made the development in this part parallel to but independent of those in Chapter III. This brings out very clearly the analogy and differences between the problems of one-dimensional waves and those of steady plane flows. Besides such topics as the hodograph transformation, limiting lines, simple waves, there is an extensive discussion of shock interaction and reflection. The last part of this chapter deals with the exact nature of problems of steady flow past an obstacle, including an extensive and systematic discussion of the perturbation theory. This part should be highly recommended to the inquisitive workers in this field.

Two more short chapters follow. Chapter V deals with flow in nozzles and jets. Chapter VI deals with three-dimensional flows having suitable symmetry properties, so that there are still two independent variables. The book ends with an extensive and valuable list of references to books and other publications.

In conclusion, the reviewer wishes to recommend this book to every worker in the field of dynamics of a compressible fluid, whether he is studying it from the point of view of a mathematician, a physicist, or an engineer.

C. C. Lin

Moderne algebraische Geometrie. Die idealtheoretischen Grundlagen. By W. Gröbner. Vienna, Springer, 1949. 12+212 pp. $5.70.

Dr. Gröbner's book is a textbook giving the fundamentals of the ideal theory needed in algebraic geometry. The exposition is clear, elegant, and easy to read.

About one-half of the material—basic field theory, the ideal theory of polynomial rings, and the more general commutative ideal theory—can be found in van der Waerden's textbook on algebra; the remainder—material on Hilbert's function, the ring of formal power series, integral algebraic quantities, and the syzygy theory of homogeneous polynomial ideals—can be found without too much difficulty in the literature, but appears here for the first time in textbook form.

Dr. Gröbner has organized all this material excellently, occasionally improving known proofs—especially in the resultant theory and the syzygy theory—and has at all times kept the geometry in the foreground; the motivation of the development of each subject is thus at all times quite clear.

As is obvious, different ideals in a polynomial ring can have the same locus of zeros—in Dr. Gröbner's terminology, the same "Nullstellengebilde" (NG). The author attempts to establish a 1-1 correspondence between ideals and geometric objects, associating with