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. Ensconced 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. scutulum*."

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 scutulum*, 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 *scutulum* 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 scutulum* 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 scutulum*.

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. scutulum*).

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

scientific work will be pursued, including the study of glacier systems.

The iron steamer *Miranda*, chartered by Dr. Frederick A. Cook, of Brooklyn, sailed from New York the same afternoon with a party of fifty men of science and pleasure-seekers. Labrador and the west coast of Greenland will be visited. Several of the party will remain in Greenland to prosecute scientific researches. The steamer will then go to Melville Bay, and perhaps visit the quarters of Peary and other explorers, returning about the middle of September.

Among the passengers were ten Eskimo, who had been stationed in the Eskimo camp at the World's Fair in Chicago last year, and are returning home. WM. H. HALE.

Brooklyn.

Rearing of Plaice.

IN NATURE of July 12 (p. 251), there is an interesting note on the rearing of larval plaice at Plymouth, by Mr. J. T. Cunningham, in which it is mentioned that they have been reared to the age of thirty-seven days; but it is not stated how long the incubation went on. It may be interesting to say that at the Fishery Board's Marine Hatchery, at Dunbar, I succeeded in preserving many millions of larval plaice from twenty-four to thirty-three days, counting from the time of fertilisation; and some were reared in jars for longer. On one occasion I kept them in a thriving condition to the forty-seventh day after impregnation of the eggs, at which age they were carried away by an accidental overflow. The eggs were fertilised on April 3, hatched on April 19, and larvæ reared until May 20, when the accident occurred. A description in full will be given in the Fishery Board's report. HARALD DANNEVIG.

Fishery Board's Marine Hatchery, Dunbar, July 17.

Absence of Butterflies.

REFERRING to "Delta's" note, I may say that in the fine weather which we had here in April, the small tortoise-shell butterfly appeared more numerously than ever I had witnessed it at that season, or indeed at any time. I recollect counting a dozen at one time on a small bush of *Andromeda floribunda*, then in flower. Many of them were on wing in the latter days of March, alighting on the willow blossoms. With the fall of temperature in May they disappeared, and only in these recent warm days of July have I again seen them. The first white butterfly of the season was seen here April 21, the glowworm on June 23 (three weeks later than last year), and the horse-fly, *Hippobosca equina*, on June 28. J. SHAW.

Tynron, Dumfriesshire.

THE OXFORD MEETING OF THE BRITISH ASSOCIATION.

WE regret to announce that Mr. W. H. White, C.B., will be unable, through ill-health, to give the evening lecture on "Steam Navigation at High Speeds," announced for Thursday, August 9. The Council of the Association has secured the services of Dr. J. W. Gregory to fill his place, and we believe that the title of Dr. Gregory's lecture will be "Experiences and Prospects of African Exploration."

During the past week further information has come to hand as to the work in some of the Sections. In Section C (Geology) the President, Dr. L. Fletcher, will deal in his address with the progress of mineralogy since Dr. Whewell's report was presented in 1832. Prof. Green will read a paper on the geology of the country round Oxford, with special reference to the places to be visited during the excursions. Prof. Boyd Dawkins will contribute several papers, including one on the probable range of Coal Measures under the newer rocks of Oxfordshire. Amongst others are papers by Mr. H. A. Miers, on a new method of measuring crystals; by Mr. E. P. Culverwell, on an examination of Croll's and Ball's theory of Ice Ages and Glacial Epochs; Mr. W. W. Watts, on barytes in Keuper sandstone; Dr. H. Hicks, on some Lacustrine deposits of the Glacial Period in Middlesex; and Dr. J. Anderson, on some volcanic subsidences in the North of Iceland. There will be a joint meeting of Sections C and H, to discuss the implements of the plateau gravels and their bearing on the antiquity of man.

In Section G (Mechanical Science), the President, Prof. A. B. W. Kennedy, will deal in his address with modern mechanical training, constructive and critical. Sir Frederick Bramwell will read a paper on Thursday, August 9, on Steam Locomotion on Common Roads. On the Friday there is to be a joint discussion with Section A, on Integrators, Harmonic Analysers, and Integraphs, and their applications to physical and engineering problems. This discussion will be opened by Prof. O. Henrici, who is expected to exhibit some valuable models and instruments. On the same day, Lord Kelvin will read a paper on the resistance experienced by solids moving through fluids, which will be followed by a discussion on Flight. Other papers, by Prof. Fuller, Mr. FitzMaurice, and Mr. H. Davey, will follow. On the Saturday, Sir A. Noble, F.R.S., will open with a valuable paper on the measurement of pressures in gun bores; and other papers, by Mr. B. Donkin and Mr. J. Kenwood, will follow. The Monday will be devoted to electrical questions, and among others Mr. W. H. Preece will give two papers on Signalling without Wires, and on the Efficiency of Glow Lamps. On the Tuesday, several papers of mechanical engineering interest will be read by Prof. Unwin, Mr. J. Swinburne, Prof. Capper, and Prof. Hudson Beare.

The programme of Section H (Anthropology) is already a large one, including nearly fifty reports and papers of great interest. Amongst these are papers by Mr. Lionel Decle, on the native tribes of Africa between the Zambesi and Uganda; Dr. A. B. Meyer, on the distribution of the Negritos; M. Émile Cartailhac, on the art and industry of the Troglodytes of Bruniquel (France), and two other communications; Mr. J. Theodore Bent, on the natives of the Hydramoot; Count Goblet d'Alviella, on recent discoveries in prehistoric archæology in Belgium; Prof. Max Lohest, on observations relative to the antiquity of man in Belgium; Mr. Arthur Evans, on the discovery of a new hieroglyphic system and pre-Phœnician script in Crete; and Prof. J. Kollmann, on pygmies in Europe. It must be understood that where dates have been given above, they are only provisional, and that the order in which the papers are to be read is liable to alteration before and during the meeting, due notice of which will be given in the daily journal.

Section I (Physiology) will meet in the fine Physiological Laboratory of the University adjoining the Museum; and, judging from the number and interesting character of the communications which have been already promised, its launch into independent existence should prove most successful. A very large number of the physiologists of Great Britain have announced their intention of being present, and, in addition, the President of the Section, Prof. Schäfer, will have the support of several distinguished foreign physiologists, amongst whom are Prof. Chauveau (of Paris), Prof. Hermann (of Königsberg), Prof. Engelmann (of Utrecht), Prof. Heger (of Brussels), and Prof. Gaule (of Zurich).

The programme of local arrangements is drawn up, but owing to alterations being required, consequent on the withdrawal of Mr. W. H. White's lecture, and other causes, it will not be ready for distribution before the beginning of next week.

The Local Secretaries desire to give notice that all communications should be addressed to them at the British Association Office, the Examination Schools, Oxford, and *not* to the University Museum, as heretofore.