efforts of his countrymen J. C. P. Miller and D. O. Claydon [1], who have prepared printed lists of primes to 21,000,000 and punched tape lists to 36,000,000, and of the results of D. H. Lehmer [2] and of Baker and Gruenberger [3] in this country.

J. W. W.

1. A. FLETCHER, J. C. P. MILLER, L. ROSENHEAD & L. J. COMRIE, *An Index of Mathematical Tables*, Addison-Wesley Publishing Company, Inc., 1962, v. I, p. 21.
2. D. H. LEHMER, "Tables concerning the distribution of primes up to 37 millions," reviewed in *MTAC*, v. 13, 1959, p. 56–57, RMT 3.
3. C. L. BAKER & F. J. GRUENBERGER, *The First Six Million Prime Numbers*, The Microcard Foundation, Madison, Wisconsin, 1959. (See *Math. Comp.*, v. 15, 1961, p. 82, RMT 4.)

4 [F].—IVAN NIVEN, *Diophantine Approximations*, Interscience Publishers, New York, 1963, viii + 68 p., 24 cm. Price $5.00.

From the author's preface:

"At the 1960 summer meeting of the Mathematical Association of America it was my privilege to deliver the Earle Raymond Hedrick lectures. This monograph is an extension of those lectures, many details having been added that were omitted or mentioned only briefly in the lectures. The monograph is self-contained. It does not offer a complete survey of the field. In fact the title should perhaps contain some circumscribing words to suggest the restricted nature of the contents, . . .

"The topics covered are: basic results on homogeneous approximation of real numbers in Chapter 1; the analogue for complex numbers in Chapter 4; basic results on non-homogeneous approximation in the real case in Chapter 2; the analogue for complex numbers in Chapter 5; fundamental properties of the multiples of an irrational number, for both the fractional and integral parts, in Chapter 3. . . .

"A unique feature of this monograph is that continued fractions are not used. This is a gain in that no space need be given over to their description, but a loss in that certain refinements appear out of reach without the continued fraction approach. Another feature of this monograph is the inclusion of basic results in the complex case, which are often neglected in favor of the real number discussion. . . ."

"Homogeneous" and "non-homogeneous" above have reference to the following: If θ is irrational, the problem of finding integers k and h such that $k\theta - h$ is small (relative to some inverse power of k) is the homogeneous problem, while if α is real, the corresponding problem for $k\theta - h - \alpha$ is non-homogeneous.

"Not offer a complete survey" above has reference to the omission of important but more difficult topics such as Markoff numbers, Weyl's criterion for equidistribution, and the celebrated Roth theorem on approximations of real algebraic numbers. (See the following review.)

These more advanced topics have been treated in the older, more complete, and more difficult book [1] by Cassels: *An Introduction to Diophantine Approximation*. In fact, it would be appropriate if that book and this could exchange their titles. The present volume is certainly much more readable for a beginner and can be strongly recommended as an introduction to the subject.

Perhaps a mild rebuke is due the publisher. The price seems a little high for so slim a volume.

D. S.

1. J. W. S. CASSELS, *An Introduction to Diophantine Approximation*, Cambridge Tracts No. 45, Cambridge University Press, 1957.