed. Royal Soc. of Tas., 1906-1907, pag. 1-37.

more than 10 per cent. of the total, and the same applies very likely to the archaeolithes of Europe. Not having obtained European archaeolithes of a high finish, does not prove that they do not exist: however, if they did exist, we might expect their figures in the numerous pamphlets that have been published up to date on this subject. But here we search in vain. None of the specimens that have been figured, and they most probably do not represent the worst ones, come anywhere near to the highly finished tronatta of those groups which have been classified as choppers, scrapers, and knives. It therefore seems, that notwithstanding its eolithic element, the Tasmanian stage represents the highest stage of the archaeolithic civilisation. If this view be correct, we have at last gained that important step which has already been made with regard to the palaeolithic implements, viz., the beginning of a classification according to the skill shown in the finish of the implements.

If the Tasmanian tronatta by its finish represents the highest stage of archaeolithic civilisation, it is of great importance to ascertain its distinguishing features. This is, however, only possible by unceasing work. In the following paper I wish to describe a small group of implements which are of special interest, because they seem to have been manufactured contrary to the common rule. Mr. R. M. Johnston was the first who recognised the chief character of the tronatta. In his "Geology of Tasmania," Mr. Johnston says, page 335, as follows:—"Whatever lack of symmetry they present in facial outline, one of the faces is almost invariably smooth and flattish, without marks of chipping. . . . The direction of the blows to produce the sharp, smooth, or finely serrate edge appears to have been towards the stone and away from the original flat face."

No conciser characteristic of the tronatta could be given than this, and, though written in 1888, Herr Klaatsch, who visited Tasmania towards the end of 1906 and early in 1907, entirely disregards it, and proceeds to give a description of the characteristics of the Tasmanian implements, purporting to be his own, but practically exactly the same as that of Mr. Johnston. Considering that Herr Klaatsch did not devote more than a fortnight to the study of the tronattas, and that his own

collection is far from being representative, his pretension to give the scientific world the characteristics of the Tasmanian stone implement is rather a bold one, and it cannot be strongly enough emphasised that the credit of having first defined the characteristic features of the tronatta is due to Mr. R. M. Johnston, and not to Herr Klaatsch (1).

I have subsequently somewhat enlarged on Mr. Johnston's description, without, however, in any way altering its main features. I have shown that the smooth, flat face was the essential part of the implement, because it served as a rest for the thumb, and I accordingly called it pollical face. I therefore gave Mr. Johnston's statement a somewhat different wording by saying that the blows were directed away from the pollical face towards the indical face (1). The Tasmanian tronatta is therefore primarily an unsymmetrical implement, whose chipping is limited to one face only, viz., the indical face, which is opposite to the smooth, pollical face.

The group of implements forming the subject of this paper seems to be opposed to this rule, inasmuch as marginal chipping can be observed on both faces. At the first glance it may appear as if this class of implements forms a true transitional stage to the symmetrical palaeolithic implements wrought on both faces. More closer examination will, however, prove that there is a fundamental difference; though the marginal chipping can be observed on the indical as well as on the pollical face, it is always strictly limited to one face only—that is to say, one and the same edge is either chipped on

(1) Though not quite so exhaustive as Mr. Johnston's, a description of the tronatta is given by Brough Smyth, Aborigines of Victoria, 1878, Vol. II., pag. 400 and 401, in which already the essential features are recognised. To whomsoever we may give the credit of having first recognised the characteristics of the tronatta, to Mr. Johnston or to Brough Smyth, it is certainly not due to Herr Klaatsch, who only repeats what others have found out long before him. This may be somewhat strong language, but is is fully justified by the circumstances.

(1) Inter lineas I may remark here that Herr Klaatsch absolutely ignores this, though my paper was read nearly a year before his own, and though I explained everything to him verbally when he visited Hobart.

the indical or on the pollical face, but it is never chipped on both faces at the same time. The fundamental difference from the palaeolithic implement, in which one and the same edge is chipped on both faces, is obvious.

Another characteristic feature of these implements is the flat, frequently smooth, indical face. In the majority of the tronattas the indical face is strongly convex; in this group it is quite flat—in fact it could be used as a pollical face—and I believe this flatness accounts for the marginal chipping not being strictly limited to the indical face. I particularly wish to point out that not a single specimen has come under notice which, having the usual convex indical face, exhibits marginal chipping on the pollical face. It is, therefore, evident, that a flat indical face which could just as well serve as pollical face was the essential condition for bi-faced marginal chipping.

This class of implements is very rare; I doubt whether it represents even 1 per cent. of the total number. In the large number of specimens I have collected there were only about 40 in all.

The finest specimen (Pl. I., fig. 1), was found at the Old Beach, and is probably uique. It is a tronatta of 74½ mm. length and 34 mm. breadth, weighing 480 grs. It is broader in the middle than at both ends; the upper one is sharply pointed, while the lower one is less so. The largest breadth is considerably below half of the length, and this gives it a peculiar leaf-shaped form, particularly as the two lateral edges are slightly convex. The pollical face, though smooth, is not quite flat, showing the wrinkles peculiar to conchoidal fracture. The indical face, though flat on the whole, is divided by a somewhat irregular longitudinal ridge, which runs close to the left side. The left edge shows the usual chipping almost from point to point, but the right edge is only chipped ot the lower half, and all working abruptly ceases just above the middle of the length. On turning to the pollical face, we see that the chipping exactly commences at that point where it ceases on the indical face, and continues to the end of the right lateral edge. Now, as the chipping of the indical face was produced by blows directed from the pollical face towards the indical face, and that of the pollical face by blows directed in the opposite way, the effect is rather a curious one.

Seen sideways, the right edge, instead of being straight, as it would have been had the chipping been carried out in one direction only, presents a peculiar broken line.

It is obvious that such a crooked edge cannot be of the slightest use, for any purposes whatsoever, and it is probably thanks to this error of the workman who manufactured it that it was preserved. The question is, how did this curious error—for error it must be—arise? I think the rather flat indical face forms the key to the solution of the problem. The Aborigine having finished the trimming of the left edge, proceeded to take the right edge in hand, and in doing so he inadvertently turned the specimen over, and, without noticing it, commenced to chip from the indical face towards the pollical face along the upper part of the right edge. Suddenly he noticed his mistake, and he at once proceeded to continue the trimming in the orthodox way—that is to say, from the pollical face towards the indical face.

There is no other way of explaining this very peculiar way of chipping, but it throws a flood of light on the mental condition of the Aborigines. To our modern mind it seems absolutely unintelligible why this useless working edge should not have been turned into an exceedingly sharp one by chipping away the indical face of the upper and the pollical face of the lower part of the right edge. The intelligence of the Tasmanian could not conceive this idea. His mind lacked the inventive genius which promotes progress. He had been accustomed to trim his implements by blows from the flat pollical face towards the the convex indical face, but it never occurred to him to make an attempt in the opposite direction, and even if he had inadvertently made a mistake he at once returned to the time-honoured fashion. Had he only continued the chipping in either direction all along the edge once the mistake had been made, he would have found what a much more efficient cutting edge he could produce by bi-faced trimming. But he did not do so, and it is almost pathetic to think that here we have a specimen which might have led to the manufacture of more efficient implements, and thus perhaps changed the fate of the whole race, had this most simple invention been made. As it has not been made, it proves that those inventions, which appear to us so simple that we are accustomed to take them as

a matter of fact, which did not require an inventive genius at all, were probably the most difficult to make, and that it required a real genius to lead mankind from the low archaeolithic to the higher palaeolithic stage.

Pl. I., fig. 2, a specimen from Melton Mowbray, measures 75 mm. in length; the breadth at the butt end is 37 mm., at the opposite end 54 mm., and its greatest thickness is 13 mm. The weight is 1,210 grs. (2¾ ounces). The lateral edges are straight, the broader edge curved, the narrower edge nearly straight. Its shape is trapezoidal, and, being broader at one end than at the other, and rather thin, it imitates in a way an axe-head. This similarity is considerably increased by the broader end being well chipped. We know, however, that the Aborigines did not possess axes provided with a handle, and it would be absurd to designate this tronatta as an axe-head. On the other hand, it is easy to see how such mistaken identifications can arise. If we knew absolutely nothing about the Aborigines, a specimen like this would without question have been declared an axe-head, though it might perhaps remained a puzzle why not only the cutting but also one of the longitudinal edges was sharpened. In this instance we know better, but the lesson with regard to the interpretation of European archaeolithes is obvious.

The pollical face is smooth and flat, but at the butt end it shows a large bulb of percussion. The right edge is almost for its whole length well chipped on the pollical face. The indical face is almost flat, and the edge of the broader end, which is slightly curved, is neatly and carefully chipped. The chipping extends even somewhat to the left lateral edge, but it does not extend far enough as to join on to the chipping of the pollical face, though it is easy to see that the result would have been the same as in the former specimen.

Pl. II., fig. 1, a specimen from Mona Vale, measures 115 mm. in length, and has a greatest breadth of 59 mm., weighing 4 ounces. At its thickest part it measures 19 mm., but for the greater part the thickness is not more than 9 mm., and even comes down to 3 mm. at one end.

The general shape is irregularly rhomboidal; one lateral edge is almost straight, and that next to it concave. The pollical face is smooth and flat, and the

right edge is well chipped all along. The indical face, though not quite so smooth as the former, is well chipped along the concave edge. The junction of the two chipped edges forms a rather sharp point, but again the chipping of both faces fails to join.

Pl. III., fig. 1, a specimen from Maryvale, measures 57 x 57 mm.; its greatest thickness does not exceed 14 mm.; its weight is 1.032 grs. (21 1-3 ounces). The general shape is nearly rhombical; two sides (the butt and opposite end) being nearly straight, the other two sides concave. The pollical face is very smooth and flat, the wrinkles of percussion being just visible. If we take the butt as the upper end (1) the right edge is well chipped, and deeply concave on the pollical face. The indical face is almost as flat as the former, but three edges are chipped—the butt edge, which has been particularly carefully trimmed, and the right lateral edge, which is again deeply concave.

Pl. III., fig. 2, a specimen from Shene, measures 71 mm. in length, and, though its greatest breadth is 44 mm., for the greater part of its length it is under 35 mm. The thickness does not exceed 9 mm., and the weight is 520 grs. (1 1-5 ounces). The general shape is elongated, broader at the butt end, one of the lateral edges straight (or even slightly convex), the other slightly concave. According to its shape, it seems well suitable for a knife or a scraper. The pollical face is flat and smooth, the wrinkles of percussion are slightly marked. Its left edge is concave, and well chipped along its whole length. The indical face is fairly smooth, but there are few longitudinal ridges as the result of flaking. The left edge very carefully trimmed.

Pl. III., fig. 3, a specimen from the mouth of the Coal River, is somewhat similar in shape to the former. It measures 58 mm. in length, and has an average breadth of 28 mm., though at one part it reaches 37 mm. The thickness is 9 mm., and its weight 365 grs. Its shape is elongated, straight at the butt end, rounded off at the opposite end. One lateral edge is straight, the

(1) I always place the specimens in such a way that the butt end represents the upper end, because it is certain that, having received the blow, it was nearest to the workman—that is to say, uppermost in its original position at the parent block.

other undulating, showing a broad, short prominence, on either side of which it is concave. The pollical face is smooth and flat, and its left edge is well chipped all along its length. The indical face is smooth, but a very conspicuous longitudinal ridge runs somewhat closer to the left edge, which is very carefully chipped; the chippings extend also over the rounded-off ends, but unfortunately the specimen is just at that point damaged where indical and pollical chipping would join.

These specimens are sufficient to illustrate the peculiar feature of this group, which in my opinion is, however, not intentional. As already pointed out, bifaced marginal trimming is only observed when the indical face is almost as smooth and flat as the pollical face. This seems to indicate that when a flake was obtained whose two faces were flat, and could therefore indiscriminately be used as the pollical face, the Aborigines made the most of it, and used both accordingly.

It is very interesting to note that similar specimens have been found in Europe. Amongst a collection of eolithes from the Mesvinien of Belgium, which has been sent to me by Dr. Rutot, of Bruxelles, I found several specimens which were used on both faces. These specimens exhibit the same feature as the Tasmanian tronattas, namely, a smooth and flat indical face, which could conveniently be used as a rest for the thumb. They are apparently more frequent among the European eolithes than among the Tasmanian tronattas, but whether this is the result of flint producing more easily two flat faces when broken than the Tasmanian hornstone (trona or mora trona), I am unable to say for the present. We might perhaps consider these implements as archaistic remnants from the times when the art of working pieces of siliceous stone was still in its very infancy. Anything to save trouble—and the shaping of a tronatta was by no means an easy matter (teste Scott!)—was resorted to, and if a flake was obtained which had two pollical faces, so to speak, it was used as long as possible.

I consider this merely a suggestion, as I am well aware that further proof would be required before this view could be further discussed.

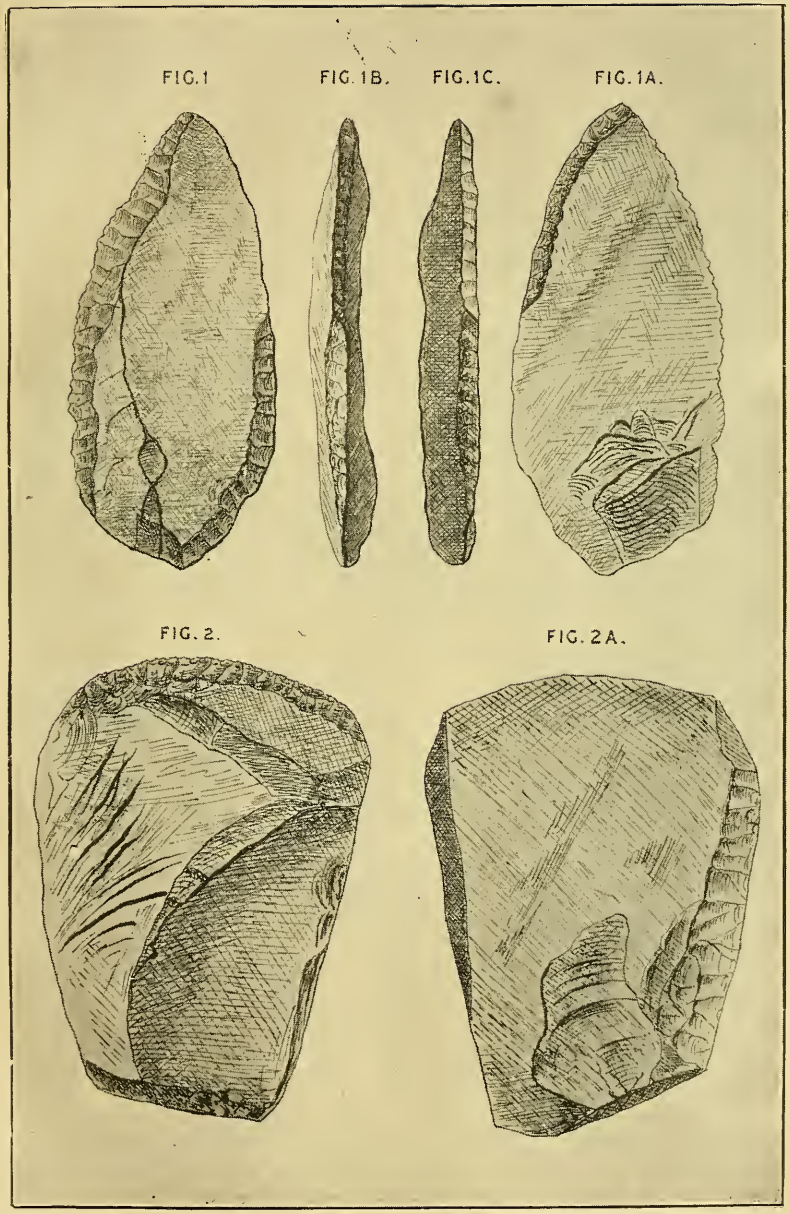


Fig. 1—Indical Face. Fig. 1A—Pollical Face. Figs. 1B and 1C—Side Views.
Fig. 2—Indical Face. Fig. 2A—Pollical Face

FIG. 1.

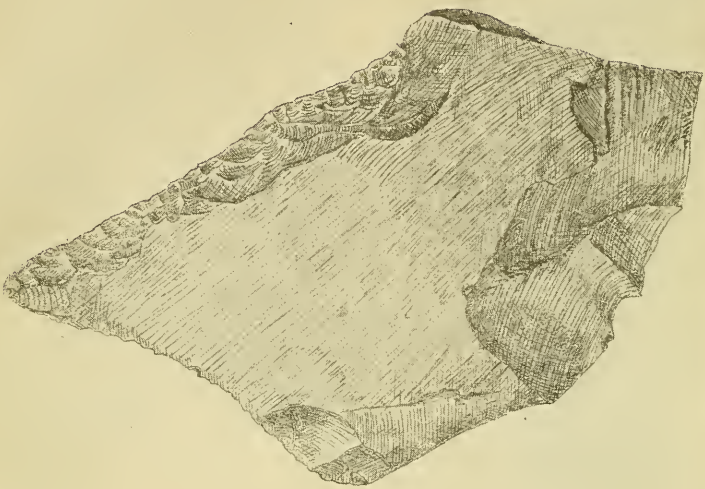


FIG. 1A.

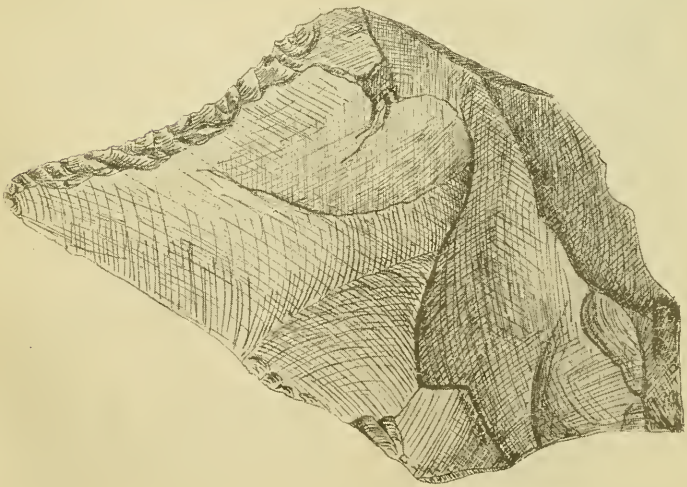
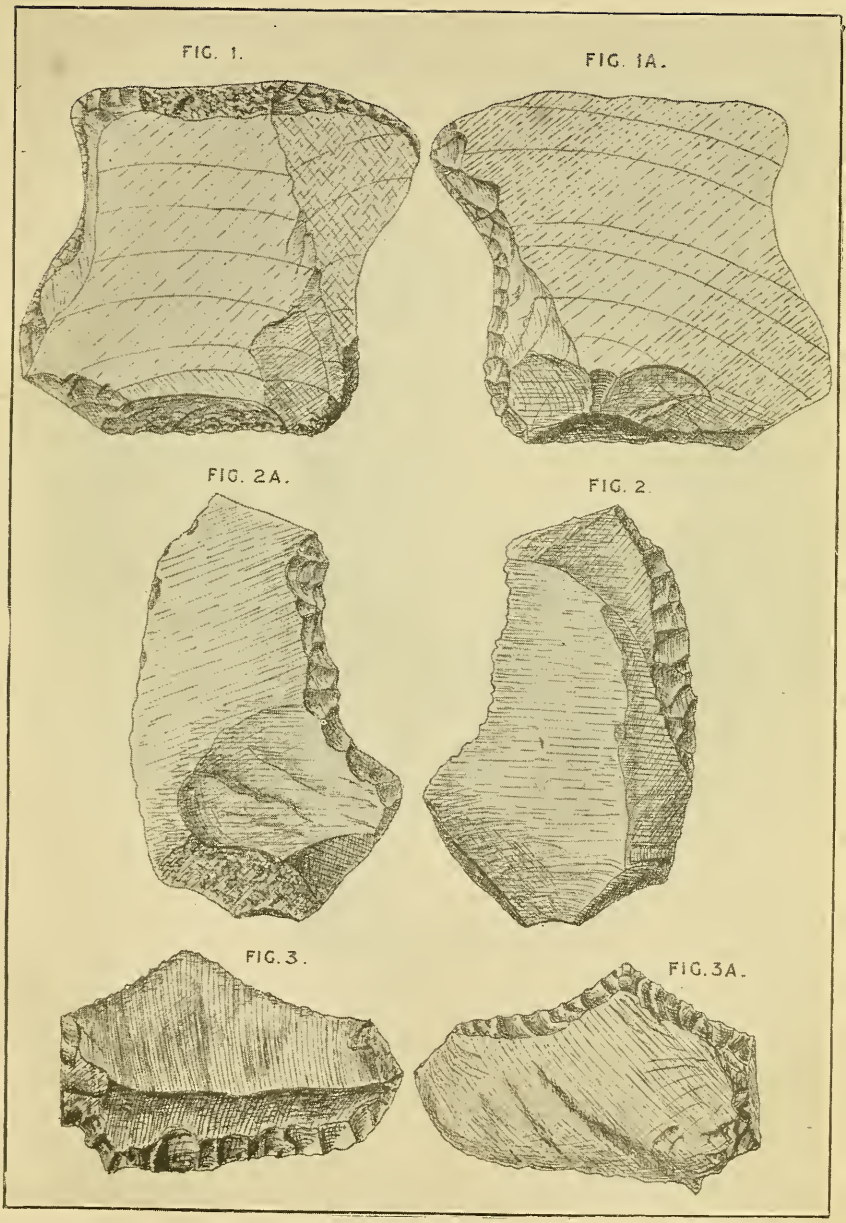


Fig. 1—Pollical Face. Fig. 1A—Indical Face.



Figs. 1, 2, 3—Indical Face. Figs. 1A, 2A, 3A—Pollical Faces.