

of Richard Jefferies, is very much abroad just now. Sometimes he is more poet than naturalist, but he is always a lover of nature, and though his interpretations are often lacking in scientific accuracy, his observations are generally worth putting on record. Dr. Abbott belongs to this class of nature's disciples. Systematic science has no charms for him. He prefers rather to roam the fields and woods, and watch life in all its varying moods and motions. Ensnared in the branches of a high tree, he has seen sights never vouchsafed to mortals with more limited horizons. He has watched the building of nests, and his observations on the method of working are as valuable as they are interesting. The footprints of various birds, the sinuous traces made by mussels and water-snakes on the ripple-washed sand of a sea-shore, and an infinite variety of similar impressions, have furnished him with objects of study. These are the kind of topics treated in the book, the scene of which, judging from internal evidence, is in Maryland. For the most part, the reading is pleasant gossip, free from rhapsody and tiresome platitude. The title does not, however, clearly express the character of the contents, for it only refers to one of the seventeen papers which make up the volume.

The publishers are famed for their tasteful editions in *belles-lettres*, and they have done their best to give an æsthetic value to Dr. Abbott's musings on sundry phenomena.

LETTERS TO THE EDITOR.

[The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts intended for this or any other part of NATURE. No notice is taken of anonymous communications.]

The Electrification of Air.

As attention is called to this subject by the paper, by Lord Kelvin and Mr. Magnus Maclean, in NATURE for July 19 (p. 280), it may be worth while to point out that two distinct questions, which it is important should not be confused, arise as to the electrification of air. The first question is whether an electric charge can be given to a quantity of dust-free air? In other words, whether a gas can get into a condition in which it can carry a charge of electricity? The evidence derived from the electrification observed in vacuum tubes, &c., seems almost conclusive in favour of an affirmative answer to this question, which is the one considered by Lord Kelvin. The second and quite different question is whether this electrification of the gas is possible unless some of the gas is in a special state, such, for example, as would be produced if some of the molecules were split up into atoms? To adopt a definite theory, for the sake of putting the question clearly: Is the electricity in the charged gas carried by molecules or atoms?

It was the second of these questions, not the first, which I discussed in my "Recent Researches in Electricity and Magnetism," under the heading "Can a molecule of a gas be electrified?" The ultimate fate of a charged drop of water, alluded to by Lord Kelvin and Prof. Elihu Thomson, is, as far as I can see, not in any way inconsistent with the view which I advocated, that the molecule of a gas can not be electrified. For take the case of a drop of water impure enough to be regarded as an electrolyte, and suppose it negatively electrified. The negative charge will be carried by oxygen ions or atoms; thus, if it were possible to evaporate all the water away, the electricity would be left on these atoms, and there would be no charge on either the molecules of water or air. On the other hand, the fact that the water molecules escape from the electrified surface without any electrification, seems in favour of the view that the water molecules can not be electrified. Again, it is worth remembering that a square centimetre of surface, immersed in air at the standard temperature and pressure, is struck by about 10^{25} molecules per second; yet such a surface will retain for hours, without sensible loss, a charge of electricity, which, as we know from the electrolytic properties of liquids and gases, could

be carried by a few thousand millions of particles if these were to receive such a charge as the atoms of the gas are able to carry.

J. J. THOMSON.

Cambridge, July 20.

"Testacella Haliotoidea," Drap.

IN NATURE for the 5th inst. Mr. J. Lloyd-Bozward has a note headed "Testacella haliotoidea," of which slug he says that "specimens are not infrequently collected in asparagus-beds, as are also those of the much rarer *T. scutulium*."

It will be allowed that the latter species is often found in such places, those recently recorded from Buckhurst Hill, for instance (*Essex Naturalist*, vol. vii. 1893, p. 46), but exception may be taken to the statement that *Testacella scutulium*, Sow., is much rarer than *Testacella haliotoidea*, Drap.—in fact, it would seem that the opposite is the case.

Until recently every British example of the genus not referable to *Testacella maugei*, Fér., was called *haliotoidea*: however, the late Mr. Charles Ashford in 1885 pointed out to Mr. J. W. Taylor that there were anatomical differences between the form that seventy years before had been called *scutulium* by Sowerby, and the typical *haliotoidea*. The figures in Mr. Taylor's paper (*Journal of Conchology*, 1888, p. 337), which was the outcome of this, were not altogether convincing, and the present writer, in some remarks to the Linnean Society (June 1893), on the method of feeding in Sowerby's species (see *Zoologist*, August 1893) thought it advisable to endorse Mr. Taylor's statements from his own observations. Again, in the following July, Mr. Walter E. Collinge (*Annals and Magazine of Natural History*) gave some very clear figures and descriptions of some anatomical details of the genus, ably supplementing Mr. Ashford's work.

Now that the specific distinctness of *Testacella scutulium* is beginning to be recognised, the records for this species are getting numerous, while those for *haliotoidea* are apparently dwindling, doubt being thrown on existing records, and, as can easily be foreseen, supposed localities having to be struck out in favour of the allied form. Almost all the shells of this genus preserved in the British Collection at South Kensington, on running through them with Mr. Edgar Smith, turned out to belong to *Testacella scutulium*.

Mr. Bozward's record of *Testacella haliotoidea* is interesting, as Tate's list of counties can hardly be reliable now, a catalogue of localities as exhaustive as that given for the other species by Mr. Taylor, in his paper, already referred to, would be most useful. The following are a few records which the writer has been able to lay his hands upon, at short notice, for the true *haliotoidea*.

Horsham.—The first specimen which Mr. Taylor sent to Mr. Ashford, which was really this species, was from here (letter to the writer).

Oxford.—Mr. Taylor mentions having a specimen from Prof. Poulton (in his paper on *T. scutulium*).

Chepstow.—Mr. Taylor mentions this locality (letter to the writer).

Yorkshire and Cornwall.—Mr. Collinge had his specimens chiefly from these counties (letter to the writer).

Ireland.—Dr. Scharff gives Youghal, co. Cork (in "Irish Land and Freshwater Mollusca," *Irish Naturalist*, 1892).

Kew.—The writer collected specimens in the Royal Gardens some years ago. WILFRED MARK WEBB.
Biological Laboratory, Chelmsford, July 19.

Two Arctic Expeditions in One Day.

THE 7th of July was memorable as the date of sailing of two Arctic expeditions, one from St. John's, Newfoundland, the other from New York. The steamer *Falcon*, having set out from New York in June, and touched at St. John's, made its final departure from that point for Bowdoin Bay, Inglefield Gulf, Greenland, having on board the Peary auxiliary expedition, the intention being to convey Lieut. Peary and his twelve companions back to the United States in September, after their twelve months' sojourn in the Arctic regions. The *Falcon* was saluted in passing by the British man-of-war *Cleopatra*.

The expedition will be gone about ten weeks. Cary Island, Cape York, and Clarence Head will be visited. Various