Book Review

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Lin, X., Genest, C., Banks, D., Molenberghs, G., Scott, D., and Wang, J. *Past, Present, and Future of Statistical Science*. 2014. Boca Raton, FL: CRC Press. ISBN 9781482204964, 646 pp., £47.59.

This volume was commissioned by the *Committee of Presidents of Statistical Societies (COPSS)* (the societies are the American Statistical Association, the Institute of Mathematical Statistics, the Statistical Society of Canada, and the Eastern and Western North American Regions of the International Biometric Society) to celebrate the Committee's 50th anniversary and the International Year of Statistics. It is a celebration of statistical science – its past, its people, and its influence on important issues of our time. It is a book of reflections and personal stories that provide insight into these past developments and the role of statisticians within the broader science community. The book contains 52 essays in which the authors speak personally about their interests, their career decisions, the barriers they faced, and their passion for their chosen field. The contributors are award winners, having received one or more of the prestigious awards sponsored by COPSS (the awards are the R. A. Fisher Lectureship, the Presidents' Award, the George W. Snedecor Award, the Elizabeth L. Scott Award, and the F. N. David Award). The preface presents the purpose behind the volume's construction: "through the contributions of a distinguished group of statisticians, this volume aims to showcase the breadth and vibrancy of statistics, to describe current challenges and new opportunities, to highlight the exciting future of statistical science, and to provide guidance for future generations of statisticians" (p. xvii). They have succeeded.

Who should read this book? I would include anyone opening a copy of the *Journal of Official Statistics* among the target readership. This is a collection of essays that is meant to be read in a nonlinear fashion. Each essay is personal – imparting some knowledge from the past and providing inspiration. Each is short and enjoyable to read. Many of the essays are directed at young researchers. This volume would thus be of particular interest to those younger individuals and of use to their educators and mentors – those individuals who are helping develop the next generation of statisticians. Others will read the essays, smile and remember their own journeys. The essays provide important and very personal links to our past as a profession. They also provide a sense of enthusiasm for working in our profession and tackling challenges and solving problems that can have real impact on society.

The book is divided into five parts. The first part is a brief overview of the 50-year history of COPSS. It provides an appropriate introduction to the overall volume, though in itself it is not exciting reading. However, I found the tables listing all recipients of the five

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aforementioned awards interesting. For example, the R. A. Fisher Lectureship was first awarded in 1964 to Maurice S. Bartlett, whose lecture was entitled *R. A. Fisher and the Last Fifty Years of Statistical Methodology*. Florence N. David was the first recipient (1992) of the Elizabeth L. Scott Award, and a separate award in David's name was later created in 2001.

Part II, *Reminiscences and Personal Reflections on Career Paths*, tells personal stories of the various paths that brought these individuals from different backgrounds to a passionate pursuit of statistics. Brogan says that her "educational and career paths had twists and turns and were not planned in advance, but an underlying theme throughout was my strong interest and ability in mathematics and statistics" (p. 73). Lindsay confides: "I must confess that at this time I was still a long ways from being a fan of statistics. It seemed like a messy version of mathematics constructed from a variety of disconnected black boxes . . . but the seeds of change had been planted in me" (p. 85). And there were barriers. Shaffer reflects on her high-school preparation, saying: "I wanted to take four years of mathematics, but that turned out to be a problem . . . boys were automatically enrolled in mathematics in the first semester of 9th grade, and girls in a language of their choice" (p. 50).

Part III, *Perspectives on the Field and Profession*, provides insight into such things as the impact of statistical science on society and the role of statisticians in the interplay between statistics and science. Fienberg talks about the role of the statistician "in service to the nation" and the importance of practical problems. He advises readers, especially students and junior faculty, "to get engaged in the kinds of problems I'll describe, both because I'm sure you will find them interesting and also because they may lead to your own professional development and advancement" (p. 142). Hall discusses the beginnings of computer-intensive statistics, which started about the same time as his involvement in statistical research. Lin emphasizes the importance of collaboration within the science community, saying: "I appreciate more and more to be a scientist first and then a statistician . . . [and to] closely collaborate with subject-matter scientists" (p. 192).

Part IV, *Reflections on the Discipline*, contains 24 essays that collectively cover many important past developments in statistics along with challenges and opportunities into the future. For example, Berger discusses the importance of conditioning in statistics. Dunson reflects on the "past, present, and future of nonparametric Bayesian statistics . . . on the landscape, open problems and promising directions in modern big data applications" (p. 281). Prentice discusses contributions that the statistics discipline has made, and continues to make, in the area of public health research. In the shadow of the recent financial crisis, Lai discussed statistics in the new era of finance.

Part V, *Advice for the Next Generation*, provides examples of inspiration, points to the importance of working in collaboration with others, getting published, and ends with "thirteen rules for giving a really bad talk."

In summary, *Past, Present, and Future of Statistical Science* is an excellent volume that helps us connect both to our roots and our future. The essays are independent of one another and can be read in any order. It is easy to pick up the volume, select an essay, and enjoy 20 minutes of reflection. Lindsey opines on the importance of such reflection: "one aspect of academic life that has been frustrating to me is its ruthless vitality, always rushing forward, often ending up looking like a garden sadly in need of weeding. I wish there were more reflection, more respect for the past" (p. 84). This volume assists with that reflection.