

## EDITORIAL: THE EMPERORS' OFFICIAL CLOTHES

Aldermoor school in Southampton deserves an international reputation. It is a school situated in the North West of the City, in the middle of a large Council Estate, which educates children aged between 5 and 12. It is common practice to review the future of a school when the headmaster retires, and this was done in the case of Aldermoor. The parents and governors of the school became suspicious when an advertisement to replace the retiring head failed to appear in the newspapers. Informal information channels suggested that the school was being considered for closure. At this stage all the groups interested in the welfare of the school asked to be part of any future plans for the school, as suggested by a 1981 DES circular to LEA's, which states that consultations should take place when planning is at "formative stage". The LEA refused to talk to parents and governors on the grounds that nothing had yet been proposed and, therefore, there was nothing to discuss.

Hampshire Education Authority proposed the closure of the school early in 1987. The proposal included a report, written by the Council's architect in which it was stated that the school had a wooden frame, that it was in bad condition, and that if it was to deteriorate further it would be very expensive to repair since this would mean complete rebuilding at an estimated cost of one and a quarter million pounds. The architect's report was half a page long.

An action group was soon formed to fight the proposal to close the school; they contacted me as a person who had been involved in other school closures, they also employed a local firm of architects to survey the school. The new survey found that the school had a steel, not a wooden frame, that maintenance had been neglected for a long time but that, nevertheless, the building was in a remarkably good condition; some repairs were suggested costing a maximum of about one hundred and fifty thousand pounds. When the LEA was challenged they changed their position; they said that there would also be a large decline in rolls because during the next five years the number of children in the area covered by Aldermoor and surrounding schools would drop by one third; closing a school was the right way to deal with this situation.

This was the point at which I was able to offer my assistance to the action group. I knew that the area in which the school is situated is an area which young families with small children move into; this is due to a series of factors related to council housing policy, council house sales, and new building developments. I also knew that none of the data sources available to the LEA could be used to forecast pupil numbers five years ahead. I was aware, furthermore, that my challenge to the quality of the data sources would be ignored on the grounds that I have been active in local politics on the side of the party that is on the opposition in the County Council. My

advice to the action group was that they had to prove that the LEA's statistical information was wrong, and that they could only do this by conducting their own local census, not only of the catchment area of Aldermoor school, but also of the catchment areas of the surrounding schools. Parents visited just over half the houses in the area of the schools being reorganised; they failed to find any evidence of a fall in the number of children of pre-school age; they also found that almost everyone contacted signed a formal objection to the closure of the school.

It can be claimed that the parental survey was very poor from the point of view of experimental design since parents chose the streets they wanted to survey without any overall plan, and they did not return to households where no-one had been found, thus nothing was learned about non-respondents. On the other hand, even under these limitations, their survey had been much more thorough, and more valid, than the guesses put forward by the LEA as forecasts. The parental survey had ignored migration, and this would have pointed towards more small children moving into the area. The parents were satisfied that they had demolished the LEA case, and expected the proposal to close the school to be withdrawn. They were wrong.

The LEA pushed ahead with the proposal to close the school on the grounds that... the building was in bad condition and repairing it would cost more than a million pounds, and that they expected rolls to fall by one third within the next five years. Politicians in the County Council ignored the arguments put forward by the parents. The local Member of Parliament intervened on behalf of the parents and was also ignored, he took the case to the House of Commons where he was told that it would be carefully considered. The parents had an opportunity to put their case to the Minister in charge of schools but they do not expect much from this since they were aware that Civil Servants in London were unlikely to advise the Minister that Civil Servants in Winchester were wrong.

What is particularly interesting in all this peculiar affair is that it has been proven from the start that the facts used by the LEA were wrong. It is a matter of etiquette that the LEA does not respond to accusations made in the press, or even in Parliament. This does not explain, however, their refusal to accept good information when it was available. This deaf ear policy can be explained, however, in a different way: the Area Education Officer expressed the view that he had to rely on forecasts put forward by "experts" in the County Council; experts in the County Council are, in turn, out of the game once they have passed the ball; politicians do not like to reject the advice that they have been given by their own officers, specially when the end result of this advice is consistent with their own political objectives. Once the emperor says that he has put on clothes the establishment has an interest in praising them; those who say that the emperor is naked, however many they are, have, therefore, to be neutralised; one way of doing it is to ignore them and to ignore their arguments.

I have concentrated up to now on how exposing factual errors does not necessarily lead to changes in policy. There are, of course, facts and facts; the material of which the building of the school was made and the number of children in the area are, in the language of Kuhn, every day facts not the collected with difficulty under the guidance of a paradigm (a theory of how the system works). Kuhn argues that groups that hold different views of society will collect information about different facts which they consider relevant to support their views, and will talk across purposes. In other words, the information put forward by a particular group will be that which supports the objectives that it is trying to achieve. Official information will support official views.

The U.K. has now a government that holds strong opinions about many subjects and one would expect official information to be strongly influenced by policy. The area of defence is an obvious example: the recent INF treaty is claimed to aim at reducing nuclear arsenals by about 2% but, what is this the case?, what that this mean for us? The article by Professor Hutchinson explores these issues. Two other areas where important legislative proposals are being put forward are housing and local taxation; it is being claimed that privatisation of council houses will be beneficial to tenants but, is there any evidence to support this view? The myth of the lone pensioner living alone in a decrepit house and paying large rates is used as support for a proposal to change the local taxation system but, how realistic is this and who will benefit from the change? I have done some work, with Mao Qing, on Social Statistics in Southampton which is relevant to these issues; we report on it here.

There are further issues that are explored in this Newsletter. Steve Atkins discusses how published data may not be accurate enough to describe a well known situation. Ann-Lee Wong explains how textbooks used to teach Statistics depend a great deal on the cultural context of the person who writes them.

Do not forget our conference, on the 27th of February in London. Full details with this newsletter. The theme of the conference is fascinating: beyond the statistical smokescreen. The cartoon on the cover relates to that; it represents the Spanish Minister of State for Home Affairs who, in 1871 organized the victory of his party in the general election; here he is seen showing a small result and hiding a bigger one, the table is supported by the arms of the military, ie the force of the state. This Minister, Sagasta, went on to being Prime Minister later on. We are, of course, talking about other times and other people, in this country nobody manipulates statistics for political purposes. If you want to discuss this subject further you must come to the conference.

T.S. Kuhn (1970) The structure of scientific revolutions. Second edition, Chicago University Press, Chicago.

Cecilio Mar Molinero  
January 1988

Book review: New developments in Statistics for Psychology and the Social Sciences. A. D. Lovie (Editor)

by Dr. Brendan Burchell. University of Cambridge.

This book was written with a particular purpose in mind: to bring some of the recent advances in Statistics into the undergraduate and postgraduate curriculum of Psychology degrees. The need for some change here is clearly very pressing. As Sandy Lovie points out in the final chapter "...the bulk of the contents of the average introductory Statistics text could have been written over 40 years ago." (page 163).

In an attempt to rectify this situation Lovie has assembled eight chapters on a diverse set of topics that share one thing in common: they are "off the beaten track" as far as most psychologists are concerned. Let me give some more detailed information on the content of the book before offering some thoughts and criticisms of it.

The first three chapters are all concerned with exploratory and robust univariate handling of data.

After a very short editor's introduction, Chapter 1 describes the use of graphical and exploratory methods for data analysis. After a quick run-through of some hopefully now familiar techniques such as box and whisker plots, stem and leaf plots and median polishing, the author also shows some original techniques that he developed to suit some of his own data. He demonstrates convincingly that the approach allowed him to uncover features of the data that may otherwise have passed un-noticed.

Chapter 2 on robust techniques starts by looking at alternatives to the mean and median as more robust estimators of central tendency, then goes on to look at robust estimations of standard errors using cross-validation, jack-knifing and bootstrapping.

Chapter 3 is about outliers, concentrating on their detection by both simple exploratory methods and formal tests.

The next three chapters go on to more complex multivariate techniques.

Chapter 4 takes contingency tables far beyond the familiar chi-squares and shows very convincingly, with the help of some sample data, how log-linear models can be so much more useful for analysing more complex tables. Hierarchical models receive particular attention, but other special cases are also considered.

Chapter 5 takes the repeated-measures design which is much used in psychological research and points out the problems with the ANOVA and MANOVA analyses applied to such data. It goes on to suggest several alternative models, and looks at their applications to an appropriate set of data.

Chapter 6 is perhaps the most complex of the book, requiring a familiarity with some involved mathematics on the part of the reader. It describes a technique called Finite Mixture Distributions which assumes that a set of data from a population is made up of a set of sub-populations and can identify the nature or number of these subpopulations. Like chapter 5, considerable computing as well as statistical skill would be needed to implement the techniques described in this chapter; they are not available as procedures in any of the standard statistical packages.

Chapter 7 discusses the relationship between sample size, effect size, significance level and power. Simple formulae to approximate any one of these given the other three are provided for common parametric and non-parametric tests. Hypothetical examples are also given to demonstrate the importance of power in experimental design.

Chapter 8 looks at a little-known but potentially very useful type of post-hoc test that allows the ranking of cells and the selection of the cell with the largest or smallest mean or standard deviation from an ANOVA design. Not only is this shown to be generally more useful than the normal post-hoc "all-comparisons" tests, but it also answers the question that is often likely to be of most interest to the researcher.

Apart from their unorthodox nature, the reader may well reach the conclusion that the chapters have little else in common; they differ markedly in many other respects concerning both content and style. Some chapters, for instance, are advocating the use of simple but imaginative graphical techniques, some argue for the use of complex multivariate techniques such as log-linear models and mixture designs. Other chapters were not describing techniques as such but were discussing issues such as robustness and the treatment of outliers. This diversity is one of the strengths of the book. Most statistically-minded social scientist now see simpler descriptive techniques and complex multivariate model-building as complementing each other rather than competing for the same ground, and thus any good undergraduate course should familiarise students with both approaches.

But the diversity of styles of presentation used by the different authors also means that the book seems to lack continuity. Some of the chapters make extensive use of examples to lead the reader through the application of a technique, others lead with formulae and seem only to use examples as an after-thought.

This diversity of presentation and lack of theme makes it a book that few people will want to read from cover to cover. Many social researchers will find one or two chapters that are of direct interest to them, and the chapters by-and-large go a long way towards presenting their techniques in a way that is particularly relevant to psychologists.

The people who the book is directly aimed at, though, may find that it stops short of guiding them into ways to extend their lecture courses. It is one thing to be aware of a new technique and another to teach it in a way that makes it accessible and interesting to undergraduates who often already feel that the strain put upon them by the statistics course is too great. After all, few would argue that undergraduates should spend a higher proportion of their degree learning Statistics rather than Psychology. Thus the challenge in most departments is not to add more into the course, but to re-structure it to take into account the recent developments in the field.

This being the case, perhaps more of the book should have been devoted to tackling these issues by the editor, rather than simply expecting that by making this material available to a psychological audience would, in itself, be enough to bring about the desired changes. The changes that have occurred recently not just at the level of new techniques but at the level of a new philosophy of data analysis are evident but not emphasised in this book. If undergraduate courses are to change completely in orientation, they must start with their whole approach of getting the most from the data rather than simply using the data to test one or more a priori hypotheses. The textbook that takes Psychology undergraduates through their first-year Statistics course with this emphasis has yet to appear, and that book will perhaps be more influential than this one in bringing the Statistics in the Psychology curriculum up to date.

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Book review: Maureen McNeil (editor) Gender and expertise. Radical Science Series No. 19. Free Association Books, London, 1987.

By Sally Wyatt, Brighton.

This book, given its title, should be addressing an important area- Relevant to the Radical Statistics project. With one or two exceptions, it doesn't. The concern is with scientific and technical expertise. Unfortunately, nowhere do any of the contributors attempt to define what they mean by expertise. The implicit assumption appears to be that expertise itself is bad, rather than the abuse and mystification of expertise of the social construction and elevation of some forms of knowledge rather than others. This is most clear in the first, and longest contribution, by Maureen McNeil, "Being reasonable feminists". There is a confusion in this chapter. She criticises expertise and rationality (which is equally ill-defined); and their existence. She is equally critical of the eco-feminist literature, with its emphasis upon a return to the natural. She points out, and I would agree with her, that "nature" provides an unsatisfactory reference point as it is a cultural category, the definition of which is subject to conflict and change. (Unfortunately she does not extend this critique to "expertise" and "rationality"). She asks the

rethorical question about whether this "return to nature" includes an end to fighting disease. The rethorical nature of the question presumes the answer. This is where the confusion lies. To fight disease requires expertise. The important and interesting questions are: who gets that expertise and how, what rewards are given to those who have it, what power does it confer, can the expertise be demystified, etc.

I found the book disturbing, not least because of the many, often gratuitous, snipes at other feminist work. Nonetheless, it is a long book, and there are many thought-provoking pieces- including book reviews, review essays and more personal pieces based on women's experiences in education and the London Technology Network. However, the book as a whole does not exceed the sum of its parts- it suffers from a lack of integrating material, good editing and positive contributions to feminist thought.

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Book review: Science as culture. Pilot Issue. Free Association Books. London. 1987

By Ian Miles. SPRU.

This is almost like vol 3 of Science Technology and the Labour Process- except that instead of "labour process" read militarism, industrialism, sexism, scientism, etc. It is a pilot issue of a quarterly new journal, and promises a great deal. The project in general- exploring relations between science, technology, medicine, and on the other hand culture (or as the back cover says, "the rest of life")- is one which Rad Stats may be expected to participate in. Thus it will be well worth our continuing to follow. This pilot issue does not contain much that is specifically relevant to us, however: Bob Young's piece on "the scientist as a guru"- about eminence and expertise- is a review of a Peter Medawar book, and not one that goes far beyond confer unparalleled insight into the meaning of life, the shaping of democratic institutions, or indeed much else outside area A.

Of more interest I found Kevin Robins and Frank Webster's article on Humphrey Jennings' Pandemonium. This had me kicking myself for not having acquired a copy of the book when I saw it at Euston "Bargain Books" stall. Jennings was a fascinating character- filmmaker, painter, poet, associated with Mass Observation, and, as this book testifies, chronicler of cultural dimensions of the industrial revolution. He sought to show how contemporary technology became part of our worldview, and by critically documenting the divides between science and art, work and life, can help us reintegrate them. If this journal can have the same effect, all power to it!

Book review: Sex and Destiny: the politics of human fertility. Germaine Greer. Picador. London. 1984.

By Heather Booth. PO Box 5. Noumeau Cedex. New Caledonia.

Comment tu t'appeles?

Est-ce que tu as des enfants?

If not the first question, then the second. Even for little girls.

The importance of childbearing in Third World societies is wonderfully contrasted with our own attitudes to parenthood in Germaine Greer's book Sex and Destiny. Greer forcefully argues that the role of women in Third World societies, inextricably linked as it is to childbearing and motherhood, encompasses many positive points and that children are joys to behold.

In the West, however, childbearing has become antisepticised and children are hated. In the same way that Greer could write in the Female Eunuch more than a decade ago: "Wome have very little idea of how much men hate them", neither do children realise how much adults hate them. This aspect of our Western lifestyle is, like so many other aspects, being exported. The Third World is exhorted to accept the norms of the West. There have been some successes with spectacular costs. The Indian case well known, as is the Chinese. The West has marketed sterilisations, IUDS (inappropriate technology?), pills, and depo-povera (not safe for Western consumption), to name a few.

This preoccupation with controlling the fertility of Third World peoples stems from fear. On the one hand, there is fear of the decline of Western populations, and on the other, fear of the increases that are taking place in Third World populations. Needless to say, the two processes are not seen as beneficially complementary! The expanding Third World population is seen as a threat to the stability of the existing world order. It's control is thus imperative.

As with other facets of Western aid, the means by which population is to be controlled are not always straightforward. When Western family planners began to realise that their products were not entirely welcome in many Third World cultures, research was brought in to show that declining fertility is linked with development, with economic advancement and education. Efforts were thus made to try to create the right conditions for successful family planning programmes. What was needed was the right environment and the hate of children would follow.

At the same time, many Third World governments began to take the message seriously and sought to reduce fertility to encourage economic development. Whichever came first, the methods by which people sought to limit their families and by which governments sought to reduce population growth were not always in accord with Western ideas. The West, in particular the United States, has been withdrawing support to population programmes in those Third World countries which are not playing the game by Western rules.

Greer embellishes her argument with many relevant details. Her discussion takes in infertility, chastity, family planning technology and its history, abortion and infanticide. She discusses the eugenics movement and the population industry from Malthus to today, and in her concluding chapter on the myth of overpopulation drives home the message that people are not a problem but that the problem is the poverty and squalor in which many of them live, conditions which are created by the greed of men most notably those in the West.

If the principal function of writing is to stimulate creative thought then Greer certainly does that. This book is about the population industry and is by someone who, as not part of that industry, can see the whole and how the pieces fit together. It is food for thought for those working in demography and also for those interested in general Third World and development issues. It places population studies in its political context. Vital, if you'll forgive the pun, reading for all those concerned with the subject.

#### STATISTICS IN NICARAGUA

#### APPEAL

CASH Please make a commitment to support Nicaragua's survival through the 'Nicaragua Statistics Fund'. Money will be used for Spanish texts, solar calculators and floppy discs.

BOOK TAX ON HOLIDAYS TO SPAIN If you visit Spain this year and pass through a University town, make a point of buying one or some Spanish textbooks: translations of standard English-language texts are always useful.

DIRECT LINKS Visit Nicaragua to learn of the situation and to work if you are able. Make contact through the fund with your counterparts in Nicaragua.

(\*) 'Statistics in Nicaragua: a report'. Available from the Nicaragua Statistics Fund, price £1.

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