

communications conglomerates to serve the public interest is quite misplaced in the light of studies such as Armand Mattelart's *Multinational Corporations and the Control of Culture* (1979).

Pool's work is valuable not only for communications policy analysts who need to keep an open mind on the so-called Information Revolution, but also for archivists who need to be aware of how the surviving traces of human communication are likely to change in the coming decades. But his general prescription is ill-suited to cure Canada's communications ills. Pool does not acknowledge the possibility that one can have a strong belief in freedom of the press and yet still believe quite logically in the necessity of public participation in the process of determining the nature of our communications environment. He more or less equates freedom of the press with the absence of regulation and assumes that this is a prerequisite for the unrestrained progress of communications technology. Were Canadians to adopt any such philosophy, they would, in effect, be relinquishing control not simply to private enterprise, but to American communications interests.

Ross Eaman
School of Journalism
Carleton University

A Calculating People: The Spread of Numeracy in Early America. PATRICIA CLINE COHEN. Chicago: University of Chicago Press, 1982. 271 p. ISBN 0-226-11283-7 \$22.50.

Statistics are such an integral part of information that some effort is required to note that they have not always been so. Patricia Cline Cohen easily overcomes that problem in her study of the development and spread of arithmetical skills and statistical knowledge in the United States between the seventeenth and mid-nineteenth centuries. Cohen follows the history of "numeracy" through the creation of the British censuses of America, collection of mortality and disease statistics in New England, development of early education in arithmetic, and the federal government's acquisition of statistical information through the first decennial census. She concentrates on how statistics used in the formulation of public policy affected perceptions of social reality. Cohen begins with a discussion of the rising use of statistical measurement in the seventeenth century to define the physical world. Accurate measurement of physical phenomena enabled science to reveal that the laws of physics and biology governed a world once considered the exclusive realm of divine will. In the early 1760s, British "numerists" like Sir William Petty, a navigator, mathematician, and former Surveyor General of Ireland, suggested that statistics could bring the same scientific objectivity to social and political problems. In *Political Arithmetick*, Petty argued that information grounded in "Number, Weight, and Measure" would end futile conflicts fueled by the "Mutable Minds, Opinions, Appetites and Passions of particular Men." This fatally simple idea inspired many numerists.

Cohen reaches her most interesting conclusions in the chapters on the social and philosophical impact of numeracy. In her discussion of mortality statistics collected in New England during the eighteenth century, she notes a fundamental shift in perceptions of health problems. Numerists discovered trends in their statistics which

led them to believe that medical and public health reforms could actually lower the death rate. When Cotton Mather used statistics to defend the practice of inoculation to combat the Boston smallpox epidemic of 1721, disease became less an expression of divine vengeance on a sinful people and more a question of social policy. Human intervention was not only possible but morally justified. Complex social problems were clearly subject to quantification, analysis, and human remedy.

Statistics could only be significant in a society whose members shared at least a minimum degree of proficiency in arithmetic. Advocates of arithmetic in education persuaded political and educational authorities during the early nineteenth century that numbers played an important role in the development of human intelligence. By the 1830s the social importance of arithmetic was confirmed by its secure place on school curricula. And arithmetic had indeed arrived when educators argued that it should not be taught to women because they lacked the required mental discipline.

Early numerists had an unshakable faith in their statistics; few paid attention to the biases shaping their collection of information. Cohen, however, discusses the immense problems early statisticians had with collection of information, development of valid categories of analysis, and intelligent interpretation of column after column of figures. The results of their work always fell far short of Sir William Petty's *terra firma* of scientific objectivity. Their problems are nowhere more evident than in the turbulent history of statistics and the state. In trying to determine how much information the American government really needed and the purpose the information would serve, politicians displayed the very appetites and passions the early numerists had hoped to avoid. The hotly-contested results of the federal census of 1840 marked the end of innocence in statistical matters for many Americans. The figures seemed to indicate, for example, that there was a higher rate of insanity among free blacks in the northern states than among southern slaves. Opponents of abolition were quick to argue that the census proved that slaves were not suited for freedom. Something had clearly gone wrong. The investigations that followed revealed a multitude of errors in the census. The problems with the 1840 census did not prompt questions about the place of statistics in political and social affairs; they simply pointed to the need for more reliable methods of collecting them. The foundation of the American Statistical Association in 1839 began to provide statisticians with the professional standards needed to prevent similar disasters.

A Calculating People does not examine the relationship between statistics and the growth of the commercial and industrial sectors of the nineteenth-century American economy. Contemporary observers linked the spread of quantification quite closely with the needs of expanding commerce. Absence of detailed exploration of their perception leaves a major gap in Cohen's study. Despite that criticism, *A Calculating People* can be read with interest by social historians using statistical information and archivists responsible for statistical records. Cohen is not the first to warn that historical statistics have weaknesses and gaps; she is, however, one of the few who have broadened our understanding of their strengths and deficiencies by showing how particular historical circumstances shaped their creation and use.

Peter DeLottinville
Manuscript Division
Public Archives of Canada