

his theory in a more solid and more general way, and in this case also I shall have attained my aim.
L. SOHNCKE
University of Jena

Holothurians

THE observations which I made in 1883 among the coral-reefs of the Solomon Group on the habits of the Holothurians support the view that these animals do not subsist on living coral. I carefully examined the material voided by about twenty individuals, and found its composition to be of a mixed character. In addition to the calcareous sand and gravel which formed its bulk, there were numerous tests of the large foraminifer—Orbitolites—and several small univalve and bivalve shells, besides the joints of a stony alga and the operculum of a young nerite, &c. This observation is supplementary to those contained in my previous letter on this subject (NATURE, vol. xxvii. p. 7).

Traders in this group tell me that when collecting a species known in the trade as the "large tit-fish," they have frequently found a small eel inside the animal, which usually escaped before it could be secured. One man received a smart electric shock, whilst handling a trepang containing one of these eels.

H. B. GUPPY

H.M.S. *Lark*, Auckland, N.Z., January 1

Unconscious Bias in Walking

SURELY Mr. W. G. Simpson has written from imperfect memory when he tells us in NATURE (vol. xxix. p. 356), "if the majority of people, as Mr. Darwin argues, are left-legged, they would circle to the left in a mist, as Mr. Larden says they do." In Mr. Larden's letter (p. 262) the following passage occurs: "This theory (his own) involving as further consequences that those in whom the left leg is the strongest would circle to the right," &c.; again, "I myself am right-legged and in a mist I always circle to the left." Although Mr. Simpson has misquoted Mr. Larden, he has arrived at the same conclusion that I did (see NATURE for January 31, p. 311), but gives his views in different words, namely, that "there is a bias towards the stronger limb, irrespective of length."

JOHN RAE

The Storm of January 26

THE lowest reading, reduced to the sea-level, of the barometer here, about six miles south-east of Omagh, during the gale on Saturday, the 26th ult., was 27.68, and occurred at 4.15 p.m. Dublin time.

ROBERT DIXON

Clogherny, Beragh

PALESTINE EXPLORATION

THE following communication has been forwarded to us for publication:—

Mediterranean Hotel, Jerusalem, January 18, 1884

DEAR PROFESSOR OLIVER,—A chest in a waterproof cover leaves here to-morrow for London to Messrs. Cook and Son, Ludgate Circus. It should arrive on February 25 or sooner, and I have directed that it should be forwarded immediately to Kew. I hope to arrive soon after. It contains all my dried plants. They are made up in various packages, with localities written outside. Of course you will have them kept dry and looked after, but I think they had better not be overhauled until I come, as I should like to open them as they are, while the contents of each package and its associations are fresh in my memory. The earlier desert plants are in many cases only valuable for recognition, I fear, as they are withered remains, but I frequently obtained a lingering flower and many seeds. All my seeds and bulbs I have sent according to promise to Mr. Burbidge, of the College Botanic Garden, Dublin. In the mountains about Sinai and Jebel Catherine I obtained better specimens, and things gradually improved to Akaba. We got through a good deal of unexplored country and had a most efficient conductor. Along the Wady Arabah I made frequent detours into the mountains on either side, and was espe-

cially fortunate in having a good collection on Mount Hor and at Petra and its neighbourhood. The flora of Mount Hor (5000 feet) is extremely rich—a warm sandstone. I also collected mosses and lichens in the desert, and am still gathering all I can. My collections reach to here, including a run down to the Jordan. The pace is now (horses) often too rapid, but the camel was an admirable companion on a long march. We were delayed in the Ghor-en-Safiet, at the south-east end of the Dead Sea for ten days, an unparalleled sojourn in this most interesting place. It was early a little, but I made large collections there, and was very glad of the difficulties that opposed our departure. I found many unexpected plants—three ferns, for instance, on Mount Hor, and a *Stapelia*. I knew the names of very few of the things, and had no books, but Redhead and Lowne's papers were a help, though they gave a very poor idea of the real state of affairs. There is a fine *Acacia* in the Ghor-en-Safiet, distinct in many respects and far finer than *A. seyal*. It is the true "scent" about which there seems a lot of confusion. Hoping my collections will be satisfactory,

I remain yours very truly,

(Signed) HENRY CHICHESTER HART

P.S.—Here in Jerusalem there are about six plants in flower; down below in the Jordan I gathered about a hundred two days ago!

(Signed) H.

FAIRY RINGS

THE dark green circles of grass known as "fairy rings" formed the subject of a paper in the *Philosophical Transactions* of the new-born Royal Society in 1675; but it was only last year that the Rothamsted chemists, Messrs. Lawes, Gilbert, and Warington, announced what is no doubt a correct explanation of these phenomena.

The original theory of the electrical origin of the rings was succeeded by that of "chemical causes" propounded by Dr. Wollaston at a meeting of the Royal Society in 1807, and by Prof. Way in a paper read to the British Association in 1846. Besides the "mineral theory" which was here pressed into the service of a discussion that commenced, as already stated, more than two hundred years ago, De Candolle applied his famous "excretory theory" to its elucidation. At Rothamsted, however, the causes of fairy rings were still regarded as having been unsatisfactorily explained.

Sir John B. Lawes and his colleague Dr. Gilbert commenced their inquiries on this subject many years ago. Almost from the commencement of their experiments at Rothamsted they had regarded the alternate growth of fungi and grass as a striking example of what may be called the "natural rotation" of crops. As long ago as 1851 they described fairy rings in the *Journal of the Royal Agricultural Society* as "a beautiful illustration of the dependence for luxuriant growth of one plant upon another of different habits." It will be remembered that the experiments at Rothamsted led to the substitution of what is called the "nitrogen theory" for the "mineral theory" of former days, and practical agriculturists who know the value and the cost of nitrogen as an all-important agent of fertility will learn, perhaps without surprise, that the rich verdure of a fairy ring is due to the effect of nitrogen. Nitrogen is the *sine qua non* of plant growth, and fungi require a large amount of it. From what source do they obtain it? At the present time few, if any, chemists would maintain that they obtained it by the absorption of free nitrogen from the atmosphere, but in 1851 the eminent investigators at Rothamsted attributed the nitrogen of the fungi to their extraordinary power of accumulating that substance from the atmosphere; and this they thought enabled them to take up the minerals which the grasses, owing to