if necessary, receive State aid to enable them to perfect their processes. When they can show that they have attained success, an import duty might be imposed temporarily on the foreign substitute to ensure the sale of the British article and to introduce it to the market. If the product is satisfactory, there would be no need to retain the duty for any great length of time.

Owing to the present poor rate of pay of free scientific workers, it is only just to give them generous grants if they are compelled to buy the costly home-made goods of the first category referred to above.

It will surely be admitted that the desirable state of affairs is that each country should produce what it is best fitted to do, and that there should be no necessity for protective duties. But if the League of Nations is believed to be ineffective, and if we must be prepared to be self-supporting in case of another great war, it behoves those who advocate measures to bring this about to see that the nation does not lose more than it is likely to gain.

I have confined my remarks to the case of scientific appliances, but similar considerations apply to many industrial processes. Inferior material and machinery would have to be put up with for the sake of supporting some other industry. If the foreign goods are superior they should be freely imported, and the British makers subventioned until they can produce equally good material, if it is thought essential that they should do so.

W. M. BAYLISS.

University College, London.

The Cost of Laboratory Fittings.

IN all directions we have at the present time evidence of a growing enthusiasm for education in the field of natural science. Students are being turned away from our schools and universities for lack of accommodation, and the new Education Act has given great encouragement to science teaching. Our war experiences seem to have aroused the nation to the necessity for vastly extending the facilities for these studies, and at the same time the need for financial economy is pressing in all directions.

The material requirements of science teaching are expensive, and, though heavy outlay is in the main inevitable, it seems probable that if costs cannot be reduced the very necessary expansion of science in our schools may in many cases have to be deferred or abandoned, and, possibly, curtailed in our higher institutions. The character of the fixed fittings in our laboratories has altered but little for many years, and it seems pertinent to inquire whether something could not be done by the use of alternative materials or by standardisation to reduce their cost.

I recently brought this matter to the notice of one of our learned societies, and received a very cordial reply from its council, which has referred the question to the Department of Scientific and Industrial Research; and I have reason to believe that this Department is proposing to take some action, in which event I have arranged that the Science Standing Committee of one of our Royal institutes shall be represented at any deliberations. Things, however, move slowly and time is passing, which must be my excuse for troubling you with this letter in the hope that the subject may raise some interest, and possibly lead to some constructive suggestions.

There are several obvious directions in which research on this subject, which should be neither particularly lengthy nor expensive, seem likely to be fruitful, but I must not encroach further by elaboration.

ALAN E. MUNBY.

9 Old Square, Lincoln's Inn, W.C.2.

The Standard of Atomic Weights.

IN reply to the letter of Prof. J. R. Partington appearing in NATURE of April 29, it has already been announced in your columns that Dr. Aston has shown neon and chlorine to be each mixtures of two isotopes with atomic weights which are whole numbers, and I have suggested that the atomic weights of all the elements with low atomic weights are very approximately of the form $2x+a$, where x is the atomic number and a a small integer, and there are indications tending to show that a is independent of the chemical properties of the element (see NATURE, February 26, p. 704). For the lower atomic weights the calculation is not greatly affected whether the atomic weight of hydrogen or of oxygen is taken as the standard. With the exception of hydrogen, no atomic weight is less than $2x$, if the atomic weight of oxygen is taken as the standard. There is, accordingly, some justification for treating the atomic weights of helium, boron, carbon, nitrogen, oxygen, and fluorine as normal and that of hydrogen as abnormal. If, as appears to be the case, the atomic weights are not only variable, e.g. lead, neon, etc., but also contain a quantity independent of the chemical properties of the element, the determination of the relative atomic weights of two elements to a high degree of accuracy will in many cases be impossible, and in some others futile.

In some respects it might be convenient to take helium as the standard for atomic weights, this element certainly assisting in a few instances to build up the atomic weight, and as helium can now be prepared in large quantity the accurate determination of its density will not be so difficult as heretofore.

STEPHEN MIALI.

28 Belsize Grove, N.W.3.

The Mole Cricket.

ONLY one British species of mole cricket is known, *Gryllotalpa vulgaris*. It is now becoming very rare in England. It is largely carnivorous, and by burrowing underground with its powerful fore-legs, which by a shear-like action cut through roots, it causes a certain amount of damage. It is by the peculiar

FIG. 1.—Mole Cricket.

structure of these fore-legs that the mole cricket is readily recognised and distinguished from all other insects. These legs are thicker, but shorter, than the hind-legs, each of the very short tibiae ending below in four claws spread out like the fingers of a hand. The specimen represented in the illustration was caught at Send, near Woking, in Surrey, on March 15 last.

F. V. D.