After a discussion of other particular examples a few pages are devoted to a more minute classification of transcendental singularities.

Chapter IV considers the singular points of Briot and Bouquet. The equation which has singularities of this type is connected with the equation above by introducing a parameter μ which put equal to zero gives equation (2) and put equal to unity gives the equation under consideration. By allowing μ to vary, the intimate relation between the singularities of equation (2) and those of Briot and Bouquet is established.

Chapter V discusses some of the relations which exist between the singularities of the same equation.

The volume closes with a note of fifty pages by Painlevé: "On the differential equations of the first order whose general integral has only a finite number of branches."

C. L. E. MOORE.

Sur les premiers Principes des Sciences mathématiques. Par P. WORMS DE ROMILLY. Paris, A. Hermann, 1908. 8vo. 51 pp. 2.50 fr.

THIS essay undertakes to give an account of the recent work on the foundations of mathematics. The author concludes that the only branch of mathematics completely applicable to natural phenomena is arithmetic, since it depends solely upon the numeration of objects, and makes no hypothesis regarding their nature. Geometry, on the other hand, imposes upon them certain purely ideal hypotheses which indeed may differ so as to produce at least three systems of geometry, the system which nature is built upon being possibly that of Euclid, possibly otherwise. The contrast drawn here between the external validity of arithmetic as over against that of geometry is a little difficult to reconcile with the explanations devoted by the author to the varying systems of axioms on which arithmetic may be based. In fact he distinctly speaks of diverse systems of numeration. We might inquire, for example, are objects subject to the archimedean axiom or not?

A disproportionate amount of space is devoted to the setting forth of some seven foundations upon which geometry may be based, and not quite so much to mechanics. The reason for this is the underlying thesis which the author seeks to prove. He examines the different modes of grounding geometry and concludes they are all à priori and inapplicable to real objects