Thames; but this is the only instance of this tree being found so far south, and I am inclined to think this to be its utmost south range; the genus, and indeed the whole Natural Order, being tropical plants. The Maoris informed Mr. Locke that another tree of this kind grew also at Kaiawa, a little further north, and that anciently the fruit, or seed, was used as beads for necklaces: for which purpose, and by a rude people, they were pretty well adapted, from their uniform size, and possessing an agreeable glossy appearance, and having a small hole at the end in the *testa*, which might also have given birth to the notion of boring and threading.

As I find that Sir J. D. Hooker, in describing this genus, *Sapota*, has spoken of its fruit as a "berry with *one* nut-like seed,"* I will also give my short description of it, as written on detecting it (a second time), 36 years ago; as such may be of service to future botanical collectors and observers:

"On the high south headland of Whangaruru Bay, near which we landed, I discovered a clump of small trees bearing a handsome fruit of the size of a large walnut. Each fruit contained *three* large shining seeds, somewhat crescent-shaped, and having the front as it were scraped away. Its leaves are oblong, glabrous, and much veined, and its young branches lactescent. I have little doubt but that this tree will be found to rank in the Natural Order *Sapotaceæ*, and probably under the genus *Achras*. The natives call it Tawaapou."†

This, also, was its name as given by the Maoris of Tolaga Bay to Mr. Locke.

Art. IX.—*Notes on an ancient Manufactory of Stone Implements at the mouth of the Otokai Creek, Brighton, Otago.*

By Prof. Julius von Haast, Ph.D., F.R.S., Director of the Canterbury Museum.

[*Read before the Philosophical Institute of Canterbury, 7th August,* 1879.]

Amongst the many localities where traces of the former occupation by a native race are open to our inspection, there is one of some interest situated on the small islet at the mouth of the Otokai Creek, Brighton, Otago, upon which I wish to offer a few observations.

This islet is surrounded by the sea during high water, but it is evident, when the natives were here encamped, that the narrow channel now cutting it off from the mainland did not then exist.

* Handbook, N. Z. Flora, p. 183.

† *Vide* Tasmanian Journal of Natural Science, (1843) Vol. II. p. 299.

At that time it doubtless formed part of the mainland, as shown by the kitchen-middens and rude stone implements, flakes, and cores appearing exposed on both sides of the nearly vertical cliffs, in positions corresponding with each other.

This locality is the more interesting, as it belongs doubtless to an intermediate period, when the Moa had already become extinct, and when possibly cannibalism had begun to be first indulged in.

The Otokai kitchen-middens are, therefore, different from those existing near the mouth of the Kaikorai Creek, some six miles to the north, situated amongst the remarkable sand-dunes, which cover here an area of more than a square mile, and ascending to an altitude of 300 feet on the southern slopes of Otago Peninsula.

At the foot of these sand-dunes, and fronting the northern banks of the Kaikorai Creek estuary, a well-defined line of kitchen-middens lies about five feet above high-water mark, having a thickness of from several inches to more than one foot.

These kitchen-middens consist mostly of shells, of which *Chione stutchburyi* and *Mesodesma novæ-zealandiæ* are the most numerous. It is remarkable that these shells are nearly twice the size of those now inhabiting the Kaikorai estuary. In addition, *Mytilus smaragdinus* is well represented, but it is rather smaller than the same species found at present near the coast close by. *Amphibola avellana* and some others are also occurring in more or less large quantities.

Amongst these shells Moa bones are scattered here and there.

They are broken, often burnt, and have doubtless been deposited contemporaneously with the shells. It is thus evident that the Moas had already become so scarce that they only occasionally could be obtained, and the natives had to look towards getting other food as a regular means of subsistence. However, it is to be expected that more towards the centre of these sand-dunes, older deposits proving human occupancy exist, and which, as in other localities, will consist almost exclusively of the remnants of the extinct *Dinornithidæ*. Stone implements in the same locality are not scarce. They consist of very rude adzes and knives, mostly chipped from basaltic boulders obtained in the neighbourhood; however, similar tools made of flint, chert, quartz, and chalcedony are also represented.

Some few perfect and more numerous broken polished stone implements, together with whetstones and other polishing materials, were also obtained. Although I could devote only one day to an examination of this interesting locality, I was enabled to obtain a good insight into the character and position of the kitchen-middens under review, being fortunately guided by Mr. F. L. Jeffcoat of Winchendon, who lives close by, under Stony Hill,

and who has devoted a considerable time to the study of these ethnological questions.

Returning from this digression to the Otokai Creek Islet, I may observe that it consists of mica schist, with numerous segregations of quartz, by which the rock has become so hardened that it has resisted successfully the fury of the surf breaking here against the coast. These rocks rise at an average of fifteen feet above high-water mark, and are covered by five to six feet of loess, above which about twelve inches of vegetable soil has accumulated.

At the junction of the two last-mentioned beds, quite a thick layer of cores, implements, flakes, and chips exists, all manufactured from hard basaltic boulders, having been collected along the beach, derived from Cragg's Hill and the other basaltic cones in the neighbourhood. This deposit is from three to six inches thick.

Besides this manufactured material, some large flat boulders of basalt were lying amongst it, having doubtless been used as working tables by the savage artificers, while long, thin, and roundish boulders of mica schist, close to them, had evidently been employed as flaking-tools or fabricators. No signs of polished stone implements, nor of polishing material of any kind were discovered in the ditch, about two feet broad and thirty feet long, which I dug in that locality, in company with my friend, Mr. Robert Gillies, F.L.S., of Dunedin, whose hospitality and assistance I enjoyed last summer, during the time these excavations were undertaken.

However, only a small portion of this ground was examined, and I have no doubt that a great deal of valuable information is still hidden from us in that spot. There is great probability that many, if not all the more perfect specimens in the form of adzes, were destined to be polished at a more propitious season and in a more favourable locality. On the other hand, the form and finish of a number of knives, saws, drills, and spear-heads, suggest that they were used in this more primitive condition. Only a few shells and bones were mixed with these remnants of the stone manufactory, but immediately above them, and reaching to the roots of the luxuriant sward of grass covering the ground, and often to a thickness of six to eight inches, kitchen-middens had been deposited.

They consist of bones of seals, dogs, and of a variety of birds and fishes of all sizes, even the smallest kinds having evidently been used as food. As stated in the beginning, not the least sign of Moa bones was met with. Amongst these kitchen-middens two portions of a human femur belonging to a young individual were found, the bone had evidently been broken when fresh.

As there was not the least sign of any other human bone amongst the large amount of kitchen-middens exposed and examined, it would be prema-

ture to conclude from the presence of these two fragments, that the visitors to that locality were already addicted to cannibalism.

Possibly the bone may have belonged to a stranger or to a slave, having been broken at the time of death to be used for making tools. I have no doubt that further researches which Mr. R. Gillies intends to make in this spot, will throw more light on this subject. The only other specimen of human workmanship found amongst this layer of refuse is a small fish-hook made of bone. It is of a very primitive form, unlike any other I have hitherto obtained elsewhere. Of other material of the manufactory layer, there were a few small pieces of flint and chalcedonic quartz, cores, thrown away as useless.

ART. X.—*Notes on the Colour-Sense of the Maori.* By JAMES W. STACK.

[*Read before the Philosophical Institute of Canterbury, 4th September,* 1879.]

I AM indebted to Captain Hutton for calling my attention to a discussion, which took place a short time ago, between Mr. Gladstone and Mr. Pole, with reference to the colour-sense of the Greeks.

The question was raised by Mr. Gladstone, in the October number of the "Nineteenth Century" (1877), and his statements were subsequently reviewed by Mr. William Pole, in an article which appeared in the October number of "Nature" (1878), under the title of "Colour-Blindness in relation to the Homeric Expressions for Colour."

Mr. Gladstone maintains that the organ of colour was only partially developed among the Greeks of the heroic age; and supports his opinion by many examples drawn from the Homeric poems. Mr. Pole, on the other hand, maintains that Homer was colour-blind, and proceeds to establish his views by evidence drawn from his own sensations of colour, which coincide in a remarkable degree with the colour-expressions in Homer, as interpreted by Mr. Gladstone.

The question raised is one full of interest, both to the scholar and to the naturalist, whether as regarded from its bearing on the controversy respecting the authorship of the Homeric poems, or on the development of a human sense within a period of time known to history.

But I shall not presume to follow the arguments of either of these learned writers upon the question in dispute between them, neither my scholarship nor my acquaintance with the subject would entitle me to do so. Mine is the more modest task of furnishing such facts regarding the colour-sense of the Maoris, as have come under my observation, during more than