volumes range from Feynman's three, to Arnold Sommerfeld's seven, to Landau's and Lifschitz's at least ten. Let us hope that this volume, with its incisive vision of the unity of mathematics, will initiate a similar fashion in the mathematical community. I believe such book writing is long overdue.

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Extremes and related properties of random sequences and processes, by M. R. Leadbetter, Georg Lindgren and Holger Rootzen, Springer Series in Statistics, Springer-Verlag, New York, Heidelberg, Berlin, 1983, xxi + 336 pp., $36.00. ISBN 0-387-90731-9

The classical theory of extreme values of probability theory deals with the asymptotic distribution theory of the maxima and the minima of independent and identically distributed (i.i.d.) random variables. That is, let $X_1, X_2, \ldots, X_n$ be i.i.d. random variables with common distribution function $F(x)$. Put $W_n = \min(X_1, X_2, \ldots, X_n)$ and $Z_n = \max(X_1, X_2, \ldots, X_n)$. Then the distribution functions of W_n and Z_n satisfy

$$L_n(x) = P(W_n \leqslant x) = 1 - [1 - F(x)]^n$$

and

$$H_n(x) = P(Z_n \leqslant x) = F^n(x).$$

It is rare in probability theory that $F(x)$ is known. Indeed, the field of determining $F(x)$ from some elementary properties, known as characterizations of probability distributions, is quite recent (for the history of the field of characterizations, see the introduction in Galambos and Kotz (1978)). On the other hand, if $F(x)$ is determined by some approximation, however accurate, the values of $H_n(x)$ and $L_n(x)$ cannot be computed from the above formulas due to the sensitivity of u^n to u for large n (compare $0.995^{400} = 0.1347$ and $0.999^{400} = 0.6702$). This difficulty is overcome in an asymptotic theory that is invariant for large families of population distribution $F(x)$. In other words, for varying $F(x)$, linearly normalized extremes $(Z_n - a_n)/b_n$ or $(W_n - c_n)/d_n$ have the same limiting distribution functions $H(x)$ or $L(x)$, respectively. The theory is well developed for finding these appropriate normalizations and the forms of the limiting distribution functions, as well as for easy-to-apply criteria for $F(x)$ leading to a particular $H(x)$ or $L(x)$. Chapter 2 of Galambos (1978) gives a full account of this theory.

The classical theory of extremes can at best be applied as a first approximation to real-life models. Observations collected in, or produced by, nature are rarely independent, and neither are components of pieces of equipment functioning independently. For example, floods, defined as the highest (random) water level of a river at a given location, are clearly obtained through strongly dependent values, which dependence might weaken as time goes on. In