

CORRESPONDENCE

Cutting Cakes Blindfold

DEAR SIR,—I am surprised by your comments on the Science Research Council (*Nature*, 217, 991; 1968). Surely all those establishments outside the universities are overlooked, as indeed they always were, by boards and committees drawn both from the universities and from industry. I do not see how their work would be improved, therefore, by "giving" them to the universities. Neither am I prepared to suppose that because research is "university" research it is necessarily good research; this simply is not so. Then again, a good deal of the cost to which you object will still be there whoever has these establishments; it is spent on buildings, electricity, administration, heating, wages, etc. I would think that a good half of it must be spent in this way.

And what do you propose for the staff, some of whom are first-rate men however much you may dislike what they are doing? That they should join the brain-drain, or the unemployed? Would it not be more intelligent to suggest that the distribution of these establishments is not all that it might be, and that they could be used by other departments, some of which are still expanding and needing staff?

And what is "the common good", which the Radio and Space Research Station is apparently not concerned with? In my understanding of the phrase, I do not include the spending of vast amounts of public money in discovering the "exciting new pulsations", an expenditure about to be greatly increased if I read the signs correctly. The lot of 99-999 per cent of us would not change if all astronomy stopped to-morrow. In any case, half the work of the station has to do, again as it always has, with propagation studies and the like: a study which in most other countries has vastly more support than it has here, not less.

Yours faithfully,
F. V. BALE

The Coppice,
67 Switchback Road,
Maidenhead, Berks.

Cows, Sheep, Pigs and Pounds

SIR,—You recently published a set of rules on the metrication of units (*Nature*, 217, 308; 1968). One was a reaffirmation of the convention that M means "multiply by a million" and m means "divide by a thousand". Although it was not explicitly stated, it also seemed that the convention that the number should precede the unit was being adhered to. But your article on foot and mouth disease (*Nature*, 217, 1088; 1968) is in chaotic contravention. The amount paid in compensation is given as £26.5 million. Why not 26.5 M£? And the national herd is given as 12.342 m cattle, 28.885 m sheep and 7.107 m pigs. Were they millipigs?

Until the end of the past century, a sum of money was usually specified by a number followed by an italic *l.* Then the £ was introduced and its grandeur seems to have made people think that the frontal position was more suitable. Why should we not, at any rate in scientific journals, use the same conventions when referring to pigs and pounds that we use when referring to grams and joules?

Yours faithfully,
N. W. PIRIE

42 Leyton Road,
Harpenden.

Orgueil Meteorite

SIR,—In relation to the letter "Occurrence of Olivine in a Type I Carbonaceous Meteorite" from J. F. Kerridge of this laboratory in your issue of February 24, 1968

(*Nature*, 217, 729; 1968), I would like to make some comments, particularly on his interpretation of his observations, with which I do not agree.

I find it difficult to understand why the occurrence of olivine in a type I carbonaceous meteorite should have aroused scepticism. This discovery is by no means a new one. Olivine single crystals were reported and photographed in an optical microscope as long ago as 1962 by Professor G. Mueller ("Interpretation of Microstructures in Carbonaceous Meteorites", *Nature*, 196, 929; 1962). The matter has also been referred to in another paper by Professor G. Mueller and myself ("Significance of Inclusions in Carbonaceous Meteorites", *Nature*, 210, 151; 1966) and may be accepted as firm scientific knowledge.

The Orgueil meteorite is extremely heterogeneous. It still remains an unsolved problem how well crystallized olivine could co-exist with a low melting point carbonaceous phase. The obvious solution is that the olivine crystals were formed first in the form of a high temperature dust, *nuée ardente*, subsequently becoming incorporated in the stone, but the details of the process are not clear. As to the composition of the olivine phase, the optical method is inadequate to determine it but the presence in almost every case of an iron-rich core supports Mr Kerridge's hypothesis that it is largely of the Fayalite type.

In the 1966 paper referred to here, Professor Mueller and I pointed out that proof of a strict petrological character showed that these inclusions in various meteorites are fragments of meteorites of other types, particularly in the Sharps meteorite, indicating that all have the same parent body. These views are quite compatible with the idea that the first stage of growth of the carbonaceous chondrites may have occurred from condensation of primary solar material.

Yours sincerely,

J. D. BERNAL

Department of Crystallography,
Birkbeck College,
Malet Street,
London, WC1.

Electrophoresis for Free

SIR,—Your Molecular Biology correspondent (*Nature*, 217, 902; 1968) highlights the difficulties and errors in determining the sub-unit relationships of proteins, despite the use of sophisticated equipment and exemplary technique. One little known technique with applications in this area is two dimensional electrophoresis (*Science*, 138, 152; 1962). Although not as precise as the ultracentrifuge, it can give useful results with heterogeneous preparations. One may suppose that the reason this method is not more widely used is the unavailability of the equipment required. Hence, the following offer is made to readers of *Nature*.

For a limited period we will process protein samples and return a two dimensional pattern, with interpretation, gratis. Samples should be accompanied by reference materials to bracket the postulated molecular weight, together with data on gross electrophoretic properties. Protein concentration should be high enough to permit staining with amido black (ca 5 mg/ml.).

We hope by this means to illustrate the value of this general technique, since it offers the possibility of obtaining valid data on the size-charge relationship of proteins with a minimal investment in both time and apparatus.

Yours faithfully,

J. BROOME

Current Incorporated,
757 St. Marks Street,
University City,
Philadelphia,
Pa. 19104.