

In This Issue

INDUSTRIAL STATISTICS

What is the current status of industrial statistics? In a provocative essay and book review, David Banks finds much to support and more to criticize. He puts Total Quality Management in its historical context and assesses the content behind its mystique. He also comments on the use in industrial settings of long-standing statistical methods (such as control charts) and more contemporary ones (such as nonparametric regression). With this background, Banks reviews five books while discussing how we should prepare students for statistical work in industry. Commentary on the article is provided by Avital Cnaan, Diane E. Duffy, Gerald J. Hahn, Robert V. Hogg, Vijayan N. Nair and Daryl Pregibon, T. J. Orchard, G. K. Robinson, William H. Woodall, C. F. J. Wu and H. P. Wynn.

GAMBLING AND THE EMERGENCE OF PROBABILITY

It is often said that probability had its origins in games of chance. In his paper here, David Bellhouse begins by questioning such statements. He then examines the literature on gambling from the early 1500s to the mid-1700s, a period that surrounds the time during which probability emerged. Bellhouse shows that elementary probability had a substantial impact on gambling but, from that literature, he finds little evidence that gambling stimulated the development of probability theory.

UTILITY AND MEANS IN THE THIRTIES

Both Daniel Bernoulli and Laplace considered alternative definitions of means (such as arithmetic or geometric means), which Muliere and Parmigiani in their article connect with what we would now call rational decision making. After a long hiatus, during the 1920s and 1930s

several authors again took up the question of how to define a mean. These investigations were conducted separately from, but concurrently with, the development of utility theory. Muliere and Parmigiani discuss the links between these two fundamental endeavors.

QUANTUM STATISTICAL INFERENCE

Statisticians and probabilists who have wanted an entry into the literature on quantum mechanics will be aided by the article by James Malley and John Hornstein. These authors review an area they call "quantum statistical inference," which comprises a body of techniques that allow inference to proceed while taking account of quantum-mechanical effects. Malley and Hornstein argue that experimental data in which quantum effects are important should be analyzed by the methods they outline.

WILFRID DIXON

In an interview conducted by Nancy Flournoy, Wilfrid Dixon surveys his life as an applied statistician. After obtaining his Ph.D. from Princeton in 1944 under Samuel Wilks, circumstances led him to UCLA in 1955 where, among other things, he founded BMDP statistical software and became an early leader in professional activities surrounding statistical computing. In between he taught at the University of Oregon and wrote an enormously successful elementary textbook on statistics, one of the first of its kind. In recounting his history, Dixon describes his involvement in, and contributions to, several major medical projects. He also emphasizes the value to theorists of working on applications and the dangers of excessive influence from mathematics departments on the development of statistics.

Robert E. Kass