

Why what I read makes me think what I think

Reply to Jane Galbraith from Danny Dorling

I am extremely grateful to Jane Galbraith for her comments although I do not agree with them – hence this exchange. I very much hope more people read the book my article is based on as a result of Jane's concerns (Dorling, 2010). The key reason I am grateful to Jane is that I think her comments strengthen my case and provide a clear example of the kind of thing which I believe underlies much that is wrong in British society.

Jane stepped down from being lead editor of issue 102. She didn't want what I had written to be printed, even after I revised it. And now that it is printed she wants to rubbish it. I think it is interesting to ask why, but of course I will first address her three immediate concerns: 1) that I claimed John Snow's evidence was fabricated, 2) how I represent Karl Pearson – she says I misrepresent his “terminology and mathematics”, and 3) how I treat the PISA studies.

Snow's evidence was collected after he had identified the pump. Type "John Snow Map" in a search engine and you are told on many websites that the map led to the identification of the pump and the pump was a key source of the cholera. But:

"The outbreak of cholera in the vicinity of Golden Square, central London, in the late summer of 1854, and the subsequent removal of the handle from the Broad Street pump, have become an enduring feature of the folklore of public health and epidemiology. To fully understand the incident requires an accurate reconstruction of the role of Dr John Snow, who proposed that cholera was commonly transmitted by drinking water. Modern writers persist in disseminating not the facts but an apocryphal story to support a desired conclusion ... This version of events states that Snow constructed a spot map to arrive at the correct answer; it alleges that he proceeded in an orderly manner from facts (the locations of deaths) to hypothesis (the infectivity of the water), and it assumes that any reasonable person, looking at such a spot map, would have drawn the same conclusion. ... [we] show that other observers looked at even more detailed and accurate maps than Snow's, yet came to different conclusions about the cause of the cholera outbreak. Moreover, Snow developed and tested his hypothesis well before he drew his map. The

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map did not give rise to the insight, but rather it tended to confirm theories already held by the various investigators." (Brody et al. 2000, page 64).

On my claimed misrepresentation of Karl Pearson's paper, I don't understand how Jane can say I have misrepresented it if she says she found Pearson's work "too difficult" to grasp. You have to understand a paper before you can claim someone else has misrepresented it. Jane says "Unfortunately to read every reference is too time-consuming for this reader and, in the case of the Pearson 1895 paper, too difficult". But if you want to comment on research work - you just have to read.

Karl Pearson founded the world's first statistics department at University College London, the department where Jane is an honorary research fellow. In 1979 in the first RadStats book, *Demystifying Social Statistics*, Donald MacKenzie, explained that Karl Pearson argued:

"...social division between 'mental' and 'manual' labour was, according to the eugenicists, the reflection of natural, genetic, differences between types of people (see, for example, Pearson, 1902)." (MacKenzie, 1979).

Again these are old arguments. You can read about them in Donald's chapter, which was reprinted in the 1999 *Statistics in Society Rad Stats* collection. Perhaps it needs reprinting yet again? Jane says she "...cannot see the relevance of the shape of the distribution of paupers, be it normal and bell shaped or skew, to the question of whether intelligence is inherited." I'd suggest reading Mackenzie (1981).

I hope the references above are useful to help those interested in understanding why I say what I say about John Snow's map and Karl Pearson's graph. I think statisticians too often accept these as totemic symbols which are infallible. I really do hope someone takes up my suggestion in the article Jane criticises of looking back at Francis Galton's diagram (my Figure 5) and asks why one of the data points is so perfectly situated at the centre of the graph.

As I said in my article, it was on seeing the data which the PISA studies were producing that I realised the graphs were "made to be that shape". They fitted their data to a normal model and then published the results of that model to imply the results were normally distributed. This fact was not revealed until years after the original study was released. You should not publish your methodology years after your results are released, especially with the huge effects that the release of PISA data has on educational systems around the world.

In the book that my lecture and article was drawn from (Dorling, 2010, page 44, you know you want to read it ☺), I quote Stephen Ball, Karl Mannheim Professor of the Sociology of Education at the Institute of Education quoting, in turn, other educationalists on how, by 2008 the OECD was being described as a:

“...crude, lumbering think-tank of the most wealthy nations, bulldozing over human dignity without pause for thought. Its tracks, crushed into the barren dereliction left behind, spell ‘global free market’” (Ball, 2008, page 33).

I find a great deal of OECD educational statistics reliable and useful, not least on spending, but I have great concerns over the underlying agenda to their sponsoring of the PISA statistics. Why is Jane defending them so vehemently?

The PISA report not only reinforced what Jane calls the “...conventional wisdom that the bulk of the population have middling ability and only a few have high or low ability”, it is also the kind of report from which these ideas about ability are recreated in the first place. Many people who work in universities think they have high ability and that they can just think about things and give us their wisdom, based on a few observations they have made. I would argue that they are taught to do this through the systems they have lived in which encourage arrogance and then incredulity when your “conventional wisdom” is questioned.

Having sat for many years on the tables in school class rooms allocated for children from the “lower levels”, having gone to a normal non-selective school, having found it hard to read but having made myself read as much as I can, I am sick of putting up with uninformed attacks from people who dislike what I am finding, but seek to either prevent me from printing my results, or nit-pick around the edges, rather than argue over the fundamentals.

Jane Galbraith in her criticism of my work says that she has “skimmed through the Technical Report” of the PISA research and finds “that all the methodology appears to be standard. In particular the use of latent variable modelling with a normal prior is widely used in educational testing”. This contrasts greatly with her research with Meryvn Stone when she takes apart a far more comprehensive model step by step (Stone and Galbraith, 2006). Is it because she does not want to question the model that she skims the report?

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Meryvn Stone, was a member of Migration Watch UK's advisory council between 2003 and 2007. In February 2010 Meryvn took exception to my warm recommendation of a book which attacks the work of the British National Party and Migration Watch (Stone, 2010). It may be unconnected, but I can't help thinking that Jane's co-author's attack on me at the same time as she stalled publication of my article might just constitute a "clue". Meryvn is an emeritus professor in that same department where Jane is an honorary fellow and which Karl Pearson founded. There is still a lot work yet to be done to understand why our world is so unjust and whose beliefs keep it like that.

References

Ball, D.J., 2008, *The Education Debate*, Bristol: Policy Press

Brody H, Rip MR, Vinten-Johansen P, Paneth N, Rachman S, 2000, Map-making and myth-making in Broad Street: the London cholera epidemic, 1854, *Lancet*, 356 (9223), 64-8, July

Dorling D., 1999, A review of chapter 2, book review article of Tufte E.R. *Visual Explanations*, *Progress in Human Geography*, 23, 1, 127-131. Open access copy at:
http://sasi.group.shef.ac.uk/publications/1999/dorling_1999_ProgHumGeogReview.pdf

Dorling, D., 2010, *Injustice: why social inequality persists*, Bristol: Policy Press.

MacKenzie, D. (1979) *Eugenics and the Rise of Mathematical Statistics in Britain*, in J. Irvine, I. Miles and J. Evans (eds) *Demystifying Social Statistics*, London: Pluto

MacKenzie, D. (1981) *Statistics in Britain, 1865-1930: The Social Construction of Scientific Knowledge*, Edinburgh: Edinburgh University Press.

Pearson, K. (1902) Prefactory essay. The function of science in the modern state. *Encyclopedia Britannica*, 10th edn, vol. 32, pp. vii-xxxvii, volume 8 of new volumes.

Stone, M. and Galbraith, J. (2006) How not to fund hospital and community health services in England, *J. R. Statist. Soc. A* (2006) 169, Part 1, pp. 143-164

Stone, M. (2010) Not 'challenging myths' but mythical challenges, *Civitas* on-line report, February <http://www.civitas.org.uk/pdf/NotChallengingMythsFeb2010.pdf>