become the standard reference for young workers in and students of algebraic geometry. They will be well served. Because algebraic geometry is important for so many fields from partial differential equations through complex analysis to number theory and algebra, this book belongs on every mathematician's shelf. We owe Hartshorne our thanks.

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Infinitary combinatorics and the axiom of determinateness, by Eugene M. Kleinberg, Lecture Notes in Math., vol. 612, Springer-Verlag, Berlin, Heidelberg, New York, 1977, 150 pp.,$8.30.

Many questions of mathematical interest cannot be answered on the basis of ZFC, the standard axiomatization of set theory. Notable examples are the Continuum Problem, and the problem of the Lebesgue measurability of PCA sets of reals. (PCA sets are the projections of complements of analytic subsets of $\mathbf{R}^2$.) However, as Gödel suggested in [1], it may be possible to settle such problems by extending ZFC. Gödel hoped to find new axioms with the same "intrinsic necessity" as those of ZFC. Failing this, he hoped that "there might exist axioms so abundant in their verifiable consequences, shedding so much light upon a whole field, ... that, no matter whether or not they are intrinsically necessary, they would have to be accepted at least in the same sense as any well-established physical theory." One might call the search for and study of such axioms "Gödel's programme"; it is the antithesis of Hilbert's programme.

Work on this program has concentrated on two sorts of hypotheses, the first sort asserting the existence of certain large cardinal numbers, and the second the determinateness of certain definable games. Both sorts can be viewed as extrapolations of principles inherent in ZFC, though neither has