

Review of Demystifying Social Statistics

IRVINE, MILES & EVANS (editors) £3.95 Pluto Press
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First we should offer all credit to Pluto Press for producing this quite long book so cheaply - and for using recycled paper! (The two may of course be connected...).

The contents of the book (as distinct from the material it was printed on) are somewhat surprising. Personally, though I suppose for no obvious reason, I had envisaged the book as being much more a semi-official publication of the Radical Statistics Group than it is. In fact it is the product of a relatively small number of individuals, only about half of whom are members of RSG (though they may be members of subgroups of course). The general stance of the book seems to me to be surprisingly far from what I had believed to be the attitude of most RSG members and I am not sure that the majority of members would agree with the book's Marxist approach or its heavy emphasis on class struggle.

The title Demystifying Social Statistics is really a misnomer. The book contains a remarkably full consideration of the social role of statistics: it is less what I would call social statistics than a Marxist analysis of official statistics (or rather a marxist analysis, marxism being so taken for granted that they spell it with a small m!). The chapters are described as differing in their orientation but to me they all seem to present much the same viewpoint - or are there similar unbridgable differences between rival sects of Marxists as in other religions?

Those looking for an explanation of what to do with a problem when using statistics in a social context will be disappointed - despite its title, the book does not demystify social statistics. Was it given the title as a result of pressure from the publishers or to sell it? How about Little Red (or even Little-Read) Statistics Book?

However it is not just a reader or collection of essays on the use of statistics in society: the essays are interconnected to give it a closely unified text with a strong underlying theme. Certainly the editing of the book is impressive in the way unity is maintained among no less than twenty-four authors.

I think that one could describe it as having four main themes, one of which is slightly more doubtful than the other three; tracing the development of statistics as a tool of social science from a Marxist perspective; showing how the way in which it has developed is a product of the capitalist society in which we live, and also, though perhaps with less certainty - and more of this later - showing how the bases of the past carry over to the present; and finally offering some useful suggestions on the use of statistics in counter-information.

Much of it might fairly accurately be described as sociology of statistics.

Is the book successful in its aims? In many ways it is excellent. Besides the unity of approach referred to above, the general quality of writing though uneven is good and unlike most readers or collected essays there is nothing that is really bad. The book puts across two points that are essential to grasp for anyone wishing to understand what published statistics are about. Firstly official statistics about a topic or problem generally describe the efforts of the state to cope with it rather than the problem itself; thus unemployment statistics refer to the number of people signed on as unemployed rather than the number of people wishing to find work but unable to do so. If there is no particular benefit to signing on, for example for married women in areas of high unemployment, then there will be under-recording in certain categories. Successive governments have not only been able to but actually have artificially reduced numbers of unemployed by excluding categories eligible for benefit. The second important point is the extraordinary bias of the topics for which statistics are available, for example, the relative neglect of statistics on industrial accidents and diseases. Despite the extent to which it takes the Marxist viewpoint as read, the book is quite fair-minded and for example does not support the conspiracy theory of politics. Their Marxist stance does however provide a unified picture of statistics in society in a way that other approaches have not (yet) managed.

I suspect that the original plan of the book was to show how the extremely unpleasant political views of the devisers of the techniques (Karl Pearson for example would have felt quite at home in Hitler's Germany, and the book shows this quite clearly) not only biased the way the techniques were devised, used and interpreted at the time but that these political views were built in to the techniques and bias interpretations today, and that it was only at a comparatively late stage that the editors discovered that this position was not tenable from the papers in the book. The introductory material does not suggest that this is the aim of the book but in places (for example, p. 364) they do seem to suggest that it is. While it is relatively easy (and probably important) to show from our distant vantage the extent of prejudice, hysteria and general lofty unpleasantness lurking behind Karl Pearson's

masquerade of scientific method, it does not follow automatically that the same occurs today. As a result, the historical and contemporary sections of the book simply fall apart.

The book is full of references to 'the state this' or 'the capitalist state that' without making clear what sort of independent existence this amazing state thing has got and how and why it does what it does. I do find this aspect unconvincing and I think the book falls apart again here. To be fair this is probably just the inevitable phenomenon that while any technique is redolent with unjustified assumptions you tend to overlook them with one you use often. Familiarity breeds content.

The nearest that the book comes to looking at how this pathological behaviour of the state occurs is in the article by the Government Statisticians Collective which gives a fascinating account of what seems an amazingly boring process of producing the statistics, and how what comes out is affected by the individuals and more importantly the structure in which they work. Routine production of statistics is only one aspect and I think that the book leaves a large gap by ignoring the work of Royal Commissions which not only frequently produce large (and occasionally suspect) statistical analyses but also as a result of their deliberations, illuminated at least somewhat by these analyses, they define the problems of interest and provide an impetus for more routine official statistics.

An excessively large proportion of the book is concerned not with social statistics but with the Natural Sciences and the Radical movement within that. While I agree that a clear understanding of the philosophy of science is important so that we can appreciate how we fall short of the model that the social sciences are parts of the book seem more like a history of the radical science movement than radical statistics.

One chapter of the book is a critique of positivism but this is something of a straw man: even effective positivism whereby one artificially defined phenomenon is shown to be caused by some other equally artificial phenomenon would be a distinct improvement on the science of coincidence we have at present whereby two such phenomena are considered to be connected if they co-occur without any consideration of whether a change in one will cause a change in the other.

Turning now to specific chapters, the first I will consider is Atkins and Jarrett on significance testing. This is an account of how the normal error distribution was developed and how and where the idea arose of testing some null hypothesis by examining how an observed value of a statistic compares with an expected value under that null hypothesis. Their account of the historical development is intriguing though I think they fail to consider the confusion in modern statistical theory between randomness in observations arising as a result of actual random fluctuation in the observations and randomness arising as a result of random choice of a (fixed) unit. This is surprising as the fudging of the differences (or put more politely the unstated assumption of equivalence between the two) is an important assumption in relating work on normal errors in astronomical observation on the human situation where variation in the observations may arise as a result of factors irrelevant to those being considered but the units themselves being observed are effectively fixed. The chapter also takes apart an article (by Eysenk among others as it happens which is nice, but it could have a lot of other people) which uses statistical tests of significance in a blatantly unsound way - it deduces a difference between the populations of Britain and Japan on the basis of a test with different language versions on student volunteers. They discuss the assumptions of statistical significance testing and analyse at some length how the article's use of significance tests departs from these assumptions and how this undermines the validity of the results. I do have a few caveats on their chapter: they refer to the dissected article as claiming that results are significant beyond a stated significance level but do not indicate whether this would make any difference. In places (e.g. p. 97) they do not make the distinction between problems arising from the way the population was formed and problems arising from the way a sample is drawn sufficiently clear. Finally, and most important while they criticise statistical significance tests and suggest that better techniques exist, their chapter will not be of much help to anyone wishing to know what other techniques to use and how to use them. These are relatively small objections and the chapter will be a useful addition to the literature on significance testing.

The Chapter by Marsh on Opinion Polls contains an excellent conventional description of the field, one of the best I have read. It would not be out of place in a slightly upgraded version of a popular textbook on social surveys. However, the example quoted is not appropriate for illustrating the ineffectiveness of opinion polls. A strike occurring three years after a survey indicated favourable attitudes to management is hardly a complete negation of the relevance of surveys.

The chapter also discusses the well-known phenomenon of apparently different results being produced by different question-wording. It offers the new suggestion, that apparently different results arise not so much from the volatility of public opinion but because a substantively different question was posed. Thus a question which allows the possibility of an 'All right' answer is different from one which does not. This is a very interesting suggestion and

one which I wish the chapter had followed up further as it seems to suggest an alternative to the present rather unsatisfactory theory of attitude measurement. Is it implying that many people do have an attitude to many unfamiliar topics, an attitude which may be qualitatively different from anything researchers have tried to tap? Such an attitude could be approximately 'They know what they're doing' a positive acceptance of what they perceive as the status quo together with a resistance to change: such an 'extreme middle' attitude could cause change drastically when an issue became obviously relevant to the individual concerned.

For me, the most interesting chapter in the book is that by the Government Statisticians' Collective on the processing of Official Statistics. This chapter clearly stems from personal experience and is a valuable account of a kind too seldom available. Without adopting the jokey approach of example Parkinson's Law, where low quality sociology is described as humour, it gives an account of what the writer genuinely feels happens rather than what official apologists would like people to think happens. The impressionistic, almost novelistic, approach may mean that the content of this particular piece is fairly easily denied by official speakers. It shows clearly how the structure of the Government Statistical Service with the separation of tasks and responsibilities, the conveyor-belt approach to the work and the attendant boredom, and the lack for many workers a sense of producing a definite useful product lead to the possibility of quite sizeable errors being undetected and unsuspected. For example, the chapter describes how an error caused by recording the import figures for one firm in the wrong column (!) led to a phoney balance of payments crisis - a fascinating disclosure to connoisseurs of the absurd such as myself. They also emphasise the painstaking and almost painful conscientiousness of many members of Government Statistical staff, a factor that I for one can attest to, and one which is too easily dismissed in many oversimplified accounts of the misuse of statistics by the authorities. This chapter is the one which comes nearest to showing how the state can operate in the independent and antisocial way described in the rest of the book. In it the authors also attempt to describe the history and development of the Government Statistical Service, though I feel that this section is rather sketchy. In particular the highly central role of statisticians in the U.K Civil Service compared with other countries perhaps needs more explanation - can it really be just due to the persuasiveness of Sir Claus Moser and his palliness with Wilson?

In some ways I feel that this book as far as it is connected to Radical Statistics will give RS a bad name, particularly with comments such as 'The Times, then as now a mouthpiece of the establishment'.

If people come to the conclusion from reading the book that the only way to criticise existing statistical practices is from a Marxist standpoint then they may well give up to the attempt to improve existing practices. "Radical" is not defined in the book though the index (a plus point, having an index) is interesting on this count: 'see also Class, Struggle and Class Conflict'. Under the definition implied by this, I think many members of R.S.G. are not at all radical though I suppose this viewpoint is compatible with the RS Policy Statement which refers to 'radical in the sense of being committed to helping to build a more free egalitarian and democratic society'. Marxist concepts and modes of analysis are necessary for a good understanding of the way our society works, but it is no more the only possible tool than a compressed air cylinder is the only equipment required to go scuba-diving. It is not at all necessary to be committed to a revolutionary or Marxist viewpoint in order to use statistics to counter (for example) racism. While society is still unequal and it could be argued in some ways repressive it is less so than formerly and can still improve if sufficient people are aware of a problem or injustice and wish it changed, then it can be. People need to be aware of a problem and wish to change it, and this leaves considerable power still in the hands of opinion formers, Statisticians, and statistics in all their ramifications are only one aspect of this but as statisticians it is up to us to show people how statistics can be and are manipulated: not just the old Darrell Huff model of selective quotation etc., but also what is investigated and what is published or quoted. Given as true a picture as possible of what is happening, people are capable of making up their own minds: it is not up to the Radical Statistics Group to tell them how to do it, though of course some members may wish to do so and there would be no reason why not. As always I ask for whom is this book written? I found it interesting and (thought-) provoking and I would recommend it to friends who were interested in the social role of statistics as the best book published so far. I would also use it in teaching (if and when I do any more) though the book is very heavy-going. I suspect there would be little enthusiasm among the type of students I have taught, some of the articles would be very useful. A Course based on the book itself - entitled a Course in Marxist Statistics - would seem to be the ultimate turnoff to students.

To sum up, the essays in the book are mostly well written and interesting if a trifle long-winded with a degree of unity which speaks well for the editing. It is a brave attempt at an analysis of the social role of statistics a large number of interesting illustrations. It seems that the authors while rejecting a conspiracy theory have replaced it by a paranoia theory. The book fails to show me that the rightly respected Government Statistical Service is a tool of the capitalist state - I am not convinced that the desire of bureaucrats for a quiet life is evidence of independent pathological behaviour by the state.

Equally the book does not prove that the unsavoury beginnings of many statistical techniques colour their use today. In the end the book fails as an entity since it does not prove adequately the link between past misuse and present practice and between present misuse and Marxist theory.
