

Destruction of Fish in the Late Frost.

IN passing across the small suspension bridge over the canal on the north side of the Regent's Park yesterday morning, I observed a number of white flakes on or in the floating ice. On looking more closely, I saw they were dead fish, which apparently were frozen into the ice. The canal was nearly covered with ice, and the fish were scattered in the latter for as far as I could see. I think I may safely say there were on the average three fish for every two square yards; not seldom I saw three or four lying within one square yard. They were roach, or one of the fish resembling it; more commonly 3 or 4 inches long, occasionally larger or smaller. Very likely small fry and minnows were present, but these I could not distinguish from where I stood. Of course it is well known that fish are killed during a long severe frost, but I never saw such wholesale destruction, and it led me to wonder whether in any case such a cause may have acted in the geological history of the globe. Perhaps I am asking a question which only displays my own ignorance, but can anyone tell me how it is with the fish in countries like Siberia? Do they desert those parts of the rivers which are frozen over, or are the currents more rapid, so as to transfer air beneath the ice from unfrozen parts, or, as in some glacier-streams, are they altogether absent?

T. G. BONNEY.

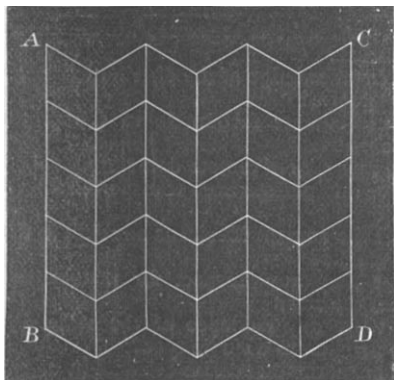
23 Denning Road, N.W., January 26.

Bees' Cells.

IN writing a paper upon the cells of hive-bees for the *Nineteenth Century* some months ago, a property of these cells occurred to me, which seems to be sufficiently interesting to be worth noting down.

The property is this. Typical bee cells may be manufactured entirely out of bee rhombs; that is, out of rhombs such as those by which the terminations of the cells are formed. Moreover, for the manufacture these rhombs will be required in dozens or half-dozens.

Suppose, for instance, that I have three dozen of such rhombs. Take thirty of them, and lay them upon a flat surface, in contact with each other, as in the figure. Conceive them to adhere into one sheet, A B C D, or (which comes to the same thing) let a piece of paper, A B C D, be shaped as in the figure. Now



let the figure A B C D be bent round a hexagon, so as to form a hexagonal prism, the edges A B and C D being thus made to coincide. The prism will have open ends, and we have six rhombs left with which to close them, three for each end. Now bisect the prism by a plane perpendicular to its axis, and we shall have two typical bee cells.

The same thing will be true of any number of dozens or half-dozens.

This geometrical construction has, of course, nothing to do with the question, How does the bee build her cells?, but it is curious, and (so far as I know) has not been noticed previously.

Rose Castle, January.

H: CARLIOL:

The Crowing of the Jungle Cock.

IN the Proceedings of the Zoological Society, 1890, p. 48, Mr. Bartlett makes the following statement on the subject of the crowing of the jungle fowl: "There can be no doubt that

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the origin of our domestic fowls must be attributed to the wild jungle fowls of Asia, but none of the known wild species are ever heard to utter the fine loud crow of our domestic cock." I can recall very distinctly an exception to this statement. When living in Timor, at my hut on the Fatunaba hills, I heard—more than once—the crow of the jungle fowls which used to frequent a bit of very dense scrub not far from our camp. I was first led early one morning to the knowledge of the presence of these birds in my vicinity, by hearing (with more than ordinary satisfaction) a call which was the counterpart of the well-known cadences of the barn-door cock; but it was, if I may so represent it, considerably thinner in volume, more wiry, and higher pitched than his. I hastened after this first chanticleer, and succeeded in getting a perfect sight of and a shot at him, but without securing my victim, deeply to my disappointment, as I can well remember, for it would have been just then a most welcome accession to an empty larder.

HENRY O. FORBES.

Canterbury Museum, Christchurch, New Zealand,
October 29, 1890.

Throwing-Sticks and Canoes in New Guinea.

IN reply to my friend Mr. H. O. Forbes's letter to *NATURE* of January 15 (p. 248), I would like to say that I admit that my statement regarding the occurrence of the throwing-stick in South-east New Guinea is misleading. When I wrote the paper from which Mr. Forbes quotes, I was unaware that the Papuan throwing-stick was confined to a portion only of Kaiser Wilhelm's Land, and that its use was unknown in the British Protectorate. It is almost impossible to find out the exact geographical distribution of Papuan objects, either from the accounts of travellers or from museum specimens.

With regard to the canoes, in the paragraph preceding that quoted by Mr. Forbes I refer to the fact that down the south-east coast of New Guinea "the canoes have only a single outrigger," and thereby admit that it is indigenous to New Guinea. My point was, and still is, that the single outrigger has been introduced into Torres Straits by South Sea men, and that as far as the western tribe is concerned it was first introduced by my friend Ned Ware (Uea, Loyalty Islands). I believe it can be shown that the particular form of outrigger in question differs in minor details from the "New Guinea model."

May I take this occasion to express the hope that Mr. Forbes will publish the anthropological notes which he must have accumulated during his three years' residence in the country? As he has travelled up and down the coast, he must be in a position to give us some of that precise information as to the special characters and manufactures of the various tribes which is now lacking.

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THE SUPPOSED OCCURRENCE OF WIDE-SPREAD METEORITIC SHOWERS.

IN a recent paper¹ it was shown that the prevalent belief in widespread meteoritic showers, whether true or untrue in general, was, as regards the Desert of Atacama, on the western coast of South America, based on insufficient evidence: that in one case the widespreading of a shower was undoubtedly caused by a mere interchange of labels; in another by misinterpretations of the statements relative to a locality; that while the places were widely separated from which other fragments, belonging to a single type, had been brought, they were on definite and dangerous lines of traffic along which similar fragments are known to have been previously carried on the backs of capricious mules; further, that the statement that "meteorites were found at every step in the Desert" had been made at a time when almost the whole of the Desert was untrodden and unexplored; finally, that the latest explorations did not suggest the existence of meteoritic masses at small distances from each other over any large area of that part of South America.

¹ *Mineralogical Magazine*, vol. viii. p. 223; *NATURE*, vol. xli. p. 108.