

perienced naturalists in eleven large areas and sea-bottoms. The study of these mens' labours must be the interpretation and revelation of nearly closed basins, long shores, and open sea dredgings, with their treasures and results.—R.E.

(*To be continued.*)

CORRESPONDENCE.

I.—NEW METEORITE FROM SOUTH AFRICA, Etc., Etc.

SIR,—During a recent visit to South Africa I was staying a few days at Colesberg, some 600 miles up the country, when I accidentally heard from a trader, who had just returned from some distance beyond the Great Orange River, that Captain Nicolas Waterboer, the Griqua chief, had a meteoric stone. Now, it is frequently the case when you hear of an aerolite in this manner, that some considerable doubt arises as to whether it really is a true meteorite or an imagined one; however, as I was now on my way up the country in that direction, I took note of the report and resolved to satisfy myself as to its being a genuine one.

After three weeks or more, on my arrival in Griqua town, I found out that the report of this stone was quite correct, and I obtained the following particulars from the Rev. James Good, the Missionary at Griqua Town. It was brought to him on or about the 1st of April this year by a Griqua who saw it fall near his hut on March 20, 1868, who said it smelt strong of sulphur, and was warm when he picked it up. It fell at Daniels Kuil, in Griqua territory, about two days journey N.N.E. of Griqua Town, and was brought into the town by the native who saw it fall and who offered it to Mr. Good, who, not being much interested in it, told the man to take it home again with him; the man, however, gave it to Captain Waterboer from whom I obtained it.

This meteorite is of small size, weighing only 2 lbs. 5 oz. and was the only one seen to fall. It contains a very large amount of free iron disseminated evenly through it, together with Troilite, Schreiberite, etc. This stone contains more iron than any other I have seen, but in a very fine state of division. It is of a dark greyish colour with a fine granular texture, speckled with small brown patches, owing to the alteration of the iron present; most of the iron seen on the broken surface of the interior of the stone is in extremely minute points, which glitter like the broken surface of a piece of sandstone. Frequently in meteoric stones there appears to be small roundish grains, sometimes so abundant as to give the stone an Oolitic character; this is not apparent in this specimen.

The crust on the outer surface is of a dull blackish colour, and immediately below, for a thickness of perhaps one-eighth of an inch, the stone is browner in colour than the rest of the interior, owing to partial alteration. When this aerolite came into my hands it was broken into two parts, and the fractured surfaces were very much altered, the iron being much oxidised, thus rendering the stone much browner than at a fresh fracture.

Professor A. H. Church has very kindly analysed it with the following results :

Density.....	3.657	
Nickel-Iron	29.72	
	{ Contains: Fe. 94.72 }	
	{ Ni. 5.18 }	
Troilite	6.02	
Schreibersite	1.59	
Silica and Silicates.....	61.53	
Oxygen, other substances, and loss	1.14	
		100.00

The meteorite gives off sulphuretted hydrogen when treated with acid.

I have just succeeded in obtaining a cast of the stone in plaster of Paris, which, being coloured, is a perfect facsimile of the whole meteorite as it fell.

It is remarkable, considering the large extent of country now being much travelled over, even for a very great distance, that so few meteoric stones or irons are found in that part of the globe. India has of late years produced a large number, some 40 or 50, while in the Southern portion of Africa some 7 or 8 are all that we know of.

II.—METEORIC IRON FROM SOUTH AFRICA.—On my return to Cape Town in August last from the Orange River, on visiting the South African Museum, Mr. E. L. Layard pointed out to me a small piece of meteoric iron, the weight of which was only about six or seven pounds. It was, as usual with these irons, much altered and decomposed on the exterior surface, evidently owing to the large proportion of the meteoric mineral-iron sulphides, which, as is well known, attract much moisture from the atmosphere, thereby causing the mass to crumble and fall to pieces. Mr. Layard was kind enough to give me a small portion of this iron, in which part of the metal was not altered in any way. This meteoric iron was said to have been seen to fall at Victoria, West, some distance up the country, in 1862. It has not been analysed, and its existence seems to be unknown in Europe.

I have had my specimen polished and etched in the usual manner; it exhibits the crystalline markings similar to those seen in the other meteoric irons, but perhaps in finer and more delicate lines.

III.—ANCIENT STONE IMPLEMENTS.—I procured several stone implements in August last, during a recent visit to South Africa, that were found on the Cape Flats, a large flat extent of country near Cape Town. The materials from which they are fashioned are not flint, though some have a very flinty appearance; they are mostly made of a kind of quartzite, or very hard and compact sandstone of a yellowish brown colour; some are made of a variety of jasper, though somewhat of a coarse texture; these stones being found plentifully in various localities in the southern part of the Cape Colony; some of these sandstones have been assigned to the Devonian age, and many of them are extremely friable; occasionally we find these implements made of a cherty stone, but none of true

flint; they are mostly arrow-heads with some knife flakes. I have also a large round flattish hammer-head (with a round hole in the centre), from the same locality, the weight of which is about two pounds.

JAMES R. GREGORY.

ON *HETEROPHYLLIA MIRABILIS*, DUNCAN.

SIR,—In the GEOLOGICAL MAGAZINE of this month (October, 1868), Mr. John Young, speaking of *Heterophyllia mirabilis*, and *H. Lyelli* (as described by Dr. Duncan in the Transactions of the Royal Society), suggests that the error, as he considers it, of representing the hook-shaped processes attached to *H. mirabilis* as articulated, may have arisen from the specimens examined being worn or indefinite. This was not the case. The corals, which I believe were the property of Mr. Thomson of Glasgow, were perfectly sharp and distinct. The bulb or tubercle, with a pit in its centre, and the slight concavity at the base of the hooklet being too decided to admit of any doubt or misconception. Besides, in nearly every case the hooklets had separated at the bulb. Supposing the articulation to be a mistake, these fragile appendages would hardly break invariably at that point where they are stoutest and strongest. Yet in all specimens that I have seen—and I have seen many—such is the rule. At the time the plates for Dr. Duncan's paper were drawn I had been intimately acquainted with corals, examining them day by day for a space of six years, and the conviction is strong upon me that I must have possessed sufficient discrimination to distinguish between a fracture and an articulation. That a Zoophyte has no right to this articulation is a point about which I know nothing. Like other creatures, it is possible they may occasionally exhibit eccentricities.

G. R. DE WILDE.

ON *HETEROPHYLLIA MIRABILIS*, DUNCAN.

I have, at the request of my friend Mr. Henry Woodward, very carefully examined, under the microscope, several specimens of this curious coral (described by Dr. Duncan in the Philosophical Transactions for 1867) forwarded to Mr. Woodward by Mr. John Young, Under-Keeper of the Hunterian Museum, Glasgow.

Not having seen the specimens figured by Mr. De Wilde in Dr. Duncan's plate, I cannot venture on any positive assertion as to whether or not those particular specimens have been rendered with that artist's customary accuracy;—but I have no hesitation in stating that it is easy to select specimens from those sent by Mr. Young, which present rows of tubercles, the exact counterpart of those figured by Mr. De Wilde.

On the other hand, however, there are amongst Mr. Young's specimens, some which present characters differing greatly from those figured in Dr. Duncan's plate, and in which the hooklets are broken off at various distances from the costæ—in some cases even close up to the body of the coral, leaving a concave cicatrix instead of a tubercle.