This is probably a difficulty with any book presenting a young and active field, however. The author in his introduction acknowledges that some proofs are "arid and demanding" and encourages the reader to concentrate on their complement in the text. This is good advice, and I found it quite feasible to do so and still learn a great deal.

REFERENCES

[B] G. D. Birkhoff, *Proof of the Ergodic Theorem*, Proc. Nat. Acad. Sci. U.S.A. **17** (1931), 656–660.

JOHN FRANKS
NORTHWESTERN UNIVERSITY

BULLETIN (New Series) OF THE
AMERICAN MATHEMATICAL SOCIETY
Volume 20, Number 2, April 1989

0273-0979/89 $1.00 + $.25 per page

Lectures on counterexamples in several complex variables, by John Erik Fornaess and Berit Stensønes. Mathematical Notes 33, Princeton University Press, Princeton, N. J., 1987, 247 pp., $22.50. ISBN 0-691-08456-4

This book is about examples in several complex variables, called for some strange reason counterexamples. This is a very nice and useful book, which gathers examples to be collected in many different places. It starts (the first 65 pp.) with an elegant survey, with proofs, of the most basic results about holomorphy, subharmonicity, and pseudoconvexity (including some material not to be found in the presently available textbooks). However, one sees once more the tremendous and amazing resistance to defining subharmonic functions by the fact that their Laplacian, in the sense of distributions, is a positive measure.

Although strict pseudoconvexity of a domain in C^n is a simple notion (a domain is strictly pseudoconvex if and only if, locally, it can be made strictly convex, under a holomorphic change of variables), the notion of (weak) pseudoconvexity is more subtle. The first basic example in this area is the Kohn-Nirenberg example which shows, in particular, that pseudoconvexity is not "locally equivalent" to convexity (after holomorphic change of variables). In fact, one can even start thinking about the crucial relation between convexity and subharmonicity in one complex variable. It is easy to see that a twice continuously differentiable strictly subharmonic function (Laplacian strictly positive) can be made strictly convex, in the neighborhood of any noncritical point, by a local holomorphic change of variables. The same fails to be true for subharmonic functions.

The world of weak pseudoconvexity had to be explored: exhaustion functions, neighborhoods .... Several examples by Diederich and Fornaess (including the famous worm domain) constituted a major achievement in this area. It is one of the main topics in the book.