

LETTERS TO THE EDITOR.

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The Utility of Specific Characters.

PROF. LANKESTER (p. 245) has alluded to the dark pigment in the skin of tropical man as "conceivably . . . not in itself a useful, that is, a life-preserving or progeny-ensuring character, but merely the accompaniment of a power of resisting malarial germs . . ." residing in the leucocytes. This hypothetical case, used by Prof. Lankester for illustrating his argument, has been seriously entered upon by Mr. Thiselton-Dyer (p. 293), with the conclusion that "it does not follow that epidermal pigment is useless because one explanation of it seems to fail."

I beg permission to call attention to a paper in NATURE, vol. xxx. p. 401, by Surgeon-Major N. Alcock, "Why tropical man is black," which paper has seemed to me of great importance from the time I read it. Ingenious considerations, together with quotations from various authorities, led Mr. Alcock to the opinion, that the dark pigment of tropical man's skin does serve as a protection against the rays of light. Whereas ". . . pigment placed behind a transparent nerve will exalt its vibrations to the highest pitch"—viz. in the eye—" . . . the pigment in front of the endangered nerve reduces its vibrations by so much as the interrupted light would have excited, a quantity which . . . would, when multiplied by the whole area of body-surface, represent a total of nervous action that if continued would soon exhaust the individual and degrade the species."

In this way, the blackness of the negro which, as regards heat alone, must appear far from protective, will act as a screen against "the twin stimulant of life," light. "May it not, therefore, be claimed that there is much foundation for the suggestion that the black skin of the negro is but the smoked glass through which alone his wide-spread sentient nerve-endings could be enabled to regard the sun?"

There is no lack of evidence in support of this view. I will confine myself to mentioning a letter by Mr. Flinders Petrie (NATURE, vol. xxxiv. p. 76).

Perhaps I may remind the leaders in the old strife about the utility of specific characters, of the remarkable statements in "Descent of Man" (second edition, p. 61), commenting on the important concessions which, in the fifth edition of the "Origin of Species," Darwin has made to the views of Nägeli and others, concerning ". . . the existence of structures, which, as far as we can at present judge, are neither beneficial nor injurious . . ."

DAVID WETTERHAN.

Freiburg, Badenia, August 1.

The Position of Science at Oxford.

IN the correspondence which your recent interesting article on this subject has evoked, the writers have mainly applied their criticism to particular aspects of the general argument raised. This is natural, for they have, scarcely without exception, been professionally interested in the teaching and progress of science, and their letters seem to show that an impression exists that there is a cause for blame in the matter, but that there is an uncertainty at whose door this blame should be laid. May I briefly examine the complaints which your original anonymous correspondent brought against the University authorities, and the present system in vogue at Oxford.

The first complaint has reference to the allotment of college scholarships to science. The argument may be admitted that strict justice demands that fifty-five scientific scholarships should be given; that only forty-four science scholars were last year in residence is incorrect. There were at least half-a-dozen men, receiving the emoluments of a nominally mathematical scholarship, who were preparing to take physics as a second school. Then, again, Christ Church annually gives an exhibition of the value of £85. If this be reckoned as equivalent to a scholarship, as in common fairness it should be reckoned, it is perfectly evident that it is not desirable to offer more scholarships in natural science until the school becomes larger, or the competition more severe than is at present the case. It is not unimportant to point out that an examination of the Natural Science Class Lists would show that some of the holders of these emoluments have not justified their selection.

The second part of the indictment against the college autho-

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rities is concerned with the appointment (or non-appointment) of science tutors. And in this matter your article is calculated to give a wrong impression, for it should be clearly understood that the college can exercise no compulsory power in choosing a course of study for any commoner. That commoner only can be influenced in this way, who starts his university career with no preference for a particular school, and it is inconceivable that such an one can ever really adorn any branch of study. But the man who knows what he wants to do, will find that he can get all the assistance he requires from his college lecturer, and that he is in no way worse off because the latter is not on the tutorial staff.

Your article contains a comparison between the conditions which obtain at Oxford and Cambridge respectively, much to the disadvantage of the former, and three reasons are given for the fact. First, at Cambridge scholarships are given to men of one year's standing; but if a man has failed to win a scholarship before his second term, it is not easy to see how he will qualify for one after a year's work. The fact that there is no lack of candidates of sufficient merit at Cambridge, is beyond a doubt largely accounted for by the fact that the scholarships are in many cases of smaller monetary value, and a lower standard is consequently expected. Secondly, a greater prestige attaches to the science school at Cambridge; and this is probably the greatest hindrance to an increase in the science school at Oxford. Time alone, by removing this ignorance and prejudice, can overcome the popular idea that science teaching is better, and, it might be added, cheaper in one university than in the other. At any rate, it cannot be said that Oxford collectively has not done her best to remove any inferiority she may have had in the past. The third argument is that the ranks of Oxford undergraduates are mainly recruited from the public schools, that science teaching in public schools is bad, and that the university is responsible. In fact, the essential argument of the article, and the only one that can possibly stand the test of criticism, is that the examination known as "responsions" urgently needs alteration, both in the direction of excluding the compulsory Greek test, and including an examination in the elements of natural science. Such an alteration, it is contended, would improve the science teaching, and it is the duty of the university to effect this reform.

The question of the Greek test is not new, and it cannot be denied that it has been considered and discussed with the utmost deliberation by those who have decided in favour of its retention. It is idle, in the face of facts, to throw a doubt on the sincerity of the University's good will towards science: it is equally impossible to deny, and it is admitted in your article, that the university is perfectly right to demand of its alumni a preliminary "fair general education"; at the same time, it would be difficult to name a body better qualified to decide what is a good general education than Convocation itself. The writer of your article appears to think that the dons—especially the younger dons—are foolish, childish, narrow-minded persons, absolutely ignorant of science and modern languages. This is, fortunately, far from true, and their deliberately expressed opinion, on a point of the greatest importance in public education, is assuredly entitled to some respect. Your correspondent complains that the knowledge of Greek demanded is too small to serve any useful purpose, and some of us may wish that the standard should be raised; but this complaint applies far more aptly to Cambridge than to Oxford. After all, a knowledge of Greek is insisted on because it is the most beautiful, the most expressive language ever written, and it contains the finest literature. A boy may forget how to conjugate a Greek verb (the sneer is rather hackneyed), but the reading of a Greek play, perhaps the most perfect form of literature the artist could use, will still have left a permanent effect on the mind of any one who is capable of culture. Besides, since a proper equivalent for Greek, even if a substitute be possible, will require as much time and as much application in its preparation, it is difficult to see in what way this alternative subject—be it German or any other—will prove more suitable, more convenient, or more congenial.

The question remains of making a knowledge of the elements of natural science compulsory in responsions, for compulsory it must be, if it is to change the existing state of things. The occasion for making this proposal is certainly unfortunate, for it evidently appears to be made not so much as an abstract suggestion for the improvement of education in general, as a scheme for the express purpose of improving the scientific teaching in schools. That it would have even this latter effect is open to