Eoanthropus, assigning this human form to the "latter half of the Pleistocene" and giving its cranial capacity as "at least 1070 c.c." Dr. Smith Woodward came to the conclusion that Eoanthropus belongs to the older Pleistocene, and in his more recent reconstruction of the skull represents the cranial capacity as 1300—230 c.c. above his original estimate.

Prof. Sollas sums up his final conclusion as regards human antiquity as follows: "that man, not only in the narrower, specific sense but also in the broader generic sense—Homo—is a product of the Pleistocene epoch, the latest child of time, born and cradled amongst those great revolutions of climate which have again and again so profoundly disturbed the equilibrium of the organic world." It will be seen from this extract that the author favours the older opinion that man made his first appearance at a comparatively recent date.

The Body in Health. By Prof. M. V. O'Shea and J. H. Kellogg. Pp. ix+324. (New York: The Macmillan Co.; London: Macmillan and Co., Ltd., 1915.) Price 3*s.* 6*d.*

Of the making of books on elementary physiology and hygiene there seems to be no end, and the tendency to the multiplication of such manuals is specially marked in America. Perhaps this is an indication that our cousins across the sea are more alive to the importance of health in the well-being of a nation; they certainly make it a much more universal subject of school education than we do. The present volume has much to recommend it; it is clear, convincing and accurate; it is written in simple language and well illustrated; as a rule it is level-headed. The usual space, as in all American text-books of this kind, is devoted to the evil of alcohol; with that one has no quarrel; but tobacco also is regarded as nearly equally bad. The following is, for example, quoted with approval: "I know whereof I speak when I say that tobacco when habitually used by the young leads to a species of imbecility; that the juvenile smoker will lie, cheat and steal things he would not do had he let tobacco alone." Extravagant superlatives of this nature often do more harm than good.

W. D. H.

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.*]

Ultra-Violet Excitation of the D Line of Sodium.

In a letter on this subject published in Nature, May 13, I showed that sodium vapour, stimulated by the second line of the principal series at wave-length 3303 in the ultra-violet, fluoresces with emission of the D line, which is the first member of the principal series.

Each of these lines is a doublet. The interesting question arises, Supposing that stimulation were confined to one member only of the ultra-violet doublet, should we get emission only of the corresponding member of the D line, or would both components of the D line be emitted? The first alternative seemed *a priori* more probable, taking into account the result of Wood and Dunoyer, that if sodium vapour is stimulated by D light, one component of the D line is not able to give rise to fluorescent emission of the other.

I have, however, succeeded in carrying out an experiment which seems to decide fairly conclusively in favour of the second alternative. The zinc arc spectrum shows an ultra-violet doublet very near the sodium doublet. My attention was directed to this by reading Prof. Wood's account of his earlier attempts on the problem. Direct comparison of the spectra showed that the zinc doublet lay inside the sodium doublet, but that while one of the zinc components was situated at about one-twentieth of an Ångström from one sodium component, and thus very nearly in coincidence, the other zinc component was four times as far from its sodium neighbour, and well clear of it.

A zinc vacuum arc in quartz was used to illuminate the sodium vapour bulb, interposing the filter mentioned in the former paper, for the suppression of visible light. With currents of three or four amperes nothing could be seen. Increasing the current to six amperes, a faint emission of D light was observed. It was as yet too faint for spectroscopic examination, but was identified by the absorption methods described in the former letter. At 15 amperes, the light was bright enough for a specially designed spectroscope, and showed *both components of the D line in about equal intensity.*

The current was increased in successive tests to about 100 amperes. These large currents were only kept on for two or three seconds so as to avoid destroying the lamp. For this short time the fluorescence was not inferior in intensity to the light of a moderately salted Bunsen flame, and the components of the D line were seen very bright. The intensity increases very rapidly with the current through the lamp. This is due partly, of course, to the greater brightness, but more to the broadening of the first zinc component, which makes it definitely overlap the first sodium component. Possibly at very large currents this cause may even bring the second zinc component on to the second sodium component, but plainly the first overlap must come in much sooner, for the interval to be bridged is four times less; and at the lowest current which brings out the D line brightly enough for examination, its components are approximately equal.

Wood's failure to get any D emission is probably to be explained by his not having used a heavy enough current through the zinc lamp to secure an overlap of the zinc and sodium lines. R. J. Strutt.

Imperial College of Science, South Kensington, May 31.

On the Sealing of Electrical Conductors through Glass.

At the present time there is great difficulty in obtaining soft glass with a comparatively high coefficient of expansion, suitable for sealing wires into glass tubes, bulbs, etc. The pre-war imported stocks of glass for this purpose are exhausted, and the recently published results of glass research committees do not contain formulas for its manufacture. About three years ago, Mr. George B. Burnside, of the natural philosophy department of the University of Glasgow, discovered a method of hermetically sealing electrical conductors through glass and other vitreous substances. The process is simple, and