

The authors reply as follows:

SIR—Dr Watkins implies that our paper implicates consanguinous marriages in the Bradford Asian population as a major cause of excess perinatal mortality and congenital malformation. The paper does not in fact state this but does propose that the high level of consanguinity might be relevant.

We have demonstrated that the high incidence of congenital abnormality in the Asian community remains despite making allowances for social class. Therefore, other factors including consanguinity require to be studied in more depth before firm conclusions regarding causation can be established.

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or to providing a certain level of health, educational or social services, or to producing other goods, would be a prudent method of proceeding. But in our class-divided society, to refrain from demanding an environment free from lead merely lines the pockets of the owners of big business and leaves the most vulnerable at risk.

It is much better that medical men and women recognise and acknowledge their prejudices than that they pretend that they can temporarily put them aside. Worst of all is the belief that there can be a state of 'scientific' purity in which there are no prejudices.

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The authors reply as follows:

SIR—Elwood and Gallacher, in your issue of December 1984, say there are at least three separate views on the evidence on lead in petrol. They omit the most important view of all, that in our pursuit of health we should seek amenity not merely a reduction in morbidity. Lead has no physiological function in the human body, there is no threshold below which damage does not occur, and any additional quantity absorbed by those who have already been exposed will put them at risk. Consequently, it should be the duty of those professionally committed to the public health to urge the complete elimination of lead from our man-made environment.

Popper is a poor guide to those who wish to change the environment in this or any other country. He does not believe in the possibility of a social science and therefore separates the physical sciences from what we would call the social sciences. We believe they form a unity and that our social policy should arise out of our science and not be separated from it, as it so manifestly is in relation to environmental pollution in this country. Science is knowledge, but not just any knowledge. It is knowledge that has been acquired socially and tested and proved by human practice. Its use enables men and women to improve the production of the needs of their daily lives. The object of all science therefore is to change the physical world and to change society.

In a society where the means of production were owned by the people who produce, and where the state was a state of producers, the application of a calculus of priorities to cleaning up the environment,

SIR—Cameron and Jones make three criticisms of our paper, two of which concern the argument presented and a third Popper's view of social science.

Cameron and Jones suggest that we omitted to consider the increased social amenity that might be derived from elimination of petrol lead. This is unfortunate as the argument from amenity was one of the underlying issues of the paper. We considered society as "a problem solving institution in which improvement is facilitated by the freedom to evaluate critically the effects of society's activities". We consider the ideas of improvement and amenity to be interchangeable in this context.

The second point of misunderstanding concerns relations between values and science. Cameron and Jones suggest that to refrain from removing petrol lead "merely lines the pockets of the owners of big business". A careful reading of our paper will show the absence of economic theory and a lack of value judgements about which social policy should be followed. We confined our evaluation of social policy to its empirical basis, ie, whether it was likely to achieve its stated objectives. However we acknowledge that from our review it could be inferred that removing lead from petrol would be unlikely to increase overall social amenity and so has little point. If considering an ineffective policy to be pointless is construed as a value judgement, we are sure it is one Cameron and Jones would agree with. Nevertheless we fail to see the connection between a potentially ineffective social policy and the stratification of society.

The misrepresentation of Popper's views on social science can be quickly dealt with. The only form of

'social science' that Popper rejects is one which does not produce refutable hypotheses: for example, one based on dialectical metaphysics¹ which Cameron and Jones appear to adopt. By applying the same criterion to social science as to natural science Popper demonstrates that, in his view, natural and social science do form a unified basis for the development of social policy.

A final point ought to be made on relations between science and prejudice. We did not consider scientific objectivity to be easy and acknowledged "that no scientist is perfect". That is why the importance of impartial criticism was emphasised in our paper. However for Cameron and Jones to insist that prejudice cannot be overcome merely discredits their own argument.

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Reference

¹Popper KR. *Conjectures and refutations: The growth of scientific knowledge*. Routledge and Kegan Paul, 1963.

SIR—Fox, Goldblatt, and Jones¹ refer to our paper without any comment.² As its title implies, our paper contains a criticism of the kind of work they are engaged upon. In it we show, we hope clearly, that the "classes" devised by Stevenson and elaborated by the office of the Registrar General, and later by that of Population Censuses and Surveys, are not social classes at all. They are merely occupational groupings compiled, it appears to us, according to private whim in those offices and having no scientific standing. If we are wrong and there are scientific principles on which these categories are based and according to which they are from time to time amended, perhaps Professor Fox and his colleagues could explain their basis. Dr Alderson had the opportunity but did not take it.³

The common opinion that explanation or theory is unnecessary because, as indicators of mortality, these categories work, is not acceptable. Such a view is anti-intellectual and inhibits scientific progress in medicine. Moreover, as we have shown, there is such wide variation in mortality within the "classes" that the "class" mortality rates, which are of course weighted means of the rates in their constituent occupations, do not fairly represent these constituents. In this respect they do not work.

We know something of the origin of this classification from an examination of Stevenson's writings, which show that he adjusted the classification to fit his personal notions of social class and to make "social class" gradients in mortality smoother. Szreter has shown, from a study of the minutes of the GRO Committee on the Census (1911), that Stevenson was inclined to make the same sort of adjustments in order to smooth fertility gradients.⁴

When you consider the heated arguments that accompany proposed changes in other taxonomies, in biology, for example, and just recently in chemistry, it is strange that there is so little complaint about this one. Szreter has persuaded us that the failure of medical people to discuss this properly is because in the past they were confused by statistics. Now that we are more sophisticated, let us reject this useless classification, "this stultifyingly simplistic apparatus", as Szreter has called it. After all, what is to be gained by sticking to it? Perhaps some have the notion that we could change mortality experience by changing people's "social class". It won't work. Stevenson tried it.

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References

- ¹Fox AJ, Goldblatt PO, Jones DR. Social class mortality differentials: artefact, selection or life circumstances? *J Epidemiol Community Health* 1985; **39**: 1-8.
²Jones IG, Cameron D. Social class analysis—an embarrassment to epidemiology. *Community Medicine* 1984; **6**: 37-46.
³Alderson M. A comment on social class analysis. *Community Medicine* 1984; **6**: 1-3.
⁴Szreter SRS. The genesis of the Registrar General's social classification of occupations. *Br J Sociology* 1984; **35**: 522-46.

The authors reply as follows:

SIR—In response to Cameron and Jones's letter, we are happy to try to explain our continued usage of occupation-based social class in analyses of mortality differentials: we speak as users, not as those currently responsible for the development of the classifications and for production of official data.

Our reference to Jones and Cameron¹ was intended to emphasise our awareness of criticisms and limitations of the social class classification. In retrospect, perhaps the Black report² or other references to limitations of social class^{3,4} would have proved a better choice! We do, however, agree with