

## NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION NEWSLETTER



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## DEVELOPMENT of EUROPEAN STONE TOOLS

## by Leo Capell

(As the artefacts shown are not meant as individual objects, but as representatives of whole groups, no find-spots are given. The artefacts dealt with are in possession of the Musee de l'Homme in Paris.)

Although I am well aware that the European prehistory is far more extended into the past than the Folynesian prehistory, I am still convinced that the method of classification described below can be very caluable in our own working area.

Classification according a chronological system is necessary, but classification, though within the cadre of chronology, recording their way of manufacturing and design can be very helpful in tracing back the wanderings and the origins of different races. However, it must be well kept in mind that certain artefacts have been in use by different people and during very different periods.

Because of the available space I am far from pretending to give a complete picture, so I'll just give a general idea instead.

The first implements of the Lower Pleistocene were too simple and insufficiently differentiated to establish a proper classification. Only from the Acheulean onwards is it possible to classify them properly. We can distinguish then three main groups according their way of manufacturing.

A. <u>BIFACES</u>  $\bigtriangleup$  Pretty well hammered stones, somewhat flattened and symetrical. Both sides are dressed in the same way. This group consists of two kinds:

1. Amvgdaloids. Lancet-shaped, blunt point, sharp edges.

 Piercers. Somewhat roughly lancet-shaped, sharp point, edges only near the top sharpened.

B. FLAKES V Less symetrical, but usually better finished than the bifaces. Not made out of the usually egg-shaped flint nodule, but of flakes, hammered or pressed of such a nodule. That is why the flakes usually have a slightly bent profile. The flakes are retouched as:

1. Foints. The set triangular stones are related to the piercers. The edges however are sharp over the whole length and they always

have a bent profile. Often dressed at one face only. 2. <u>Scrapers</u>. Can be compared with the amygdaloids. The main difference, however, besides the way of manufacturing, is that only one edge is sharpened, which now has been curved. In later periods men made sometimes amygdaloids with only one sharpened edge, but this cutting edge then always remained straight.

C. <u>BLADES</u> This name is chosen, because these artefacts are always very thin, many times 1/8 inch or less on the thickest spots and rather wide. The original basic shape is a slightly bent blade with the same width and thickness along the whole length and with this crosssection . Sometimes they were amazingly long, fig. 14 f.1. was about 13 inches long and 3/8 inch thick. In later periods the underface was treated in the same way as the upperface, resulting under more in the marveleous Solutrean blades.

We shall now try and trace this development through the established chronological system.

- Fig. 1 The original hand-axe, a roughly reshaped flint as they were used in not very fixed shapes during the Chellean. One side remained regularly undressed and can be found back in
- Fig. 2 where it was still obviously used as "handle". This is proved by
- Fig. 3 Here we see the first development in the direction of the amygdaloids, the latter however not being achieved until the Upper Acheulean in
- Fig. 4 This is a very interesting stage, because this is not only the first proper sample of one of the three main groups, but this too was the first time men used other stone than flint, in this case felspar. This amygdaloid is a straight relative of the hand-axe, the undressed top of the latter being transformed into the blunt short side of the amygdaloid, the curved sharpened edge into the two long cutting edges. At this stage the development of the amygdaloid came to an end; artefacts of this type slowly become more rare in the next periods and finally disappeared. The main line of development continued from the piercers.
- Fig. 5 From the same pre-amygdaloid type of fig. 3 came this piercer type, the undressed top of the hand-axe here being extended to the long blunt handle of the piercer.
- Fig. 6 In this piercer we see for the first time a new way of hammering. Though still made out of the whole pebble, this tool was made by pressing of just a few big flakes, thus opening the way to the invention of the blades. Flakes were already used for making tools, so it is quite possible that the need for big flakes led to the development of tools like this piercer. The influence of this discovery is, via the blades, still noticable in the shape of our knives.
- Fig. 7 This is the first sample of flakes. This scraper is in its shape related to the amygdaloids, however, with one curved sharp edge and a slightly dressed blunt top. This type has been very important and has survived, in almost unchanged shape till the Mesolithic.
- Fig. 8 During the same period took the development place of the points, in shape even more related to the amygdaloids than the scrapers, but flatter and with a slightly curved profile.
- Fig. 9 This piercer is clearly an intermediate form. According to its shape this piercer still belongs to the bifaces, but as far as the way of manufacturing is concerned, it already belongs to the blades, which originated from this period.
- Fig. 10 The basical shape of the blades is clearly visible in this sample. The original onion-shape of fig. 5 became straighter, longer and above all, flatter.
- Fig. 11 This is a Lower Aurignacian sample of the scraper type of fig. 7, better finished than the latter, but principally unchanged and still the same in
- Fig. 12 during the Middle Aurignacian.
- Fig. 13 In this artefact is clearly shown how the basic blade-shape could be specialised by retouching, thus, though leaving the way open to less retouched shapes as in

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Fig. 14, laying the base for specialised blades as Fig. 15 which, by retouching at one side, became amazingly sharp, and

- Fig. 15, another felspar blade. In this period felspar was apparently more popular than flint. Though the basic shape was still the same, far going retouching has formed this blade into a perfect spear-head. Spear-heads of this shape remained in use until the end of the Neolithic, showing a strong influence on stone as well as bronze artefacts.
- Fig. 17 We are coming now to a new chapter. Though the basic shape of this blade is strongly related to the sample of fig. 15, we meet here again a completely different kind of retouching. The impression of dealing with a new culture forces itself strongly on us. As a matter of fact, discoveries of human skeletons are telling us exactly the same. In the Mousterian we were dealing with the Neandertal Man. Afterwards, in the Aurignacian we meet the first proper Homo Sapiens, at the same time as the appearance of the first blades. This was the race of Grimaldi. Now, in the Solutrean we deal with the race of Cro Magnon. The appearance of a new group of implements thus clearly indicates the appearance in Europe of another race. Characteristic for the Solutrean is a willow- or laurel leafshaped blade, dressed symmetrically at both faces with a fine, well performed retouch covering the entire surface. This period was very rich in highly specialised tools, like
- Fig. 18 which was, though technically developed from fig. 17, a spearhead, very similar shaped to fig. 16.
- is clearly a close relative of fig. 18. Starting from a Fig. 19 laurel-leaf like fig. 17, and by the same procedure as used for fig. 18, this symmetrical arrow-head was obtained and further perfected in the sample of
- Fig. 20 The types of fig. 17 as well as fig. 19 and 20 can be traced straight through until the beginning of the bronze age, resulting even in similar arrow-heads in metal.
- Fig. 21 After the Solutrean we see a complete change in procedure, an indication again of a new race. Though the improvements and the wide range of different types, obtained during the Solutrean are readily accepted, the Magdalenian people revived the way of striking of the early blades again, but with far more skill and refinement. Kany times no retouching at all was necessary.
- Fig. 22 A harpoon-head of bone. Bone was used already for a very long time for needles, piercers etc., but here we see the barbs, developed in stone, now applied on a bone harpoon-head. further development is shown in
- Fig. 23, a Kesolithic harpoon-head with a hole drilled through to attach to a cord.

And to wind up with,

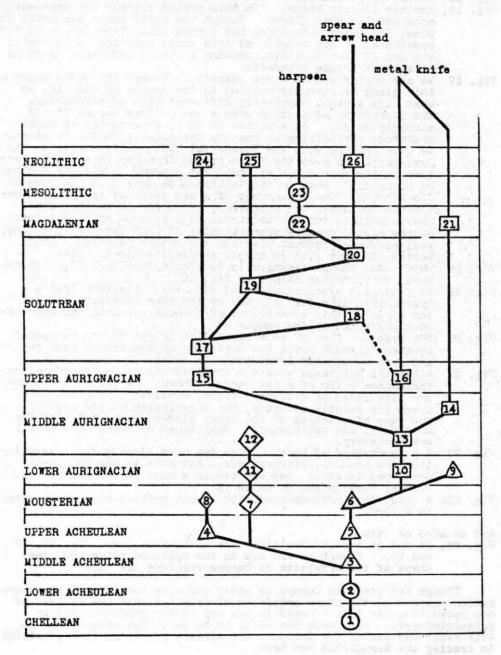
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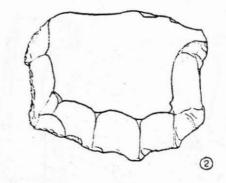
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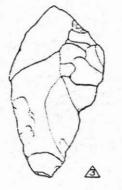
Fig. 24, 25 and 26 are the Neolithic descendants of resp. fig. 17, 19 Though we are now in the polished stone age, the and 20. shape of the artefacts in Europe remained the same.

Though the field in Europe is wider and more complicated than here, sudden changes in the stone artefacts clearly indicate the arrival of new races (and can thus be used in the way of the guide-fossils in palaeontology). Euch work has still to be done, but excavations in Asia Kinor and Africa for instance are already providing links, helpful in tracing the Neandertal Man back.



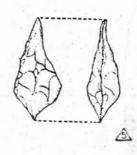


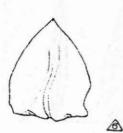




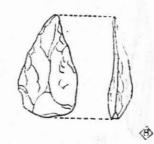
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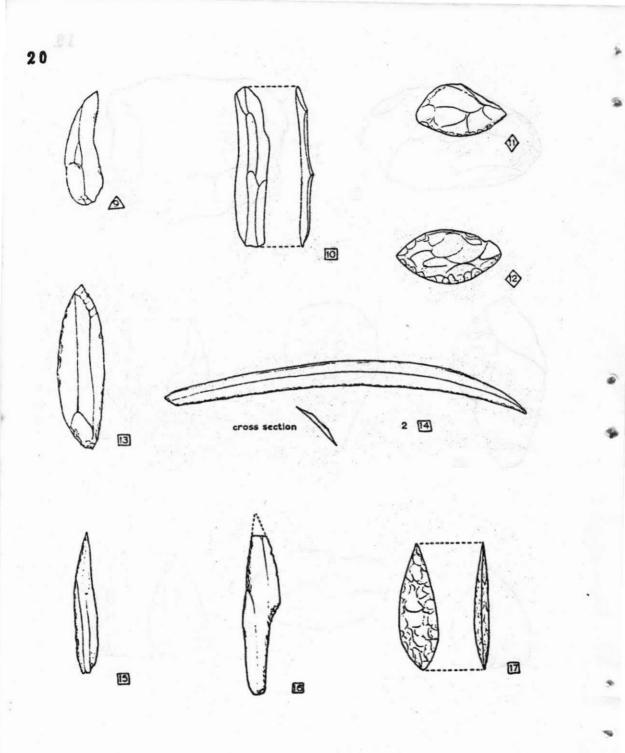


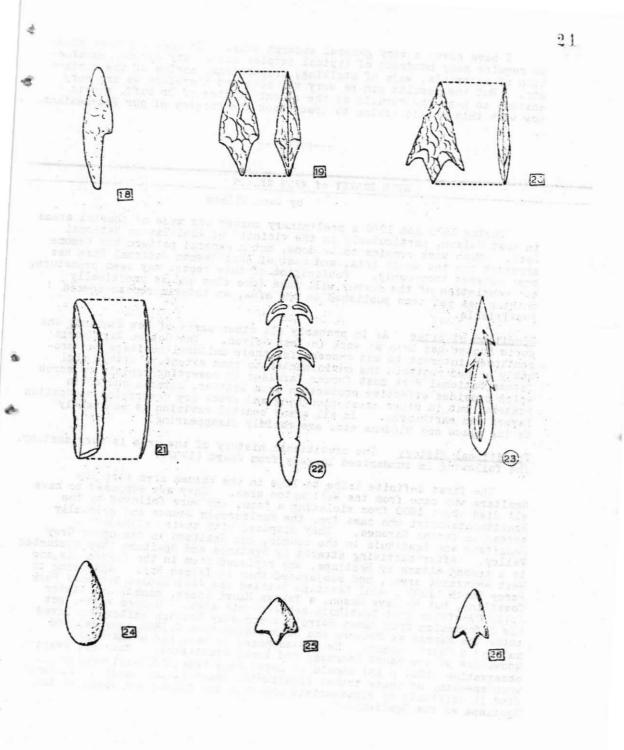






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I have given a very general excerpt only. To make a proper study we require many hundreds of typical samples and a very careful examination of materials, ways of striking, proportions, angles of the surface etc. But the results can be very valuable and therefore we are very anxious to hear the results of the recent studies of Dr Duff, who is now with this method trying to trace back the origins of our Polynesians.

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## SITE SURVEY of WEST NELSON

by Owen Wilkes

During 1959 and 1960 a preliminary survey was made of coastal areas in West Nelson, particularly in the vicinity of Abel Tasman National Park. Much work remains to be done, but a general pattern has become apparent for the whole area, and most of Abel Tasman National Park has been covered thoroughly. Publication of this report may seem premature, but completion of the survey will take some time and as practically nothing has yet been published on the area, an interim report seemed justifiable.

<u>Condition of Sites</u> As in probably all other parts of New Zealand, the curio hunter has been at work in West Nelson. The Golden Bay Maoris' continued interest in and concern for their cultural heritage has probably helped restrain the curio hunter to some extent. Within Abel Tasman National Park most former farmland is reverting rapidly to scrub which provides effective protection from weather, animals and curio hunters, but in other areas ploughing and stock are destroying occupation layers and earthworks. In all areas coastal revision is constantly taking place and middens etc. are rapidly disappearing.

<u>Traditional History</u> The traditional history of the area is very sketchy. The following is summarized largely from Peart (1937):

The first definite tribe to live in the Waimea area were the Ngaitara who came from the Wellington area. They are supposed to have all died about 1600 from violating a tapu, and were followed by the Ngatitumatakokiri who came from the Marlborough Sounds and gradually spread as far as Karamea. They disputed with their neighbours -Rangitane and Ngatikuia in the sounds, and Ngaitahu in the upper Grey After surviving attacks by Ngatiapa and Ngaitahu they succumbed Valley. to a second attack by Ngatiapa, who replaced them in the Golden Bay and West Whanganui areas, and subjugated them in Tasman Bay. According to Percy Smith (1907 p 434) Ngatiapa settled the Abel Tasman National Park Coastline, but Mr Dave Mason, a Takaka Maori (pers. comm.) and Winter (c.1920) affirm that Ngatikuia settled this area. George Winter got his information from James Perrot, a run-away British sailor who lived among the Maoris at Motueka and Waiharakeke from C.1860 onwards, and married a Maori woman. He was supposed to have had a thorough knowledge of the Maori language and local traditions. However, Peart's observation (1937 p 18) should be noted here "The old Maori people .... when speaking of these tribes (Ngatikuia, Ngatiapa and Rangitane) always find it difficult to disassociate one from the other, and speak of the Ngatiapa as the Ngatikuia."