correspondence

'The Selfish Gene'

SIR,—Lewontin's review of Dawkins' book *The Selfish Gene* (17 March, page 283) is a disgrace. It fails to meet any of the standards of informative value, objectivity and fairness to the views of others that are part of the code of science. That it is a very biased review is reasonably evident to anyone reading it; unfortunately a reader unacquainted with the controversy which is its background may well be left with the impression that, even setting aside obvious unpleasantness in the review, the book itself probably is unsound and not worth reading. This is a great pity since in fact the book is not only the best existing outsider's introduction to a new paradigm and a new field of knowledge but, in its overview of the situation and in many original details, is itself a significant contribution to this field.

For its intellectual worth, and seemingly in motivation as well, Lewontin's outline of the book is on par with Bishop Wilberforce's notorious attack on Darwin and Huxley at the British Association meeting of 1860. It would be easy to defend the book and reply to the review point by point, but this would be an unpleasant, muck-raking task, and it would be difficult to avoid matching rhetoric against rhetoric and so bringing debate to the plane where Lewontin wants it to be. Against such a review I feel justified in following Huxley to give a very subjective assessment of my own but wish to avoid trying to match the wit of the historic reply to the bishop.

Whether the literature of socio-biology reflects an ignorance of the difference between "properties of sets

and properties of their members" or "confusion between materialism and reductionism" are matters about which I feel little concerned. On the other hand I feel a warmth very far from indifference when I encounter in most of the literature in question signs of a spirit which I share and which I have always assumed is the same as that which motivates scientific enquiry in all its branches. I can most simply express this spirit by calling it a desire to understand and communicate the nature of the world. I find it present in full measure in *The Selfish Gene* and totally absent in Lewontin's review.

Yours faithfully,

W. D. HAMILTON

Imperial College Field Station,
Ascot, UK

Efficient fish

SIR,—"... fish are not efficient users of food materials other than animal protein and fat", according to Dr Purdom and Mr Preston (31 March, page 396). This is incorrect for some species. At Reading we routinely obtain feed conversion ratios of less than 10 kilograms of fresh vegetation to 1 kilogram of fish when feeding ryegrass (*Lolium* spp.) to grass carp (*Ctenopharyngodon idella* Val.). This represents a protein conversion efficiency of 40%. Equally efficient conversion of terrestrial vegetation is recorded in the literature for *Tilapia melanopleura* Dumeril and *Tilapia zillii* Gervais in pond culture. The figure of 100 to 1 given by Purdom and Preston is applicable to a diet of aquatic vegetation which consists largely of water. Moreover, we have evidence which suggests that leafy ter-

restrial vegetation provides all the major nutrients required to support rapid growth rates in grass carp.

If it is assumed that ryegrass for artificial drying costs £6 per tonne fresh weight, the feed cost is 6p per kilogram of fish produced. Feed costs could be reduced by using agricultural by-products and food-processing wastes. It should therefore be technically possible to farm fish intensively and at low feed costs. Farmed herbivorous fish are rated highly as food throughout much of Asia, Africa and Eastern Europe.

Yours faithfully,

J. C. J. DOMANIEWSKI

Department of Agriculture and
Horticulture,
University of Reading, UK

Value of textbooks

SIR,—During recent discussions on the structure of the living cell at meetings of the Physiological Society, the Anatomical Society, the Biochemical Society, and the Royal Microscopical Society, several participants have made the remark "Surely, you don't believe what is written in text books". This viewpoint seemed to be held by several other participants at the meetings. This raises such fundamental questions of scientific truth, that we wonder if any of those who support this view might be prepared to justify it in print. We should say that we were grossly disturbed by such a suggestion and thoroughly disagree with it.

Yours faithfully,

H. HILLMAN

P. SARTORY

Department of Human Biology and
Health,
University of Surrey, Guildford, UK

Competition 13

(From an idea by Martin Rees). In the next few years we discover—never mind how—that there is intelligent life nearby in the universe, but that we are more 'advanced' than they. A prize of £10 is offered for the best short message to their equivalent of

Isaac Newton, or any other character from our history, telling him what scientists are up to these days. Send entries by 15 June to the Editor, and mark envelope Competition 13.

Competition 12 asked for fatuous, actual or fictitious professorships. Honourable mention to Drs Haslam and Haslam for the fictitious Chair of Wind Engineering in the Medical Faculty (to go with a new journal entitled Wind Engineering) and the actual Chair of Artificial Intelligence.

But the prize to Professor V. Trimble (Irvine) for the following:

It would be difficult to top Cambridge's own (real) Plumian Chair of Astronomy and Experimental Philosophy, whose incumbent, we presume, is required to go about kicking stones and looking for trees in quads where there is no one about to observe them. Recent interest has, however, also been attracted by Brown University's (fictitious) chair of Psychoceramics, whose present holder, Professor Carbury, is, of course, an expert on cracked pots. My own university's English department has contemplated a chair in Historical Metallurgy to be reserved for someone learned in the study of Old Saws.