eral recursive functions are indicated: the original method of Herbrand and Gödel, Turing's notion of computability, and Church's notion of λ-definability. The author mentions Bernays' proof that every function whose values can be calculated in some consistent deductive calculus is general recursive, and describes the normal form of Kleene for general recursive functions. The relationship between general recursive functions and decision methods is pointed out, and reference is made to Church's proof that there is no decision method for the restricted predicate calculus; the more recent extensions of this result by Mostowski, Post, Julia Robinson, R. M. Robinson, and Tarski are not mentioned, however, as they have appeared since Schmidt's article.

The remainder of this part is taken up with an exposition of consistency proofs of various fragments of arithmetic, Gentzen's consistency proof of all of arithmetic using transfinite induction, and a sketch of some unpublished transfinite proofs (due to Lorenzen and Schütte) of the consistency of part of analysis.

Part (C), which is very short, is devoted to a résumé of the theory of types, and of the attempt of Russell and Whitehead (following Frege) to construct arithmetic from logic alone. The author criticizes this attempt on the ground that Russell and Whitehead were unable to prove certain theorems of arithmetic without using axioms which hardly seem to be part of "pure logic" (the axiom of infinity and the axiom of choice).

Part (D) is devoted to an exposition of the intuitionistic mathematics of Brouwer and his followers. The philosophical background of this movement is made clearer here than in the usual presentations.

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Dirichlet's principle, conformal mapping, and minimal surfaces. By R. Courant. With an appendix by M. Schiffer. (Pure and Applied Mathematics, vol. 3.) New York, Interscience, 1950. 14+330 pp. $4.50.

At the beginning of its history, Dirichlet's principle was one of the occasions for the ascetic enterprise of revising and clarifying the foundations of the calculus of variations. In its latest stage it has proved a powerful tool for the solution of one of the most interesting, difficult, and colorful problems, a solution which could be carried to a generality which, a quarter of a century ago, even the most fanciful optimism would hardly have dared to dream of. No other mathematician is more competent to write a presentation of this subject than is the author of the present book: His first steps in research