

LETTERS TO THE EDITOR.

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A New Oceanographical Expedition.

IN NATURE of November 18 (p. 71) there is a notice of a new oceanographical expedition, to be undertaken by the Norwegians in their surveying vessel *Michael Sars*, on the suggestion of Sir John Murray, and mainly at his expense. It is very gratifying to meet with cooperation of this kind in the prosecution of deep-sea research, and the investigation of the portion of the North Atlantic contemplated in the programme cannot fail to furnish interesting and useful results.

In the account of the expedition I note the following passage:—"The application of methods of high precision to the determination of the temperature and salinity of sea-water has yielded results which have raised considerable doubt in the minds of some investigators as to the validity of the earlier observations made by the *Challenger* and other expeditions, and the cruise of the *Michael Sars* should not only afford much entirely new information, but provide a means of valuing the earlier work."

As chemist and physicist of the *Challenger* expedition, I feel that this is a reflection, not only on the name of *Challenger*, but also on myself. I was a professional chemist of recognised standing at the date when the expedition was planned, and it was to this fact that I owed my selection for the post nearly a year before the ship sailed. During the whole of this time I was occupied with the study of the work to be done and of the methods to be employed in doing it. Some of these were devised by myself, and none were approved before they had been thoroughly tested on land; nor were they finally accepted until they had passed the probation of the first three months at sea. The regular work of the expedition began with the sailing of the ship from Teneriffe on February 15, 1873. By this time the scheme of the routine work of my department had taken definite shape, and it suffered but little alteration during the cruise. All the actual work was done by myself, and no method was employed which I had not myself tested and found to give, in my hands, thoroughly trustworthy results.

I think it is due to me and to the readers of NATURE that the investigators, in whose minds doubts have been raised as to the validity of the *Challenger* observations, should state them, with the grounds on which they rest, and also indicate how they expect the cruise of the *Michael Sars* to provide a means of valuing the earlier work.

November 27.

J. Y. BUCHANAN.

Gametogenesis of the Sawfly *Nematus ribesii*. A Correction.

In the *Quarterly Journal of Microscopical Science*, vol. II., 1907, p. 101, I described observations on the gametogenesis of *Nematus ribesii*, some of which subsequent work has shown to be erroneous. Since my statements have been quoted in several recent papers, I think it necessary to correct the mistakes as far as possible, although I have not yet reached a satisfactory solution of the phenomena. The errors arose partly through misinterpretation of the phenomena observed and partly through imperfect fixation, for I find that, unless the material is very accurately fixed, the chromosomes tend to adhere together and give the appearance of a smaller number than the true one. The same cause has led other observers to make similar mistakes.

Re-investigation of *Nematus* shows, in the first place, that there is only one division of the spermatocytes; the first division described in my paper is not a true mitosis, but is probably comparable with the abortive division observed in the spermatogenesis of the bee. I have not yet been able to determine the chromosome number with certainty. In the spermatogonia the number appears to be about sixteen, and that in spermatocyte mitoses about eight, but if eight is the true reduced number, the occurrence of sixteen in the spermatogonial mitoses of larvæ derived from parthenogenetic eggs is unexplained. In the bee, and

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as I find also in a Cynipid (to be published shortly); the spermatogonial number is the same as that of the spermatocytes.

I have not yet obtained fresh material for re-investigation of the maturation of the egg, but the results of my recent work on the spermatogenesis make it clear that my observations on the chromosomes in the polar divisions also require revision.

But the behaviour of the chromosomes in *Nematus ribesii* is so difficult to follow that it is possible that the true interpretation will be obtained only by the discovery of some nearly related species in which they are more clearly distinguishable.

LEONARD DONCASTER.

University of Birmingham, November 27.

Are the Senses ever Vicarious?

[PROF. MCKENDRICK has sent us the subjoined letter received by him, and his comments upon it.—ED. NATURE.]

My attention has just been directed to a letter which appeared in NATURE of March 11 (vol. lxxx., p. 38). It was signed by Prof. McKendrick, and dealt with the vexed question of the blind and their faculties.

I am a blind man, and have mixed with blind people of all ages for the past thirty years. You will grant that I ought to know something about the question you discuss in your letter.

Permit me to thank you for what you say about the popular notion that when a person loses his sight he is compensated by a gift of ability in one, if not all, his other faculties. The intelligent blind know how foolish this idea is, and constantly protest against it. The public, however, insist upon its accuracy, and calmly assume that the blind do not grasp the point at issue, or affirm that those who protest are unbelievers in the goodness of God. This assertion of compensation leads to all sorts of ridiculous notions, and has a very pernicious practical effect. The very people who assert the theory of compensation are among the number who shrink from providing facilities for the proper training and employment of the very gifted people they profess to look upon as the possessors of special talents. They impute to us the possession of all kinds of striking abilities, yet they decline to allow the specially talented to do what would earn or help to earn a livelihood. We are credited with marvellous powers in music, basket-making, &c., and yet when we assert our claim to live the ordinary life of the citizen these people are shocked at our audacity.

Now, the overthrow of the theory that we are specially compensated for the loss of sight will destroy the false impressions regarding our wonderful memories and all the other fantastic notions, and the way will be opened for common-sense treatment of the training and employment of the blind. It is notorious among the blind themselves that numbers of them are not at all musical, and that mechanical ability is not a conspicuous feature. Many blind are very deficient in hearing, in smell, and in the sense of touch itself. My own experience has compelled me to take heed of the varying degrees of what I shall call, for want of a better name, ear-power. The same variety exists in touch-power and memory-power. I should like to refer to these as well as many other interesting phenomena, but I fear I must content myself with asking your kindly attention to a problem which has baffled me for more than twenty years. Why does the voice call up before me the upper part of the speaker's face, and enable me to form a picture of the expression of the speaker? The expression of the eyes is frequently as vividly before me as when I could see. When people are speaking to me, they are never on guard to control their countenance as they would be if conversing with a sighted person. I am thus enabled to get a picture of the play of their emotions which helps me to come to conclusions as to character, &c. The lower part of the face was only once made visible to me, so that I could feel sure about it. I know when a person smiles, frowns, when the face lights up with an intelligence or when apathy and want of perception cloud the countenance. Sometimes I can follow the line of the glance and can point out where it would strike. When listening to public speakers I like to sit at an angle to them, and not in front. Can you point to anything that will aid me to come to a sensible conclusion on this matter of the voice convey-