

Secondly, it is unfortunate that naturalists were not likewise sent to Oahu, in the Sandwich Islands, where there was likewise an astronomical station in 1874. The Sandwich Islands, as was pointed out by our correspondent in 1870, are the seat of a most peculiar indigenous flora and fauna, which is now fast perishing beneath the assaults of European weeds and animals introduced from other countries. Dr. Finsch, who was lately at Honolulu on his way to the Northern Pacific, tells us (*Ibis*, 1880, p. 79) that during a week's stay in that city and its vicinity, he saw *no birds* except introduced species, and had to go far into the interior to obtain examples of the indigenous Avi-fauna, and that the "native forests are going in the same way." It is a great misfortune, then, that this should happen before we have any good account of this peculiar flora and fauna which rivals in eccentricity even that of the Galepagos. And as another Transit occurs in 1882, we trust that should our astronomers again visit any one of the Sandwich Islands group, a staff of efficient naturalists will be sent in their company.

ARTIFICIAL DIAMONDS

UNDER the heading of "The Crystallisation of Carbon" Mr. Crookes writes as follows in the last number of the *Chemical News*:—

Since sending the telegram¹ announcing that carbon crystals, apparently diamond, could without difficulty be produced from any carbon compound, Mr. Mactear has sent me several specimens of his supposed artificial diamond. He has also called upon me with other specimens, and has explained the whole process by which he obtains such remarkable results. As, however, he has sent to the Royal Society a paper which will probably be read in the course of a week or two, I am not yet at liberty to give details of the process.

The general character of the specimens now in my possession may be described as irregularly shaped masses from 1 mm. downwards in diameter, with rounded angles, and showing no definite crystalline appearance. They are whitish looking, translucent, and as a rule lustreless; many pieces are almost spherical and appear like fragments of corundum which have been water worn. Amongst these are perfectly clear fragments larger in size, some being 3 or 4 mm. across, having a conchoidal fracture exactly like glass.

In a paper "On Molecular Physics in High Vacua," read before the Royal Society in March last, and now being published in the *Philosophical Transactions*, I referred to the remarkable power possessed by the molecular rays in a high vacuum of causing phosphorescence in bodies on which they fall, and I remarked that the only body which surpassed Becquerel's luminous sulphides both in brilliancy and variety of colour is the diamond. Most of these gems, whether cut or in the rough, when coming from the South African fields, phosphoresce of a brilliant light blue colour. Diamonds from Brazil shine with different colours, such as bright blue, pale blue, apricot, red, yellowish green, orange, and light green. A beautiful collection of diamond crystals, kindly lent me by Prof. Maskelyne, phosphoresced with nearly all the colours of the rainbow, the different faces glowing with different shades of colour. On receiving the specimens from Mr. Mactear, I immediately submitted them to the molecular discharge. The following are the results I have at present obtained:—

In a high vacuum the specimens phosphoresce brightly of different colours—pale blue, orange, apricot, and yellowish green. The clear glassy fragments are also phosphorescent. The appearance of the phosphorescence is very similar to that shown by small, rough diamonds from Brazil, called in the trade "Boart;" indeed, had I not known the history of the fragments in my tube, I

¹ *Chemical News*, vol. xl. p. 336 (December 26, 1879).

should, from their appearance, have said that they were small fragments of Brazilian Boart.

The opaque rounded appearance of the fragments is unlike that of the natural diamond, but by heating a rough diamond before the blowpipe until it has partly burnt away, it assumes a very similar appearance to that of Mr. Mactear's crystals, and it is therefore not unlikely, from their mode of preparation, that these crystals have undergone partial combustion after their formation—a fact which would explain this difference in appearance. Other specimens having been placed by Mr. Mactear in competent hands, with a view of determining their hardness and chemical properties, I have refrained from making experiments in this direction.

W. C.

We append a letter on the subject from Prof. Maskelyne in the *Times* of the 8th inst. :—

As I know that a portion of the public is very much interested in the diamond question, and in the result of the interview Mr. Mactear announced that he and I were to have in connection with it, I think, perhaps, it will be well to say that I have had the pleasure of working with that gentleman many hours yesterday and to-day, and that our results so far convince me that, while my own conclusions, as announced in the *Times*, are borne out as regards at least the portion of the substances on which I worked, there are other portions of those substances that differ from these in properties and still require investigation; that, in fact, the material is a mixture of different bodies. When I say that I have as yet no evidence of the existence of crystalline carbon, whether as diamonds or in some other condition, among these bodies, I feel that Mr. Mactear makes a reasonable request of me in asking that I should invite a suspension of opinion regarding a discovery he believes that he has made. A portion of the material he has produced is very hard, and, I believe, bears out his claim to have scratched topaz and sapphire. Mr. Mactear wishes me to add that the diamond has been also abraded by his product and to inclose to you a certificate to that effect. Mr. Mactear wishes me also to state that he claims simply to have produced a crystalline form of carbon irrespective of the question of whether this is the diamond.

I am, Sir, your obedient servant,

NEVIL STORY-MASKELYNE

British Museum, January 7

We may state that in the *Times* of the same date is a certificate from Mr. L. Boston, of Glasgow, that he has been able "to scratch a diamond and to engrave two rubies, two sapphires, an amethyst, and a cairngorm" with Mr. Mactear's "crystallised carbon sand."

THE "TIMES" ON BRITISH BIRDS

NATURALISTS live a life of surprises, but the surprise with which ornithologists must have one day last week received certain positive assurances of the leading journal would surely overstep the bounds of ordinary astonishment. We have, no doubt, been passing through a "silly season" of unwonted severity, as the morris-dance of late performed by many of the pseudo-ornithological correspondents of the *Times* proves; but a recent leading article in that journal eclipses all else that it has published on the subject.

After declaring that "our birds are the glory of the land," and piously ascribing that glory to the upper regions, the writer goes on to compare England with France in the matter of its birds, saying, of course, nothing that was not quite well known before, except the extraordinary statement that "France has produced ornithologists, but they have had to leave her shores." The meaning of this is entirely beyond us, for every one knows who cares to know that France now possesses a large number of ornithologists—and one indeed, M.