

COMMENT

on 'Social Responsibility in Statistics'

John Urquhart

I very much enjoyed my first RADSTATS annual conference. The contributions were thought-provoking and the highlight was undoubtedly the presentation by Heather Brooke, whose investigations sparked the MPs' expenses scandal. Equally illuminating were the small snippets of information such as "ONS has got all this data collected, but lacks the staff to analyse it", and in my own subgroup on health data, from three different sources: "I work in an NHS department but my research is hampered since there are people in the system who block the handing out of data".

Heather Brooke's approach did not involve any slides, which brings me to my first point. The best slides presented were those with a small amount of wording, and clear graphs. Too many presentations fall down by putting in too many words on a white background, which does not work during the day, particularly if the screen is next to a window with sunlight coming in. I think that the best slides are those in yellow print on a dark blue background.

The most worrying contribution was the suggestion that statistical ethics demanded that the latest statistical methods be used. In fact, it is now part of the code of practice of the American Statistical Association. Is this wise? One questioner pointed out that some methods are so complex that not even statisticians can understand them half the time, which drew an approving laugh from the audience. Underlying this is a much deeper question, which brings me to Scottish dancing. When I started Scottish dancing at the age of fourteen, life was simple. One learned the Eightsome Reel, the Dashing White Sergeant, the Gay Gordon's, and a few other popular and well-learned figures. When I attended the St. Andrew's summer school in my twenties, I learnt a few more dances. But nowadays, thanks to creative enthusiasm, there are something like 10,000 different patterned dances, which are impossible to memorise, very complicated, and quite frankly do your head in. Has something similar happened in the statistical world? The overriding ambition seems to be to produce more and more complicated models and formulae, when in fact very often it is the more straight-forward statistical methods that can be the most powerful and transparent. Imagine that each university had a department of Scottish dancing, where the only way you could be considered for your PhD was to

invent yet another novel pattern of moving around the dance floor. It seems that sometimes the pursuit of new statistical methods has become an end in itself. I am reminded of the talk on Florence Nightingale, who through simple statistics and pie charts influenced the thinking of Victorian MPs.

The real question is, what is meant by an ethical approach to statistics? Several papers dealt with the distorted presentation of government statistics, but surely these were overseen by statisticians? Have such people joined the Dark Side and become sorcerers rather than magicians? Is it ethical to construct statistics which are suspected to be misleading? Perhaps if all published government statistics included the byline of the statistician responsible – such as occurs in newspaper articles – then this might make a singular contribution to improving the ethics of statistics.

One of Heather Brooke's main themes was the obsessive statistical secrecy of the British state. I have just heard on the BBC that Iraqi paediatricians are questioning the dramatic increase in birth defects in Falluja. Would UK paediatricians be able to make similar revelations or would they be hampered by official secrecy, and would their research grants be affected? In the circumstances I have been circumspect about the details in the graph below on changes in birth defects in Britain, and excluded the name of the particular region.

Comparison of Congenital Malformation Rates between Region X and England and Wales, 1977-2007.



*Excludes heart defects

According to the national figures, birth defects in England and Wales have declined by 50% in the last thirty years, but in Region X they have doubled in the last twenty years. Are we witnessing a birth defect time-bomb in Britain, or the erratic collection of statistics? Will we ever know the answer?

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(John Urquhart is currently reading for a PhD in genetics at the Open University on “Criteria for measuring and predicting the appearance and transmission of DNA mutations in a human population”.)