HONG KONG CELTS.

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WITH 2 PLATES

Introduction

This article has been written as an explanatory note to an exhibit of stone artifacts sent to the meeting of the Society. It is also hoped that for people in South China it will be an introduction to the prehistoric archeology of the neighbourhood of Hong Kong. The large land-locked bays of the South China coast swarm with good fish and the forests, now cut down, must have had abundant animal life. The country seems an ideal one for ancient man and could have supported him in large numbers. Admittedly the writer has not found much, but he has not had time available in which to look properly. No dwelling sites of ancient man have been found. It is hoped to interest others who will find them.

Finding Celts.

A few years ago the writer was examining the outcrop of a quartz vein for any material of interest and placed in his pocket a loose piece of rock, because it contained a needle-shaped mineral, with the intention of breaking it at a more convenient time; later when balancing it in his hand to roughly estimate its specific gravity he was struck by its peculiarly smooth feel and on further examination noticed that it had a cutting edge and two shoulders. This celt was shown to a man versed in prospecting, he turned it over several times and then remarked "You archeologists have some imagination"; other people have said "How do you tell it from a water-worn stone?" This celt is numbered 2 and is more obviously an artifact than many of the others: it cannot be realised by looking at a collection of Hong Kong celts how easily they can be passed by in the field. All this is mentioned at the risk of being tedious, partly because it may be the explanation of Laufer's statement that old stone implements are scarce in China and also because it explains part of the technique of finding the celts. To find celts in South China select the crests and spurs of granite hills bared of vegetation by rain erosion. Do not look for celts but look for isolated fragments of pottery and water-worn stones; when found satisfy yourself that such bodies really are what they appear to be; some or

close examination will be found to be celts. Owing to their smooth appearance, pottery, water-worn stones and celts catch the eye looking like foreign bodies compared with the angular or rough debris on the granite soil. The eyes should be kept ranging well ahead and on either side and little attention given to the ground near the feet. All the celts shown have been found within about 600 yards of the sea or of land reclaimed from the sea except the discard No. 10 which was found about 900 yards distant. When only one celt had been found Professor Williams of British Columbia University suggested that it was a wood cutting tool perhaps used in making a dug-out canoe. This suggested the idea that the celts would be found near the sea. The writer has examined the coast on the North side of Hong Kong Harbour and the islands of Cheung Chow and Shek La Kok and roughly estimates that there must be an average of about 30 to 40 celts to the square mile within 600 yards of the sea and land reclaimed from the sea. Of course this is a very rough estimate because it is not possible to say exactly how much of any bare patch of ground is suitably eroded. Hong Kong holds the world's record for properly recorded high wind velocity and the rainfall may reach twenty inches in half a day, and before a local bad land topography is established the celts would be blown or washed into water courses. In practice if the mantle has gone from a large patch of ground the celts have only been found within a few yards of the edge or on patches of rubble mostly formed by quartz veins, aplite or pegmatite. Although such patches of rubble form only a small portion of the ground, nearly half the celts have been found on them; they protect from rain wash and also prevent the celts getting on to erosion pillars from which they would be blown into water channels. There seems to be some concentration of the celts near small inlets of the sea.

TOPOGRAPHIC.

In the neighbourhood of Hongkong a maturely dissected mountain country has been partially submerged giving a young fiord coast. The major inlets such as Bias Bay, Mirs Bay, Hong Kong Harbour, Deep Bay and The Canton River Estuary all have narrowed entrances and widen out inside, whereas the minor inlets, which for the most part are bays on the sides of the major inlets, are with few exceptions funnel-shaped or parallel-sided. The minor inlets are merely the drowned lower ends of V or U shaped valleys occupied by mountain streams and formed by rain erosion under tropical forest conditions whereas the major inlets are more in the nature of drowned intermontine plains and owe their shape much more to geological control than do the minor inlets and particularly to the trend of mountain ranges. In some places a thin deposit of oyster shells, barnacles and serpulae, exhibit No 25, is found firmly adhering to

bed rock as much as three feet above high water mark particularly where large land slide boulders cover rocky coast. The writer does not know of any true raised beaches but there are beaches on which material is piled up well out of reach of the highest typhoon waves. Untill specimens like exhibit No 25 were found the writer had looked upon other scanty evidences of recent slight relative retreat of the sea as being due to Typhoons which pile up the water against the land to a height greater than any spring tides and create furious waves upon the piled up water. Since the celts appear to be more numerous near small bays it seems advisable to discuss the sedimentary accumulations in such bays. A very common arrangement is as follows. Somewhere between the mouth and head of the bay is a high sand bar crowned by wild pineapple and other vegetation; this bar is breached, generally at one end, by a mountain stream, here tidal. On the land side of the bar is a tidal marsh. The greater part of the marsh is nearly always occupied by rice cultivation shut off from the salt water and the stream by a bund. The sand bar is high and wide and there is no tendency for it to travel landward. Sand dunes do not form on it, typhoon waves cannot get over it and mud boulders do not form on the seaward side; it grows in width seawards. This sand bar has been made by wave action and if wave action is very small an entirely different arrangement is found in the bay. In this case the stream goes out to sea through mangrove swamps and sand and mud flats. There is no sand bar and no Chinese agriculture or village unless an artifical stone-faced bund has been built to shut out the sea. The above are the commonest ways in which sediment is arranged in bays. Naturally there are intermediate types and other arrangements are semetimes seen, particularly in cases where a powerful stream in a narrow inlet sweeps the sediment out to sea. The writer has selected two bays of the first type and five of the second around which the hills were suitably eroded and has in every case found a celt in less than three hours. Although the inner edge of the sand bar in the first type of bay is now fixed in position this cannot have been so when the land was relatively sinking. At that time typhoon waves must have driven sand over the top of the bar pushing the bar landwards and the stream must have scoured out the marsh carrying the sand seawards. If we picture a sinking island having a valley of rain erosion on opposite sides, the catchment area of each stream would become less and less as the land sunk and the power of the stream to push the bars seawards would become less and less till the bars would meet back to back on the top of the sinking divide between the valleys producing a staple bar and a dumbell island. Such islands are very numerous near Hong Kong and the sand bar uniting the two halves may stand a few yards above the reach of the highest typhoon

waves; these islands are suitable for fishing villages and three celts were found on the only one examined, namely Cheung Chow, after only three hours search. In some cases these dumbell islands may have been produced by ordinary tidebars.

STRATIGRAPHIC.

The writer has never found celts except on granite soil; the reason being that all other soil with the slight exception of mica schist is covered with vegetation and even when this is burnt off the celts are probably under the grass roots. On granite soil the valleys are clothed with vegetation but the mantle on the crests and spurs of the hills is often eroded. There are two kinds of mantle on the granite spurs, an older unstratified mantle of sandy yellow earth, probably formed largely by the activity of termites and ants under forest conditions, and a newer, stratified and more sandy mantle which is simply rain wash from the older mantle and underlying weathered granite which has become caught in grass on its way down slopes. This newer mantle is very local in distribution and very variable in depth. Quite modern Chinese pottery fragments are sometimes seen deeply buried in it and any ancient implement found in it has probably been washed there after coming from the older mantle. Eroded patches of ground are often spread with an overhanging edge on which the grass dies for want of moisture. Such edges often show both mantles and the underlying weathered granite; particular attention has been paid to them when looking for celts; one celt No 6 was found projecting from the new mantle about four inches below grass roots and one No. 8 was eighteen inches down in what appeared to be old mantle. Unfortunately all other celts except one on a beach have been found lying on rubble or on weathered granite from which both mantles have been removed or on rubble.

THE CELTS.

Nearly all the celts are made from basic dykes or from aplitic material, both very common rocks in the neighbourhood. No. 2, apparently an andalusite shale from middle hill near Kowloon Bay and No 13. probably a volcanic ash from Junk Bay, were found several miles from their parent rock. The hammer stone No. 14 from granite Island of Cheung Chow and a similar one found on the granite Island of Shek La Kok are a thermal metamorphic rock which apparently occurs only at a granite contact at Shek Shan Wan Bay on the West Side of Lantao Island. The five smallest celts numbers 5, 6, 7, 9 and 18 were found near Kowloon Tong. The tong or pond being a recently cut off arm of the sea. Numbers 5, 6 and 7 were lying within ten yards of each other. It is

well known that Chinese celts are generally adze-edged. Perhaps the celts are adze-edged, not because they were used exclusively as adzes but because the users may have been good carpenters who made boats. A much worn Cantonese carpenter's iron axe-head, typically sharpened for a right-handed man is shown; not only is it adze-edged but the obtuse angle, made obtuse by sharpening, is at the same end of the bevel as the obtuse angle of celts I and 2.

POTTERY.

Fragments of modern Chinese burial urns, manure pots, and water and cooking utensils are common almost everywhere. The writer has made a search around each celt for pottery other than modern Chinese generally with no result. Three doubtful samples are exhibited.

FIRES.

A person looking for the dwelling sites of ancient man will be familiar with the reddened appearance of earth burnt by fire and be constantly on the look-out for it. Speaking generally for the neighbourhood, modern Chinese cooking places and net tanning fire places and brick, pottery, lime and charcoal kilns are built up or are partly empty holes, whereas thin rings of burnt earth going down into the ground are probably more ancient and are much more easily missed because they resemble curved rock joints and boulder crusts.

CELT "WORK SHOPS"

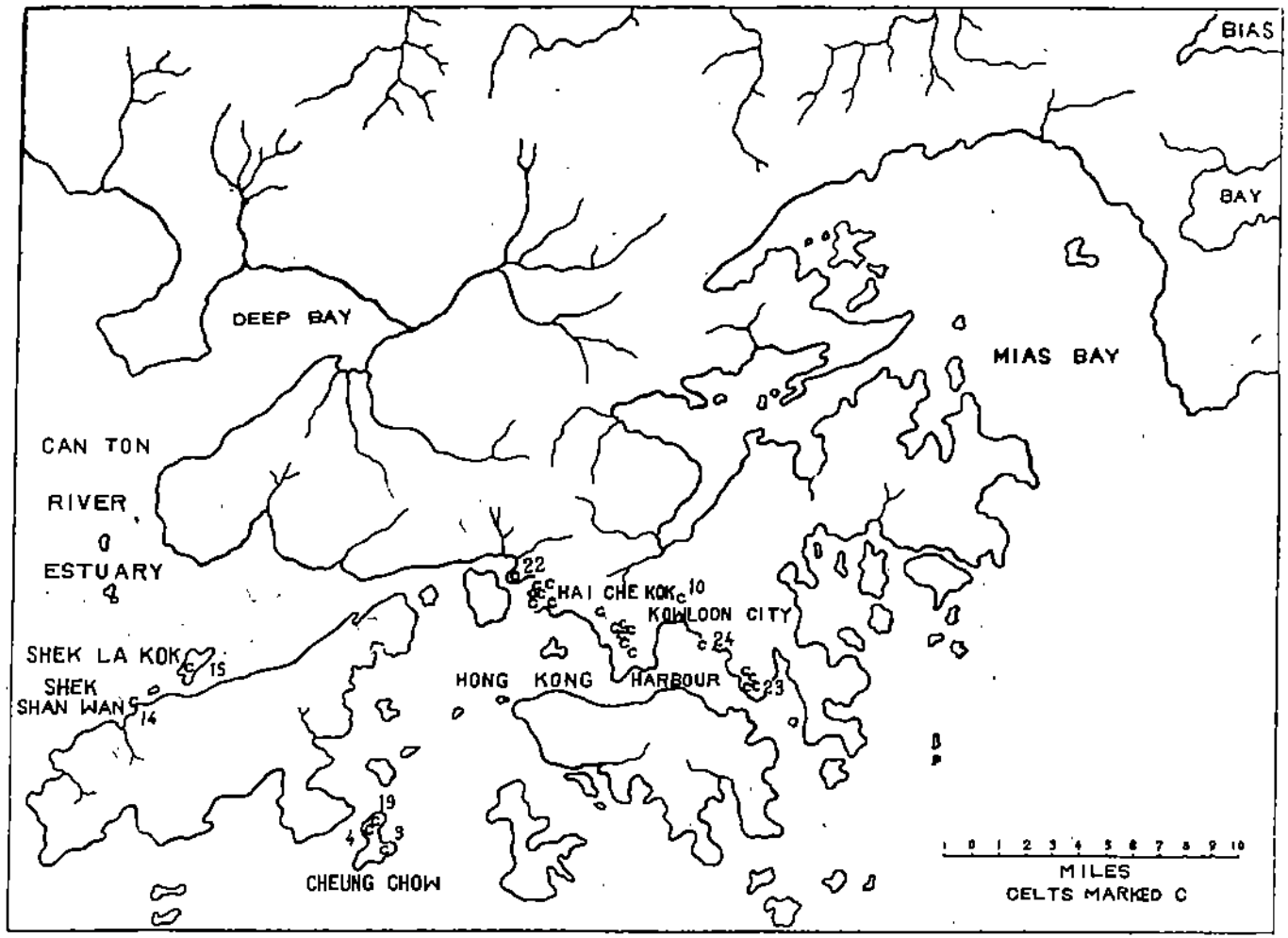
The rarity of finds of these in China was mentioned by Laufer; his statements made in 1912 are of course out of date for North China. The basic dykes from which celts numbers 3,5,7,14,15, 17, 18, 19, 20, 22, & 23 were made occur deeply weathered and are as a rule only found in the form of rock on the seashore or in mountain stream beds. It is evident from the absence of facets on the curved polished surface of some of the celts that they must have been ground in a hollow, no doubt with water and sand. It follows from the aboev that "workshops" would have been in stream beds or on the sea shore. The torrential rainfall of Hong Kong would sweep away all loose "workshop" material from streambeds. On the sea coast the slight relative uplift of the land already mentioned makes the search for "workshops" at places where basic dykes meet the shore more encouraging than search in streams. Probably in the Colony of Hong Kong not more than 200 of these dykes cut the shore in the form of rock, and as they vary much in texture and composition it should in many cases be possible to refer the celt to its dyke of origin. For example celt No. 14 was found on the shore with rolled pebbles of the same material all derived

from a dyke close by, which is, so far as the writer knows, unique in its great width and in coarseness of texture. Again celts 5, 7, and 18 are magnetic: number 7 strongly so. They were found within 500 yards of a dyke more crowded with fine grained magnetite than any other the writer has seen. For reasons such as these it is advisable that a record should be kept of where each celt was found and that for the present they should be kept in Hong Kong.

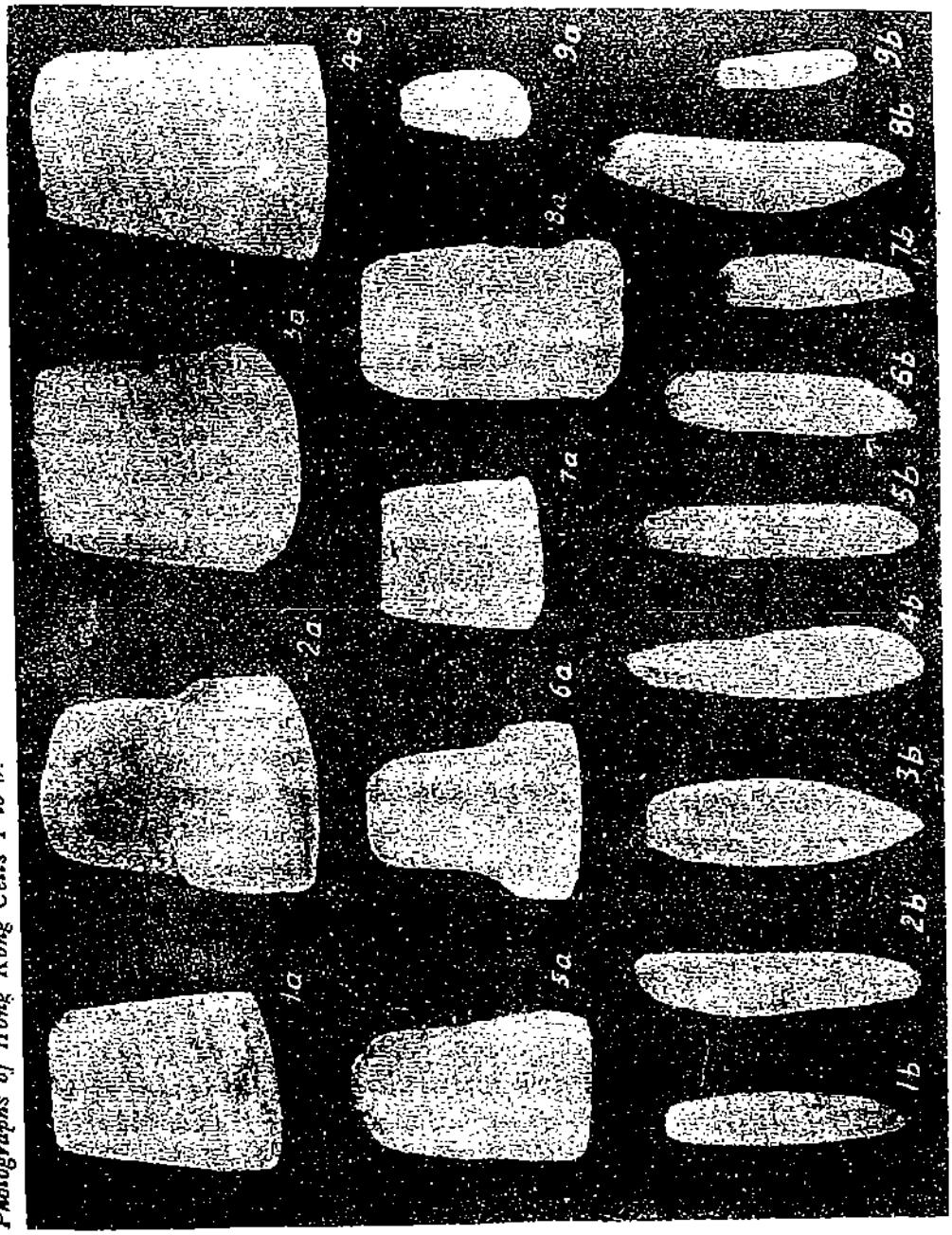
KJÖKKEN—MÖDDINGS.

Modern Chinese shell heaps are very common around small bays. Glass or modern pottery can easily be found in them. The finding of more ancient refuse heaps is probably only a matter of search.

I cannot conclude without acknowledging the help given by the District Officer, Mr. Walter Schofield, without which much of the work would not have been done.



The celts on the North side of Hong Kong Harbour counting from east to West along the coast are numbers 23, 13, 11, 21, 24, 10, 1, 9, 18, 5, 6, 7, 16, 8, 2, 12, 20, 17, and 22.



Photographs of Hong Kong Cells 1 to 9.