The Triumph of Numbers

How counting shaped the modern life

I.B.Cohen

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Numbers are everywhere, no doubt much to the horror of the numerically challenged. Could anything be more factual than numbers, in spite of their supposedly elusive abstractness, as being neither here nor there, yet bestowing on the mundane world of everyday thing an inescapable label, allowing them to be haplessly manipulated. On matters of opinions people differ, leading to endless quibbles and strifes; but when it comes to numbers people will eventually agree, as everything is reduced to simple rules no one could possibly doubt and hence conclusions are forced. This already Socrates reminded his student T. Facts, facts, give me the facts, this is the cry of the individual, exasperated by mere opinion, once things are translated to numbers, objective and indutible truths will emerge. This numerical reduction, this idea that everything, even human wishes and apsirations, can be reduced to numerical manipulations is, however, reprehensible to many. Partly because they do not understand it, partly because they understand it too well. There is a certain transparency to numerical manipulation, and with transparency comes a sense of void.

Cohen is a historian if science having written extensively on the scientific Revolution of the 17th century. But his subject this time is quantification, not in the hard world of physical science, but in the softer one of social science. While the former can be structured along simple universal laws, out of which the most complicated phenomena (say the position of celestial bodies) can be shown as the inexorable consequences of computation; such laws do not hold in the world of men, only statistcal. And the book is consequently about statistics, the systematic compilations of all kinds of quantifications. The heroes are not Newton, Galileo and Gauss (of which the Gauss is hardly mentioned) but Thomas Jefferson, Benjamin Franklin and the Belgian statistician Adolph Quetelet. The subject is vast, and the limitations of space makes anything but a cursory treatment possible. Yet with such severe restraints it is remarkable that so much trivial and irrelevant material of digressional nature has been allowed inclusion. I am in particular refering to the three page discussion of judge Woolsey and the lifting of the ban on Joyce Ulysses that starts out chapter seven. This book must not have been seen by any editor, a suspicion that is reinforced by the needless repetions of 'he wrote to Villermé in 1832' on the bottom of page 130, a passage that furthermore is repeated verbatim on top of page 155. The author has obviously availed himself of cutting and pasting. In adsition there are inaccuracies such as Dickens being in his late twenties in the early 1830's. Such flaws are the results of sloppiness, the writers as well as the (non-existant) editors, and could have easily been rectified, more serious are more structural shortcomings.

The book is obviously intended for the general reader, thus its main purpose is to divert and never challenge. One surmises that the author has written with the censor continually looking over his shoulder. Thus we are told a few things about Laplace (that he should

have been the foremost mathematician since Newton is a contentious statement in view of the hard competition by such luminaries as Euler and Lagrange) and Condorcet, but not in any way what they contributed. As it is, it would have been far better not to mention them at all. This is typical, whenever something interesting is about to be explored, such as the problem of proportional congressional representation which faced the founding fathers, the author backs off. True space is limited, but as noted before, the book contains so much periheral and irrelevant material anyway so a careful editing would have provided lots of opportunities to go into some depths. But the reader is supposed to be only entertained, and the author talks down to him. But what is worse the level of sophistication of the writer, in spite of his elevated status as a Harvard professor, seems not much higher than the public is is expected to cater to. To a professional mathematician it is especially irksome to have some simple facility with numbers repeatedly refered to as mathematical talent. What the author does is actually to confirm vulgar conception of mathematics as number crunching and statistical quantification, and what is even more surprising is that the author seems to share those prejudices himself, at least partially.

Anyway setting aside such professional quibbles the book is bound to contain some interesting information, strange it would be otherwise, for a historian of science, with a career at least spanning sixty years. Many of the figures he presented I had never heard of, especially Quetelet, and I never knew of the passionate interest of Florence Nightingale for statistical investigation and visual presentation of the same. Former attempts at calculating populations and arable lands are also fascinating, and belong to the most succesful parts of the book, where it rises from merely supplying a diversion to becoming instructive. Some of the claims he makes I found questionable. He attributes to Guerry and Quetelet the observation of regularity of large numbers as to human activities such as various crimes committed and marriages performed, which inspired speculations as to free will. But such awareness of statistical trends was already commented upon by Kant fifty years earlier in connection with an essay on history.

There certainly is a need for books of this kind for the general public. A truly good book could be written and read at many levels. A tighter structure and a more thoughtful selection of topics along with a firmer sense of philosophy would have led to a vast improvement. As it is there is too much dead meat, too haphazard a selection, no red threads, and too few instructive passages. Yes people are lazy and want to be entertained, but they are also curious and most enjoy deductive arguments if not too long. And finally a popular book on science has certain obligations, maybe the most important is to widen the reades mind and challenge his preconceptions, not to indulge them.

February 10, 2007 **Ulf Persson:** *Prof.em, Chalmers U.of Tech., Göteborg Sweden* ulfp@chalmers.se