A History of
Data Visualization &
Graphic Communication

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A History of Data Visualization and Graphic Communication

Michael Friendly and Howard Wainer

"Friendly and Wainer demonstrate the amazing progress that has been made in data graphics over the past two hundred years. Understanding this history—where graphs came from and how they developed—will be valuable as we move forward."

—Andrew Gelman, coauthor of *Regression and Other Stories*

With complex information everywhere, graphics have become indispensable to our daily lives. Navigation apps show real-time, interactive traffic data. Charts communicate stock market trends, government spending, and the dangers of epidemics. *A History of Data Visualization and Graphic Communication* tells the story of how graphics left the exclusive confines of scientific research and became ubiquitous. As data visualization spread, it changed the way we think.

Michael Friendly and Howard Wainer take us back to the beginnings of graphic communication in the mid-seventeenth century, when the Dutch cartographer Michael Florent van Langren created the first chart of statistical data, which showed estimates of the distance from Rome to Toledo. By 1786 William Playfair had invented the line graph and bar chart to explain trade imports and exports. In the nineteenth century, the "golden age" of data display, graphics found new uses in tracking disease outbreaks and understanding social issues. Friendly and Wainer make the case that the explosion in graphical communication both reinforced and was advanced by a cognitive revolution: visual thinking. Across disciplines, people realized that information could be conveyed more effectively by visual displays than by words or tables of numbers.

Through stories and illustrations, *A History of Data Visualization and Graphic Communication* details the 400-year evolution of an intellectual framework that has become essential to both science and society at large.

Michael Friendly is Professor of Psychology, founding chair of the Quantitative Methods area, and coordinator of the Statistical Consulting Service at York University. He is a fellow of the American Statistical Association. **Howard Wainer** has been a columnist for the statistical magazine *Chance* since 1990. A fellow of the American Statistical Association and the American Educational Research Association, he has been honored with the Psychometric Society's Lifetime Achievement Award and the 2021 ASA Statistical Computing and Graphics Award.