BOOK REVIEW

Mary Poovey’s A History of the Modern Fact: Problems of Knowledge in the Sciences of Wealth and Society.

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In 2004, a book entitled 50 facts that should change the world was published in the UK (Williams, 2004). The author’s aim is to draw attention to aspects of deprivation and inequality in the world, of changing culture and society, and of aspects of “the rampant consumption of natural resources”. Readers are encouraged to use the “facts”, and the brief essays provided on each one, as a basis for rethinking the way they see our world, and as a basis for and encouragement to action to change things. But, as a statistician, one of the first things that struck me on opening the book was the extent to which the “50 facts” are numerical. Fully 46 of the 50 have explicit reference to numbers — “More than 150 countries use torture”, or “Some 30 million people in Africa are HIV-positive”, for example. Three of the remaining four are stated as comparisons of numbers that are not given directly in the headline “fact” but are quoted in the accompanying text — e.g. “Brazil has more Avon ladies than members of its armed services”, or “More people die each year from suicide than in all the world’s armed conflicts.” This leaves just one solitary “fact” that is based to a lesser extent on numbers — “British supermarkets know more about their customers than the British government does” — and even there one could argue that there is an implicit quantitative comparison.

Of course, Williams’ aim in this book is not to leave her readers in a state of equanimity about her facts. One is not supposed to react to learning than more than 150 countries use torture in a mood of neutral indifference, but to share the author’s view that torture is a bad thing that continues to be all too frequent in our world, and preferably to act to change this state of affairs. But why is the “fact” about torture stated as a number, and not a statement that “torture is bad and there is still too much of it going on”, or more neutrally that “torture is far from being a thing of the past”? More broadly, in an ever increasing set of areas in the modern world, we are encouraged to base our decisions and policy choices on evidence, and the evidence consists of facts that, predominantly, are made up of numbers.

As a statistician, perhaps I should rejoice at this tendency. If nothing else, it keeps me in a job. But I am still interested in exploring its roots. In mediaeval times, scholars were interested in numbers; “How many angels can dance on the head of a pin?” is the archetypal example of one kind of numerical question from those times. But numbers did not dominate discourse in the way they sometimes do today. Rhetoric, and appeal to learned and religious authority, were much more prevalent.

An important and influential book that can help us in our understanding of what a “fact” is and how this has changed over time is Mary Poovey’s A History of the Modern Fact (Poovey, 1998). Poovey is a literary critic and cultural historian, a professor of humanities at New York University, attached to the Institute for the History of the Production of Knowledge and the Department of English. Her book explores how the fact became the most favoured unit of knowledge in modern times, and how description (in the shape of “facts”) came to seem separable from theory in the precursors of economics and the social sciences.

Poovey’s history is wide-ranging in time and in emphasis. She begins with the development of double-entry bookkeeping at the end of the
fifteenth century, including a detailed analysis of one of the first works on the subject published in English (in 1588). She then moves on, through a discussion of aspects of the work of Francis Bacon and Thomas Hobbes (among others), to an analysis of the way in which William Petty developed new ways of reasoning “by mixing Baconian induction and Hobbesian deduction” (Poovey, 1998, p. xviii) in beginning the development of new disciplines of political reasoning. To oversimplify, the method that Petty, writing in the second half of the seventeenth century, called “political arithmetic” explicitly sought to base political discourse on numbers and measurements, which Petty sought to promote as a more impartial way to approach political questions than the tools of rhetoric and theoretical disputes that had been prominent in the period before the English Civil War (1642–1651).

The book then moves on to consider how the essentially theoretical science of political economy, as codified in Adam Smith’s The Wealth of Nations (1776), could have been linked to, and indeed to some extent could have grown out of, Petty’s explicitly antitheoretical political arithmetic. Poovey argues that the link is via Scottish moral philosophy, discussing the work of David Hume, as well as that of lesser-known eighteenth-century philosophers (Francis Hutcheson and George Turnbull), who were among the first to clearly outline the role that theory plays in the process of producing systematic knowledge from a series of observations, that is, in the problem of induction. Poovey argues that Adam Smith, though the theoretical nature of his work is prima facie at odds with Petty’s approach, nevertheless uses numerical information (or, more accurately, numerical arguments) to lend impartiality to his theories, and conversely also explicitly makes the point that, in order to make use of numerical information, there must be theory. (The initial question “How can one use the numerical information that already exists?” is, according to Poovey (1998, p.243), transformed to “What kind of epistemological instrument can produce numerical information that will make what is otherwise invisible appear?”, that is, from an apparently practical question to a theoretical one.)

Poovey then moves on to three early nineteenth-century writers on questions of wealth and political economy: Dugald Stewart, Thomas Malthus (in the context of whose work Poovey explores how it came to be seen as appropriate to quantify concepts like happiness and value), and J.R. McCulloch. McCulloch, writing in 1825, created “a taxonomy of knowledge, in which two groups of professionals—political economists and politicians (or political scientists)—would be charged with producing systematic knowledge, while another, less prestigious group of professionals—statisticians—would gather raw data” (Poovey, 1998, xxiv). The book concludes with a further analysis of this approach, drawing on discussion of the work of the early nineteenth century philosophers John Herschel and John Stuart Mill, as well as considering the early stages of the institutionalization of statistics. McCulloch’s view of the work of statisticians as producing value-free data for others to theorise about was made explicit at the foundation of the Statistical Society of London (which later became the Royal Statistical Society) in 1834, and is still evident today in the Society’s seal — a sheaf of wheat encircled by the motto aliis exterendum (usually translated as “to be threshed out by others”, though cases for other interpretations have been put forward). But this view came under strong attack almost as soon as it emerged. A subeditor of the radical London and Westminster Review, G. Robertson, wrote in 1838 in a review of the Transactions of the Statistical Society of London, “There is an ambiguity in the word facts which enables the council to pass off a most mischievous fallacy: it either means evidences or it means anything which exists. The fact, the thing as it is without relation to anything else, is a matter of no importance or concern whatever: its relation to what it evinces, the fact viewed as evidence, is alone important.” (Robertson, 1838, quoted by Poovey, 1998, p.316.)

What is Poovey’s conclusion from this enormously wide-ranging exploration? In a sense, she explicitly argues that it is the journey rather
than any clear conclusion that is most important. Right at the beginning of the first chapter (Poovey, 1998, p.1):

“What are facts? Are they incontrovertible data that simply demonstrate what is true? Or are they bits of evidence marshaled to persuade others of the theory one sets out with? Do facts somehow exist in the world like pebbles, waiting to be picked up? Or are they manufactured and thus informed by all the social and person factors that go with every act of human creation? Are facts beyond interpretation? Or are they the very stuff of interpretation its symptomatic incarnation instead of the place where it begins?

“In this book I do not so much answer these questions as show that they can be raised—and answered in either of the two ways that my paired questions imply—because of the peculiar role facts have been assigned in the epistemology we associate with modernity.”

On reading the book, it seems plain to this reader at least that Poovey’s own sympathies are generally with the second in each of her pairs of questions, with the quotation from Robertson above rather than the views of McCulloch and the early Statistical Society of London. She makes a point of explaining that the development of double-entry bookkeeping was not intended by its inventors to produce a helpful but value-free description of some pre-existing external financial reality, and that Petty’s striving to emphasis the disinterestedness of numerical information was necessary for the acceptance of his views, because his conclusions from the information directly supported his own interest in his estates in Ireland. However, right at the end of the book, Poovey makes a very brief excursion into the realm of postmodern thought, concluding that “postmodernism and the postmodern fact simply set aside the problem of induction” (Poovey, 1998, p.328). Perhaps this is going too far beyond her carefully supported arguments in all the previous pages, but even if one agrees with her, her view must still surely prevail that it is nevertheless important to consider how we got here from there. And the very ambiguity expressed in the pairs of questions is in itself, perhaps, an important reason for the marshalling of numerical facts as a kind of rhetoric, as exemplified in Williams’ 50 facts and in so much recent political discourse. The numbers, as facts, lend an air of impartiality and authority. On the other hand, it is perfectly evident that the numbers are not an arbitrary set of pebbles but were produced and disseminated for specific purposes within specific contexts. Is it any wonder that some people react to this by branding all numerical evidence as “lies, damned lies…”? Poovey helps us to understand this dilemma by investigating its historical and intellectual development.

A History of the Modern Fact is not an easy read, at any rate not for this statistician. The density and depth of the intellectual arguments unavoidably rule it out as light bedtime reading. But it is worth the effort. The book is beautifully written, its wide-ranging intellectual analysis is a tour de force, and many of the historical and philosophical insights are attractive and compelling. It has helped me immeasurably in understanding the roots of why I do what I do, and in making sense of what is useful and what is perhaps not so useful in my everyday work as a statistician. Although it is certainly not just a book about numbers, if you work as a statistician or an economist, or in any related numerical discipline, you should read it.

References

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University. He taught at the University of London and worked in local government before taking up an academic position at the Open University in 1980, where he has developed distance teaching courses and texts in statistics, quantitative methodology and health sciences. His research interests include ecology and evolution, banking and health service management as well as statistical theory. He has made regular contributions to BBC Radio discussions on statistical aspects of current affairs.