

History 195E: Measuring the World
Ted Porter
Fall 2003

In the great age of quantitative history, from about 1950 to 1975, historians were fervent practitioners of measurement. There is less of that now (though historical statistics remain important). Meanwhile, historians have numbers and measures as objects of history, and no longer only as tools. “The world is ruled by numbers,” as an ancient slogan had it (Mundum numeri regunt). But the modern age, much more than the ancient one, is really defined in part by its quantifying practices. They are indispensable, of course, in science and technology, but they now have a role in almost everything we do. We often attribute to them a special kind of objectivity, though we may also hate them for being so crude and impersonal (which is really the other face of objectivity). Without them, our lives and our world would be very different.

This class is concerned with evolving practices of counting, measuring, and calculating in the West since the Middle Ages. It is not mainly a technical history, but a cultural and intellectual one. The Jewish and Christian Bible associates measures with fairness and justice. For the Renaissance, numerical precision was associated more closely with astrology, which aimed to predict, than with astronomy, which tried to explain. In medieval business records, and in modern experimental work, numbers signify conscientious practice, and precision has come to define a standard of competence. From ancient times, but especially since about 1750, economic and population numbers have been used intensely to administer the world, and ever since they have been as important for social science as for physics or chemistry. In modern times, censuses are used in the United States to allocate political power. Numerical scores like SATs regulate entry to universities (although the statistics of ethnicity are cited to challenge them). Health policy and medical practice have become inseparable from population numbers and statistical tests of medical efficacy. Cost-benefit ratios and risk assessments are used to make decisions on public works and health regulations, and the accountant’s “bottom line” is used as a metaphor for what really matters, after all the distractions have been eliminated.

In short, the power of numbers and measures is one of the defining features of modern times. But how did they acquire such importance? Because their history is so little known, most of us tend to regard them as natural and inevitable. Perhaps we think they are synonymous with science and rationality; perhaps we fear or loathe them. This course aims to historicize measurement and statistics, by examining the circumstances and ambitions that brought new quantitative ideals into being, and the implications of their use. We will see that numbers are about power as well as knowledge, about society as well as nature and technology.

The course meets twice each week. The scheduled course time will be a mix of lecture and discussion. Regular attendance at lectures is expected. You are expected to complete the course readings in advance of the class session for which they are scheduled and to participate in discussions. You may be asked on occasion to make a few brief presentations to the class, or a minute or two, on some topic from the reading.

Grades will be determined as follows (quantitatively):

Class participation and presentations	15%
Essays (2), total of 8-10 pages, 20% + 25%	45%
Final examination (take-home essays)	40%

[Anyone who would prefer to write a research paper in place of the final examination should discuss this option with me early in the quarter].

Books for Purchase

Alfred Crosby, The Measure of Reality: Quantification and Western Society, 1250-1600 (Cambridge University Press)

Andro Linklater, Measuring America: How an Untamed Wilderness Shaped the United States and Fulfilled the Promise of Democracy (Walker)

Ken Alder, The Measure of All Things: The Seven-Year Odyssey and Hidden Error That Transformed the World (Basic)

Stephen Jay Gould, The Mismeasure of Man (Norton)

Theodore M. Porter, Trust in Numbers: The Pursuit of Objectivity in Science and Public Life (Princeton University Press).

Lectures and Readings

1 (29 Sept.-1 Oct.). Introduction: why measure? (and why study its history?)

2 (6-8 Oct.). Merchant arithmetic

Reading: Crosby, Measure of Reality, 1-126

3. (13-15 Oct.) Measurement in science: astronomy and astrology

Reading: Crosby, Measure of Reality, 126-240

First assignment due, 20 October. Book review of Crosby, The Measure of Reality (your review should be about 1000 words, 3-4 pages, 20% of grade).

4. (20-22 Oct.) Traditional and rational measures.

Reading: Linklater, Measuring America, 1-132

5 (27-29 Oct.) Histories of statistics (1): counting up people

Reading: Linklater, Measuring America (133-263)

6. (3-5 Nov.) Measurement and revolution: the metric system

Reading: Alder, The World's Measure, 1-180

7. (10-12 Nov.) Histories of statistics (2) Biometry and eugenics

Reading: Alder, The World's Measure 181-350

Second assignment, due 17 November. On the basis of what you know about the French and American cases, write an essay of about 1500 words (5 pages) on the politics of measurement systems. Among the issues you should consider is why the metric system succeeded in France and failed in America. (25 % of grade)

8. (17-19 Nov.) Measuring minds and bodies

Reading: Gould, Mismeasure, 73-112, 146-233.

9. (24-26 Nov.) Economies and accounts: cost-benefit analysis

Reading from Porter, Trust in Numbers, 3-8, 87-190.

10. (1-3 Dec.) Measurement, trust, and objectivity

Reading from Porter, Trust in Numbers, 73-85, 217-231

Take-home final exam, due 10 December (40% of grade).

Basic Reference Resources

Orion is the catalogue of the UCLA library, an outstanding library; Melvyl catalogues the resources of all UC campuses. For a still more complete list use the Melvyl database "Worldcat;" for articles and reviews use the database "Current Contents."

Some related books:

Frank Swetz, Capitalism and Arithmetic: The New Math of the 15th Century

Andrea Rusnock, Vital Accounts: Quantifying Health and Population in 18th Century ...

Patricia Cline Cohen, A Calculating People: The Spread of Numeracy in Early America

Margo Anderson, The American Census: A Social History

Theodore Porter, The Rise of Statistical Thinking, 1820-1900

Ian Hacking, The Taming of Chance

Alain Desrosières, The Politics of Large Numbers

Stephen Stigler, The History of Statistics: The Measurement of Uncertainty before 1900

Mary Morgan, The History of Econometric Ideas

Kurt Danziger, Constructing the Subject: Historical Origins of Psychological Research

Harry Marks, The Progress of Experiment: Science and Therapeutic Reform in the U.S.

J. Adam Tooze, Statistics and the German State, 1900-1945

Theodore M. Porter, Karl Pearson: The Scientific Life in a Statistical Age (coming soon!)