

## What skulduggery?

Steve Blinkhorn

*The Mismeasure of Man.* By Stephen J. Gould. Pp.352. ISBN 0-393-01489-4. (W.W. Norton: 1981.) \$14.95, £9.95.

WITH a glittering prose style and as honestly held a set of prejudices as you could hope to meet in a day's crusading, S.J. Gould presents his attempt at identifying the fatal flaw in the theory and measurement of intelligence. Of course everyone knows there must be a fatal flaw, but so far reports of its discovery have been consistently premature.

The theme of this particular book is that since science is embedded in society, one must expect to find the prejudices of the age presented by scientists as fact. Most authors, given such a theme, would be content to document and catalogue instances in support of the proposition. Gould, however, goes one better by writing a book which exemplifies its own thesis.

It is a masterpiece of propaganda, researched in the service of a point of view rather than written from a fund of knowledge. For the best propaganda requires not the suppression or distortion of facts but their careful selection, emphasis and juxtaposition. So, in a work which declares its concern to be with the notion of intelligence as a single measurable "thing" in the head, we find that two-thirds of the argument is given over to a careful reworking of early attempts to establish craniometric and anthropometric criteria of intelligence, and an admirably disturbing account of the Gadarene rush to press IQ tests into the service of social engineering in the USA in the first half of this century. As Gould rightly emphasizes, many of the uses to which tests were put made mockery of their original purpose.

### Ottery

*A fitter fits;  
A cutter cuts;  
And an aircraft spotter spots;  
A baby-sitter  
Baby-sits —  
But an otter never ots.*

*Though sinners sin  
And thinners thin  
And paper-blotters blot;  
I've never yet  
Had letters let  
Or seen an otter ot.*

*A batter bats  
(Or scatters scats);  
A potting shed's for potting;  
But no one's found  
A bounder bound  
Or caught an otter otting.*

From *The Biology of Algae* by Ralph Lewin. See p.500 for details.

The final third of the book is the attempt proper to debunk the notion of general intelligence as arising specifically in the school of factor analysts starting with Spearman. But by this stage the reader has been presented with sufficient examples, sufficiently carefully examined, of racial and social prejudice in the work of scientists, of distorted data, fudged analysis and twisted interpretation as to the inexpert might establish a necessary connection. Add to that the soft target of Cyril Burt, some rather inaccurate observations on the role and effects of the 11+ examination system in Britain and a remarkably detailed account of antique methods of factor analysis, and you have all the makings of a lively, plausible, opinionated and zesty potboiler.

But verbal fluency is no substitute for good arguments in the long run. The substantive discussion of the theory of intelligence stops at the stage it was in more than a quarter of a century ago. Consequently there is no account of attempts to characterize the psychological nature of general intelligence, no indication that multivariate methods have progressed beyond Thurstonian techniques, no discussion of the effects of ageing, of brain damage, of compensatory programmes, no account of modern behavioural genetics, of heritability studies other than Burt's, no hint of the current interest in cybernetic models or recent attempts by experimental cognitive psychologists to account for psychometric findings.

Gould even gives a perfectly straightforward account of what heritability would and would not mean in terms of the modifiability of intelligence, but fails to point out that such arch-hereditarians as Eysenck and Jensen have published essentially identical accounts. One is, presumably, meant to conclude that adherence to the notion that there is a measurable single dimension of intelligence necessarily involves the kind of radical nativism which was prevalent in times when genetic theory and statistical methods were in their infancy.

But this is a book with a double punchline. Or to put it another way, Gould performs the remarkable trick of pulling the rug from under his own feet whilst appearing to stand stock still. For not only does he propose a totally unobjectionable definition of intelligence ("the ability to face problems in an unprogrammed . . . manner"), which, far from being novel, is a nice rewording of a definition proposed by Cattell in the context of a heavily factor-analytic theory and something of a commonplace amongst the intellectual heirs of Spearman, he even proposes essentially craniometric criteria of neoteny as a basis for the adaptability of *Homo sapiens*, and produces a photographic comparison of adult and infant chimpanzees with the remark that "if a picture's worth a thousand words . . .".

The truth of the matter is that Gould has

nothing to say which is both accurate and at issue when it comes to substantive or methodological points. His "fatal flaw" (the purported dependence of the notion of general intelligence on details of factor analytic technique), the unsupported assertion that "disadvantaged" groups always perform worse on IQ tests, his strictures on the application of the notion of intelligence across species boundaries, his attempt to link the use of IQ tests in Britain with a rigid class structure, all have the routine flavour of Radio Moscow news broadcasts when there really is no crisis to shout about. You have to admire the skill in presentation, but what a waste of talent. □

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## Beyond selfish genes

Sydney Brenner

*The Extended Phenotype: The Gene as the Unit of Selection.* By Richard Dawkins. Pp.307. ISBN 0-7167-1358-6. (W.H. Freeman: 1981.) £9.95, \$19.95.

THIS book, as Richard Dawkins states in his first chapter, "is a work of unabashed advocacy". It does not put forward new theories or new facts, but it advocates a special way of looking at living things and the worlds they inhabit.

This point of view, called the extended phenotype, is a development of the ideas discussed in his earlier book *The Selfish Gene* where, it may be remembered, Dawkins aimed to dispose of the organism as the unit of natural selection. He argues that this unit is the gene, or, rather, entities which are called germ line replicators, of which genes are the most important examples. Adaptations are for the benefit of these elements and not for anything else. Of course, it is admitted that these replicators are useless by themselves (you can buy them in bottles as chemicals called DNA) because selection judges them only by their effects in other entities, called vehicles, which the replicators inhabit. Biologists have given one such discrete vehicle, the organism, a special role as a unit of structure and function and it is this hold that Dawkins wants to break. He claims that replicators have extended phenotypic effects, reaching out beyond the boundaries of the organisms where they happen to be lodged into the world outside, even entering other organisms. He wants to dissolve organisms:

We see through them to the replicating fragments of DNA within, and we see the wider world as an arena in which these genetic fragments play out their tournaments of manipulative skill. Genes manipulate the world