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★**Classic topics on the history of modern mathematical statistics.**
From Laplace to more recent times.
John Wiley &Sons, Inc., Hoboken, NJ, 2016. *xxi*+754 *pp. ISBN* 978-1-119-12792-5

The book under review is a comprehensive account of the mathematical concepts central to what is now known as "parametric statistical inference". The nearly 800-page volume is well written and extensively footnoted. It would be impossible in even a long review to do justice to the range of topics it discusses—and not useful to make minor quibbles with historical interpretations. Suffice it to say that the book will be of great value to working mathematical statisticians interested in important episodes from the discipline's past.

Gorroochurn, in the biostatistics department in Columbia's School of Public Health, frames his book less as a narrative to be read and more as an encyclopedia to be consulted. It is easy to find topics of interest, or a specific person or paper, and then find oneself quickly connected to other facets of the topic. The text explicitly builds on his previous work, *Classic problems of probability* [Wiley, Hoboken, NJ; MR2976816], from 2012, and is divided into three sections—first, the work of Laplace, Gauss, and colleagues, second, research from Galton to Fisher, and third, post-Fisherian developments in statistical inference (including the "Bayesian Revival"). His book is far more focused on the work of R. A. Fisher—and unabashedly so—than most other technical treatments of the history of mathematical statistics; the author wants to emphasize the decisive influence of Fisher on inferential practices, despite his many critics over the years.

Nearly every section proceeds the same way. First, Gorroochurn gives a very brief introduction to the person and his working life, and then proceeds paper-by-paper, or concept-by-concept, through the author's contributions to statistical inference. Each important theorem is followed by a proof in modern notation, to give a sense of the way in which results were originally derived. Long quotations from original sources are also provided, helpfully giving a sense of the original author's style.

The book is written mainly for statisticians, and more for research statisticians than those who happen to deploy statistical analysis in their work. Though he is often careful to note deviations in style or notation from the original, he makes no apologies for translating derivations into modern notation. (This is obviously less of an issue as the text moves closer to the present.) Images of the original texts are provided more for visual interest than for deep historical analysis—with the pre-1880 sections in particular, the volume takes liberties with the way original sources portrayed the mathematical derivations. Nevertheless, for those familiar with these modern concepts, the book provides a deep analysis not just of how they were originally conceived, but also about other possible trajectories the field might have taken.

Historians, by the same account, will find the book of less use—other than as an encyclopedic guide to specific articles and derivations—than existing historical accounts of Stigler, Daston, Porter, and others. In particular, historians will find that this volume does not replace the need to consult the original work. The exception would be the material on post-Fisherian inference, for which this is essentially the first major treatment. Historians may lament not just that the notation has been changed in some circumstances, but also that the change isn't simply one of convenience, but one of

trying to express historical concepts in modern terms. That is the stated interest of the author—modern mathematical statistics—but historians would likely be looking for far more contextual and historical information, especially information about change over time. This is certainly not the place to find the history of statistics as a broader mode of inquiry. Tellingly, the association with eugenics of so many of the statisticians discussed—and its justification of their research—receives barely a mention. (Another decision indicative of the author's approach to history is to refer to William Gossett by his nom de plume "student" instead of his real name for most of the book—humans are essentially treated as indistinguishable from their published papers.)

In addition to providing the mathematical background of so many classic topics in inference, the volume is also useful for its careful and extensive citations of existing scholarly work. In this sense, it functions as an introduction to statistics in history. That is, at least for readers who wish to begin with the mathematical details and move outward to their intellectual and historical contexts. Though certainly not the only volume one would want to consult about the history of mathematical inference, it is a solid place for technically inclined readers to start. *Christopher J. Phillips*