

B -sufficiency and B -ancillarity corresponding to the usual concepts. Several reprinted talks with accompanying discussions on these subjects have appeared lately. One, by the author, is in *J. Roy. Statist. Soc. Ser. B* **38**(1976) no. 2, 103–131 and the others in which he participated can be found by consulting the *Math. Rev. Indices* which list discussants as well as authors.

A short middle section gives some special mathematical results and leads to the final part on exponential families. There the regular theory of exponential families is developed and a number of examples are given. The existence and uniqueness of maximum likelihood and maximum plausibility estimates is discussed as is prediction by both methods for these families. The final chapter then deals with the existence and character of sufficient and ancillary statistics for exponential families.

The mathematical and statistical prerequisites for the book are modest and most of the proofs are pretty straightforward. A little measure theory and a standard senior statistics course should suffice. This does not mean, unfortunately, that the book is easy to read. The ratio of definitions to theorems is very high as is common in this subject. This makes for a lot of cases in which it is easier to follow the proof than it is to figure out what the theorem really says. This is mainly a problem of attention span (the reviewer's is somewhat below average) but is a problem.

On the positive side, the author provides many good examples, i.e. examples which are relevant to current statistical practice while also illustrating the points involved. Each chapter contains a complements section and a notes section which between them tell a great deal about who did what, how it could be generalized, and who did it differently. All in all, an interesting book for the specialist but a little heavy going for the general mathematical public.

T. S. PITCHER

BULLETIN (New Series) OF THE
AMERICAN MATHEMATICAL SOCIETY
Volume 1, Number 4, July 1979
© 1979 American Mathematical Society
0002-9904/79/0000-0312/\$03.00

The collected works of Harold Davenport, edited by B. J. Birch, H. Halberstam, and C. A. Rogers, Volumes I, II, III, and IV, Academic Press, London, New York, San Francisco, 1977, xxxiii + 1910 pp., \$30.35, \$29.35, \$34.25, \$20.35.

The *Collected Works of Harold Davenport* fill four handsome volumes. Three photographs and the facsimile of a handwritten page form the frontispieces.

Almost a decade has passed since Davenport died, but few people realize that, in part, perhaps, because some of his work continued to appear as late as 1975.

As one starts browsing through the almost 2000 pages, one of the first impressions is that of an unusual fluency of the exposition not only in English, but also in German and French. When one then looks at the frontispieces one remembers the man (most of us will remember him like the photos of volumes 3 and 4) and recognizes his handwriting (at least this