directly with the percentage of organic matter and inversely with the percentage of tricalcium phosphate. It is therefore more rational to assume that this lime is combined with the organic matter than to state (as has been done) that it is present as a compound of the type $x(Ca_3P_2O_8).y(CaO).zH_2O$.

Dahllite, $4Ca_3P_2O_8.2CaCO_3.H_2O$, is not mentioned in my paper. The idea of its occurrence is not rejected by me, however, as its presence is not in conflict with the chemical analyses, no excess lime (as defined above) being required for it.

That the calcium fluoride shown in the analyses (about 3 per cent.) is present combined as apatite to any considerable extent is unlikely, from the behaviour of the phosphate to reagents; the purer varieties of Ocean Island phosphate being, for example, almost completely soluble in cold, dilute hydrochloric acid.

LAUNCELOT OWEN.

Monteria,
Republic of Colombia,
South America, July 21.

I HOPE that no one who consults Mr. Owen's interesting paper will have been much troubled by misinterpretations on my part. The words "normal 88 per cent." are based on the analysis on p. 13 of the paper, which is said to be "representative" and gives 87·5 per cent. I hope, again, that no reader of my note would suppose that a level exists in the rock at which the phosphate-content drops suddenly to 79 per cent. I should have written "has sunk" for "sinks."

In suggesting on p. 13 of the paper, and in his letter, that lime is associated with the organic matter in the phosphate, Mr. Owen raises a question of wide importance. The special adsorptive influence of organic colloidal gels in soils is now well known, and Mr. Owen doubtless sets a good example in not presuming the presence of dahllite or any other mineral unless it can be recognised by specific characters in the mass. The rather delicate fibrous crystallisation of dahllite may be looked for. We must remember that A. Lacroix and other mineralogists recognise definite species of mineral "calcium carbo-phosphates." E. Blackwelder, on the other hand (*Amer. Journ. Sci.*, ser. 4, vol. 42, p. 294, 1916), regards the less definite collophane as the common product of the reaction between phosphoric acid and lime salts, especially calcium carbonate, in the presence of ammonia. Collophane, as Rogers shows, can associate fluorine with its colloidal substance, and may thus suggest the presence of apatite. In his researches on the chemistry of phosphatised reefs, Mr. Owen is opening up a very interesting petrological field.

THE WRITER OF THE NOTE.

The Metric Campaign.

IN reviewing Drury's "World Metric Standardisation" (NATURE, August 18, p. 234), the statement is made that "far less opposition has been raised to the adoption of the litre and gram than to the metre, which is very much more closely related to industrial processes than the units of mass and measure."

Perhaps the following will serve to indicate to metric campaigners why those who are directly interested in industrial processes are in such an impenetrable fog over the question.

A few days ago, in a retail tool shop in a provincial town, I was shown a narrow steel measure, in four folding sections, the total length being one foot, which was divided into 305 minor, and 30½ major and numbered divisions, the first two engraved thus :— 1|METER|2, so that to the purchasers of such an instrument 30½ metres are represented as equivalent to 12 *inches, instead of* 100 *feet*! The stock included the carpenter's ordinary foot-rule, divided along one edge into inches and sixteenths of an inch, and the other into millimetres and 30½ (centi)metres. All the shopkeeper could say was that the scales were as supplied by the best makers, and must therefore be accepted as correct—the word *meter* had no other meaning than that the makers used it instead of saying the scale was French!

Four years ago, in a western London suburb, I had exactly the same experience, but if my memory serves me the makers were different. The shopkeeper informed me that in his two shops (one nearer the West End) he had already sold many hundreds of these scales.

From time to time the London and provincial Press report meetings at which there have been discussions on the great advantages of the metric system, but there the matter ends—apparently it is nobody's business, not even of the Board of Trade or the Board of Education, to take action which would ensure the circulation of correctly marked scales. All the wrongly engraved ones ought to be recalled, to have *centi-* engraved above *meter*.

HY. HARRIES.

August 20.

Direction of β-rays Produced by Polarised X-rays.

IN an abstract (NATURE, July 7, p. 26) of a paper read recently before the Royal Society, Mr. C. T. R. Wilson discusses some results on β-ray ionisation tracks which he has obtained by his cloud method. Among other things he notes (1) "Partial polarisation of the primary beams is indicated by the direction of ejection of a number of the β-particles being in one plane—that containing the direction of the cathode rays in the X-ray tube," and (2) "Of the ordinary long-range tracks, the majority have a large forward component comparable with the lateral component."

During the past year the present writer, using a beam of scattered X-rays about 90 per cent. polarised (Wilson's primary beam was probably about 10 per cent. polarised), has obtained stereoscopic photographs of β-ray ionisation tracks by the cloud method. These photographs show that most of the β-particles are ejected in a direction nearly parallel to that of the electric force of the polarised beam of X-rays. There is, however, a variation on either side of this direction.

The photographs also support Wilson's conclusion that a large majority of the β-particles have a velocity component in the direction of propagation of the X-rays.

F. W. BUBB.

Washington University, Saint Louis,
July 30.

Proposed International Survey of the Sky.

I AM informed by the director of the Office National Météorologique de France that, with the approval of Sir Napier Shaw, president of the International Commission for the Study of Clouds, the dates for taking the photographs of clouds have been postponed by one week. Photographs will be taken at the three specified hours from September 24 to October 1 inclusive. Volunteers are much needed to help in the work, and I shall be glad to send full instructions to those who will send me their names.

C. J. P. CAVE.

Stoner Hill, Petersfield, Hants,
August 27.