

Scattered about on the sand were numerous pieces of obsidian broken into thin flakes. Some of these still retained an edge "keen as a razor," some were serrated, and others, again, were rounded by the ceaseless drift of sand. These obsidian knives must have been brought from some distance, the country immediately surrounding being of limestone formation, and, though the Karioi mountain at the back is trachytic, I never saw any obsidian *in situ*.

There were also picked up some of the ordinary stone axes, and I found a carved bone *mere* (whale bone, I think), but it was broken across the handle, and rather decayed. I did not notice any greenstone ornaments or implements, though, of course, there may have been some buried deeper in the sand.

I made a collection of some of the most interesting things found, including a skull with a specially retreating forehead, and intended handing them over to the museum; but, unfortunately, in moving camp they got lost.

It is difficult to estimate how long ago these feasts took place, but I think it could not have been less than seventy years, probably much more. I made inquiries of some of the old natives living near, and they did not seem to have any tradition respecting the spot, and it was not *tapu* (sacred), as it would have been had it concerned any of their immediate ancestors. The implements, too, point to a time previous to the advent of the white man.

In a few weeks this modern Golgotha was again buried deep in the sand, which will no doubt preserve these interesting remains of a bygone time till a continuance of north-easterly winds again exposes them to the gaze of any observers who happen to be near.

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ART. XI.—*Description of a Meteor, of 4th May, 1888.*

By TAYLOR WHITE.

[*Read before the Hawke's Bay Philosophical Institute, 8th July, 1889.*]

I WILL endeavour to describe the appearance, or my impressions, of a meteor which was visible in apparent close proximity to my position at Wimbledon, Hawke's Bay, on the 4th May, 1888, between 8 and 9 o'clock p.m. It was the most beautiful and grand sight it has been my lot to witness.

The shortness of time allowed for inspection makes it difficult to fix certain points as to the position of blue and green bands showing in the tail or streamers, but I feel justified in placing them on the outer edge. The nucleus, or head, was of oval form, of a transparent light-yellow colour, as of iron at a white-heat. The tail was in the form of the tail of a pheasant,

expanded—that is, the two centre streamers were of uniform length, and the outer ones gradually shortening, so the outermost streamer on either side was very much shorter than those in the middle. These streamers were of a dull, opaque orange. They were distinctly divided each from each by dark bands which consisted of several fine black lines, to, probably, the number of five in each band. I am unable to fix the number of orange streamers, but would guess ten as probably correct. As the colours blue and green were certainly present, I place them outside the orange streamers—say a band of green next the outermost orange streamer on each side, and beyond, again, a band of blue. Otherwise these colours would have obscured the black lines, if contiguous to them. The head was distinctly outlined and of only the one colour; the tail almost perpendicular, and looking along it was as looking up a ladder. No sound was audible when the meteor was in view, but after I had gone into the house, and was describing what I had seen, the sound of its striking the earth or sea was heard—a loud and lengthened noise, to me like the violent shaking of all the forest trees, and evidently above ground, thereby differing from the sound accompanying an earthquake—coming from the westward; and this was followed, after a hardly perceptible interval, by a fainter sound, like an echo, to the north-east. This place is surrounded by forest trees, which would to a certain extent affect the character of the sound. The time which elapsed till the sound was heard was from three to five minutes. The direction of flight was from east to west, looking southerly. Appended is a sketch which will give an idea of the scene, and several newspaper-clippings, which are interesting as pointing to direction of flight and also as showing the discrepancy in descriptions given by several observers. At the same time it must be borne in mind that numbers of people are more or less colour-blind, and so incapable of giving an accurate description of colours.

Roughly speaking, I should say the line of flight was a little to the south of a line drawn between Herbertville, on the east coast, to Foxton, on the opposite coast.

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#### NEWSPAPER EXTRACTS.

[*Hawke's Bay Herald*, 7th May, 1888.]

Our Waipawa correspondent writes as follows under Saturday's date: Last evening, at about 9.20 o'clock, we were visited by another brilliant meteor. It was accompanied by a loud noise in the air, and there were tremors when it apparently reached the earth, the effect being like an earthquake.

[*Waipawa Mail*, 5th May.]

A very brilliant meteor fell here last night. Its track across the sky was marked by a magnificent blaze of light, illuminating the whole heavens, and lighting the interior of the houses. After the light disappeared, a shock, as of an earthquake, was felt, and some say the meteor must have struck the earth close to Waipawa.

[*Canterbury Times*, 11th May.]

A very remarkable aerolite passed over Palmerston North on 4th May, at ten minutes or a quarter past eight, and apparently fell on the ranges south of the Manawatu Gorge. It was first observed high up to the north, and slowly travelled the whole heavens, its appearance being that of a large globe of pale-green fire, followed by a train of the most brilliant light. Those who were outside at the time watched its course with wonderment; those inside were startled by what looked like a flash of the most vivid lightning, ending with a ball of fire, for so intensely bright was the light that it pierced window-blinds and everything, and made the lamp-light momentarily look pale. The phenomenon was succeeded at an interval of quite a minute by a very distant rumbling, which appeared to be of subterranean origin. Like the aerolite, which was seen by four-fifths of the population, whether they were abroad or not, the rumbling was also apparent to nearly every one. The night at the time was beautifully starlight, and clear down to the horizon, and perfectly calm.

[*New Zealand Mail*, 11th May.]

Masterton, 5th May.

A meteor appeared in the northern sky at 8.30 last night, of great luminous power and rare beauty. It resembled a ship's blue-light, and shot across the sky like a rocket, and then vanished high up without exploding. The phenomenon was supplemented by a slight shock of earthquake.

[*New Zealand Times* (Wellington), 8th May, 1888.]

A correspondent, signing himself "Inscius," sends us the following interesting notes relative to the great meteor of last Friday evening: "Something more than has yet appeared deserves to be said of the wonderful meteor which came to lodge with us on Friday night, and I was disappointed when I took up the *Times* this morning that 'Observer,' or some other competent meteorologist, had not already said it. For my part I was so filled with delight and astonishment (almost amounting to terror) at the marvellous phenomenon, the like of which I have never before seen, that I do not doubt many more beside myself will be interested to hear what science can tell us on the subject. I was at the time strolling home to

town along the Kaiwara Road, and had got to a spot about half-way between the railway bridge and the brewery, when suddenly I was startled by a most brilliant electric light being thrown in front of me. Quickly turning, I saw a sight which I shall never forget—a meteor, whose centre was as brilliantly red-hot as the summer sun at noonday, surrounded by a star-like sheath of electric blue light, the luminous track of the meteor forming a tail of intensely white light,—if my recollection serves me rightly, edged with electric blue. The height at which the meteor was when I first saw it I should estimate at about  $40^{\circ}$ —certainly not more; and the time it took in making its passage across the sky I should judge to have been somewhere about three seconds. The position at starting was, roughly speaking, over the north end of *Somes Island*, and at the finish a little to the northward of the starting-point. So near did it seem that I listened for the splash, which the eye led me to expect would occur off *Ngauranga*, between there and the island. A moment's reflection, however, convinced me that the actual distance away of this beautiful and wonderful object was infinitely greater, and perhaps I heaved a sigh of relief at the thought. To show the effect of its intensity and brilliance, I may say that a person who was near the top of *Hill Street* said afterwards with some assurance that he at first thought it would strike the *Parliament Houses*, but that it proved to be further off, and he judged it to have buried itself in the *Manawatu Company's* reclaimed land. Perhaps he went to look for the hole this morning! The person who told this to me was somewhat astonished at hearing that its effect on me was as related above. I have omitted to say that the apparent size of the star was quite half that of the full moon. I hope that my commonplace observations will draw the meteorologists."

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ART. XII.—*Shadow-pictures.*

By TAYLOR WHITE.

[*Read before the Hawke's Bay Philosophical Institute, 8th July, 1889.*]

Plate III.

SHADOW No. 1.

DURING the last total eclipse of the sun visible in New Zealand I was standing outside the house, in company with my brother, the late Colonel White, viewing the progress of the eclipse, when, happening, in the partial darkness, to take notice of the shadow thrown on the wall under the verandah after the