(e.g. Dewey's *Logic: the theory of inquiry* or *An introduction to reflective thinking,* by the Columbia Associates) or in experimentalism (e.g. E. A. Singer, Jr., "Philosophy of Experiment," *Symposium,* I, 2).

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Our plundered planet. Fairfield Osborn. Boston: Little, Brown, 1948. Pp. xiv + 217. $2.50.

It was Fairfield Osborn's father who, some 20 years ago, called our present era the end of the age of mammals, if my memory is not tricking me. In this book the son makes compellingly clear that, in the march toward oblivion, mankind has placed itself near the head of the procession. As the only animal that deliberately destroys the environment on which its survival depends, man has used his magnificently developed forebrain to heighten the effectiveness of that destruction. The result, as Mr. Osborn shows, is a shambles; while populations increase, the means of satisfying their needs steadily diminish.

The story is told through more or less random samples that show parallel developments of the relationship between man and his environment on the five continents and Australia. Nearly everywhere man's destruction of vegetation has disrupted the hydrologic cycle, with resultant soil erosion, floods, siltation, falling water tables, vanishing wildlife—essentially, though he does not stress the fact, falling human living standards. And, as the earth disease progresses, more and more of the organism-environment is involved, and treatment and cure become more difficult and more costly.

He has assembled so many valuable data that space limitations require omission of even reference to most of them. He does an especial service by reminding us of the role of the Mesta—the Spanish Wool-growers' Association—in wrecking their country. He points out that "nature gives no blank endorsement to the profit motive" and recommends world-wide planning. He sets forth, eloquently, that "science" is not yet ready to synthesize the adequate environment visualized by some technicians and many economists; we still need the "back forty." He recognizes, as many international do-gooders still cannot, that cultural limitations prevent the use of modern technology in countries dominated by backward, illiterate, and/or exploited populations.

The reviewer has only one serious quarrel with the book: Mr. Osborn repeatedly refers to excessive populations but does not suggest doing anything about checking their increase. He makes many a convincing plea for better use of the land. The uninformed reader might conclude that improved land-use would take care of mankind, even after we were piled three deep. Direct checks on human reproduction are at least as indispensable as forest management and contour plowing.

This is a book that should be widely read; almost anyone reading it will want to recommend it to others. It tells perhaps the most important story of our day—and tells it well.

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Introduction to mathematical statistics. Paul G. Hoel. New York: John Wiley, 1947. Pp. x + 258.

This book furnishes a panoramic view of the aims, ideas, and methods of mathematical statistics. It "was designed to serve as a textbook for a two-semester course in mathematical statistics for which elementary calculus is a prerequisite," and in writing it an attempt was made "to keep in mind the needs of applied statisticians for a modern reference book on the fundamental methods of mathematical statistics. The material treated was selected to give the beginner a fairly broad introduction to both classical large-sample and modern small-sample methods." The author also states that "a number of topics have been treated very briefly," since he "did not care to incorporate more material than experience indicated could be satisfactorily covered in a two-semester course." As guides to supplementary reading, annotated references are provided at the end of each chapter.

Noteworthy features of this book are: (1) Its broad coverage of the ideas and techniques of statistical inference, especially those found to be most effective in industrial experimentation, quality control, and acceptance inspection. Thus, in addition to treatment of the material found in most elementary statistics texts, the reader is introduced to such topics as discriminant functions, statistical tolerance limits, and testing for randomness by runs and serial correlations. (2) The effective use made of moment-generating functions to obtain elementary proofs of many of the basic theorems of modern statistical inference. Granted certain fundamental properties of these generating functions, the proofs given are not only complete, but throw light on the character of the approximations involved, if any. (3) The collections of well-chosen exercises at the end of each chapter which provide the reader with opportunities for trying out the methods to which he has been introduced.

A major shortcoming of the book is its failure to make the reader feel "at home" in the application of the methods presented. It falls in that intermediate zone between a purely formal mathematical treatment, on the one hand, and a manual of procedures, on the other, where it is difficult to strike a satisfactory balance between mathematical rigor in the proofs and stimulating illustrations of the scope and power of the applications. The author has tended to favor rigor of development, at the expense of giving the reader a "practical feel" for the applications. As anyone who has made the attempt knows, the latter is more difficult to achieve. As W. Edw. Deming has so admirably put it, ". . . it is fairly easy to write mathematical books and papers, and even easy to make the exposition clear, but . . . it is quite a different matter to try to explain *how to use theory in practice.* This is *very difficult.*" Also, the reference material cited is insufficient and inadequately tied in with the text material. For example, in connection with discriminant functions, B. L. Welch's "Note on Discriminant Functions" (*Biometrika,* 1939, **31**, 218–220) is not cited. This important note relates the problem of constructing an optimal "discriminant function" to Bayes's Theorem and to the Neyman-Pearson likelihood ratio test for