

NOTES ON CERTAIN MASSIVE FLAKED IMPLEMENTS FOUND IN THE PORT STEPHENS DISTRICT

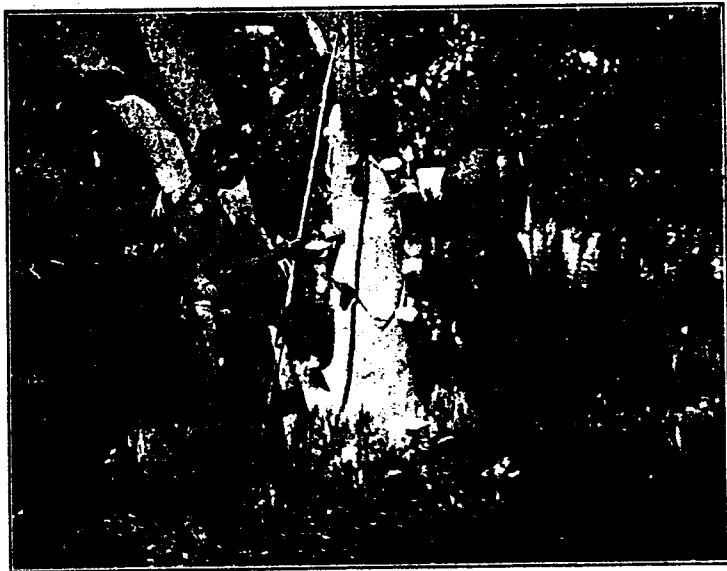
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In introducing the subject of aboriginal Stone Implements, particularly the flaked varieties, one does so with a certain amount of caution. On the other hand, the form of many has been established; and on the other, with our meagre knowledge of the habits and customs of the peoples who once occupied this area, it is now a matter of conjecture; since the early settler was rarely the type of man trained to exact scientific observation, and the introduction of iron soon led to abandoning stone tools. In 1928 the late W. W. Thorpe (1) described a series of massive "Choppers" found in a shell midden at Morna Point, south of

instance, many of the ground axes show that they served as hammers and anvils.

When we consider that the crudeness and lack of finish in some areas is due to the available stone being unsuitable for what might be classed as higher forms, the principal may be laid down that the type of stone most commonly used in any particular locality is largely influenced by the material most readily at hand.

The appearance of one type, predominates in the Port Stephens area, a peculiarity due to the character of the material available at each station. This locality is of considerable geological interest and has



By courtesy of the Royal Society of New South Wales.

Port Stephens and favoured the belief that they were made for breaking marine and estuarine shells to expose the edible molluscs.

It is certain that many implements were used for more than one purpose. For

been described by David (2) in the following terms—"at Anna Bay the sea cliffs are formed of a reddish grey quartz and felspar porphyry, the exact relation of which, in the Carboniferous system, are not clear. It has been assumed that this rock is in

1 Thorpe—Records of Ausl. Mus. XVI, No. 5, p. 243.

2 David—The Geology of the Hunter River Coal Measures, Mem. Geol. Surv. N.S.W. Geol., No. 4, Pt. 1., 1907.

the nature of a contemporaneous lava; it is intersected in places by basalt dykes of later origin. The nature of its junction with the Carboniferous is for the most part obscured from view, as blown sand completely covers the older rocks over almost the entire area from Morna Point to Newcastle."

This porphyry passes North West into the swampy area which abounds Tirrigerry

there can be little doubt but they had been used by the aborigines in the early days in removing timber for making shields.

On discussing my find with Mr. R. T. Baker, late Curator, Technological Museum, Sydney, I was informed that the late John Stuart Dick, of Port Macquarie, had often seen the natives removing the shields in the early days of the settlement with stone tools, the most suitable being the Grey



(By courtesy of the Royal Society of New South Wales)

Creek, appearing again on the northern side at "The Gibbers."

Whilst on periodical inspections of certain properties in this area I have had opportunities of following this outcrop of porphyry. On examining these swampy areas along Tirrigerry Creek, during 1931 I collected five massive flaked implements and some chippings at the base of old stumps in the Mangrove swamp. I think

Mangrove, *Avicennia officinalis*, Linn. It was preferred to any other, owing to its hardness, strength and lightness, essential qualities in fighting weapons.

There can be little doubt that the aborigine was familiar with the peculiarities of this timber, and preferred it to all others for making shields; the fact that this timber splits tangentially more readily than that of any other timber grow-

ing in our coastal areas, was a big factor in making shields.

(3) Viewing a transverse section of a mature tree, the annual "rings" as obtains in ordinary dicotyledonous stems might be said to be well defined, but with this difference, that the "rings" are not continuous, the break being caused by an intrusion of another "ring," and thus the complete circle is broken.

By forcing the rings apart tangentially a good view is obtained of the disposition of the fibres. Each ring of fibres is seen to be at quite a different angle to that in just-a-position to it. Sometimes they run perpendicularly, but more often at varying angles to each opposite ring.

Dr. Prain's remarks in his "Flora of the Sandabans" 1903, apply equally well to this Australian Mangrove:—

"The structure of the wood is peculiar, in that the fibres of any particular ring of growth do not pass vertically upwards, but instead diverge 'herring-bone fashion' from an indistinct vertical linear raphe, which appears to correspond to the plane of an original branch, at an angle of about 15 degrees, their upper ends blending in a much less definite raphe mid-way between two raphes of divergence. The raphes of divergence of the ring of growth next above and next below any particular ring alternate, so that in weathered trunks, and to a less extent in freshly cut sound logs, a lace-work arrangement of the fibres of the various rings of growth presents itself."

The structure of the timber much resembles what is to-day on the markets as three, four, or five-ply veneer, which can now be shown to be only a copy of nature, for in the manufactured fibres of each sheet of wood are at right angles to one another instead of at oblique angles, as obtains in nature, which, is the main reason for the difficulty of splitting.

There is another remarkable feature about this wood, and that is its resistance to splitting radially, for it is impossible to split a log say three feet or more in length. Tangentially it is much more fissile, and in this direction it is more easily split than any other timber known to me.

J Baker—Proceedings Royal Soc. N.S. Wales, Vol. XLIX, p. 260.

On a recent trip to the Liverpool Plains, I observed several trees along the banks of the Namoi River, of great age showing wide scars that had been made many years ago; and were very much weathered showing the fibres in 'herring-bone fashion' on flaking off the outside layer, the next layer was found to be at quite a different angle. This timber was the Yellow Jacket, *Eucalyptus Rostrata*, which is probably the most widely distributed *Eucalyptus* in Australia.

An old resident of Kelvin, Mr. George Urquhart, informed me that the Yellow Jacket or Flooded Gum was always used in preference to other timber in the district by the natives in the early days on account of its toughness and strength. On searching in the vicinity of these trees, I was fortunate in finding two wedge-shaped specimens of diabase, similar in form to those found at Tirrigerry Creek, Port Stephens.

Mr. Thomas Dick, of Port Macquarie, in describing the making of a shield, says in effect that, the stone wedges were made a certain shape in order to get the lifting power. Having marked out the piece to be removed by placing a shield against the tree (4) the rabbit was cut to take the wedge, and to allow the wedge to be driven into it, and to derive great lifting power. The rabbit would be cut to a depth of two or three inches, and would be about one and a half inches wide at the surface, and half an inch at the bottom. The rabbit was cut right round the shield, and besides being used to drive the wedges in, it also cut the rings of the timber of the tree, and so allowed the piece to come away readily. Eight or nine wedges were driven into the rabbit, and when the tree was hard there would be a number of wedges destroyed and dropped, and these can be found at the present time by digging round old trees.

To get the lifting power the wedges were made practically double the width of the rabbit into which they were driven.

The shield having been removed, would be carried to the camp, where with smaller wedges and cutting stones its manufacture would soon be finished. As the trees had peculiar rings in the timber, the native simply drove small wedges into the rings and so trimmed the shield down to the required thickness."

4 Dick—Proceedings Royal Soc. N.S. Wales, Vol. XLIX, p. 285.