

conditions of existence." There are some rather more pleasing chapters on truth and on the "fourth dimensional consciousness," but one would have preferred these speculations without their quasi-scientific sprinkling.

Continuity. The Presidential Address to the British Association, Birmingham, MCMXIII. By Sir Oliver Lodge. Printed in full and supplemented by explanatory Notes. Pp. 118. (London: J. M. Dent and Sons, Ltd.) Price 1s. net.

It will be remembered that Sir Oliver Lodge's presidential address to the British Association was printed in full in the issue of NATURE for September 11 last (vol. xcii., p. 33). Its republication with twenty-four pages of explanatory notes should ensure renewed attention to the important subjects with which it dealt.

LETTERS TO THE EDITOR.

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Aristotle's Physics.

I AM unable to find the passage in his works, but I think it was Prof. Ostwald who pointed out that while Aristotle was much more impressed with the retarding effect on the velocity of the mass of the medium through which the falling mass fell, than with the laws of "free fall," Galileo ignored friction, and discovered the law of fall in a vacuum. Neither was right; but air at atmospheric pressure has a very small effect on a dense mass falling, and hence Galileo was able to establish his law. Had Aristotle pursued his line of thought, he might, with adequate experimental appliances (which he had not got) have discovered Stokes's law.

This forms a very good example of the necessary restrictions in all scientific reasoning. In all events the factors are too numerous to permit of absolute coincidence between theory and experiment; the successful discoverer is he who takes care to eliminate the less important factors; it is he who arrives at a law, which, though not exact in correspondence with fact, still enables progress to be made. Further progress ensues, when account is taken of each disturbing factor, one by one; the initial simple law becomes more complicated, but a nearer approximation to truth is arrived at.

WILLIAM RAMSAY.

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January 23.

CAPT. HARDCASTLE'S authentic quotations from Aristotle are most interesting. May I as a teacher emphasise the fact that "terminal velocity" is the best instance of Newton's first law of motion in actual operation—an instance strangely neglected by elementary exponents. On anything moving at constant speed in a straight line (like a passenger in a railway train) the resultant force acting *must* be zero, and, so far from "inertia being eliminated" from such a body, its progress is due wholly and solely to its own inertia. Non-Newtonian mechanics need not be referred to in treating so rudimentary a matter.

OLIVER LODGE.

Mariemont, Edgbaston, January 24.

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The Eugenics Education Society.

WILL you allow me, through your columns, to point out another aspect of the present methods of popularising "eugenics"? I had recently occasion to criticise this popularisation, and especially the methods of the Eugenics Education Society. I then used the following words:—"Sir Francis Galton was in the problems of race an optimist—a splendid optimist; but even he *in the last few months of his life* saw that the popular movement he had started was likely to outgrow its knowledge, and feared that more evil than good might result from it" (*The Times*, October 15, 1913).

In the present number of the organ of the Eugenics Education Society there is some criticism of the words used by me. It starts as follows:—"We would, if possible, avoid all controversy with one who has done so much for our science, and who was, moreover, so highly trusted by its founder, Sir Francis Galton, as is evidenced by his will. One sentence, however, cannot be passed over in complete silence, namely, the following: 'But even he (Sir F. Galton) *in the last years of his life* saw that the popular movement, &c.'"

The italics are mine, and these words are followed by quotations from the letters Sir Francis wrote in 1909, and one from October, 1910. The controversial methods which can change "last months" to "last years," and then cite letters of 1909, are characteristic of that looseness of procedure which must eventually be fatal to any popular movement run by this society. It suffices to say that on my last visit to Sir Francis Galton at Haslemere at the end of December, 1910, he expressed distrust of the lines on which the society was being run, that he was then in doubt as to whether he would not do better to resign his honorary presidency, and that I personally declined to influence his judgment in any way by discussing the subject, because he was as able then as when he was fifteen years younger to decide for himself.

When my "Life of Sir Francis Galton" is published his letters will show the exact field of work he proposed for the society and his appreciation of the dangers that might arise from its action. My only excuse, sir, for troubling you in this matter is that the organ of the Eugenics Education Society is a quarterly, and I have no other effective means except through the courtesy of your columns to correct a wholly erroneous statement, which the editor of that society's journal has put into my mouth.

KARL PEARSON.

Galton Laboratory, University of London,
January 23.

Some Habitats of a Marine Amœba.

IN a letter to NATURE (No. 2300, vol. xcii.) I described a common habitat of a marine Amœba, and in view of the subsequent discussion of this matter in letters to NATURE it will be of interest to record some further observations bearing on that discussion.

In the letter to NATURE mentioned above it was shown that a marine Amœba, which agreed in many of its characters with *Amœba crystalligera* of Gruber, could be fairly constantly obtained from sponges of the genus *Sycon*, by squeezing out the contents of the gastral cavities of these animals. At the same time it was stated that this habitat of the Amœbæ is not likely to be an exclusive one. When, therefore, Prof. Dendy suggested in NATURE (No. 2301) in the following week that these Amœbæ might be sponge germ-cells, or even metamorphosed collar-cells, I at once began a search for the Amœbæ in other situations. This search was successful; Amœbæ in all respects similar to those obtained from the sponges were found in