transformations in one, two, and three dimensions, as well as correlations in two and three dimensions are developed, including the fixed points and a considerable number of particular cases. This is followed by a more detailed study of algebraic curves and surfaces. In the plane, polarity is introduced and used to derive Plücker's numbers, with application to cubic curves. The configuration of the points of inflexion, the constant cross ratio of the tangents from a point on the curve, nodal and cuspidal forms are provided for. Space cubic curves, and both kinds of space quartics are treated briefly.

Even with the omission of many proofs, the development is so rapid and condensed that a reader must be alert and patient to get all the points of the argument. On the other hand, one who has mastered this volume will be in possession of a large part of the knowledge which goes under the generic name of geometry.

VIRGIL SNYDER

Some Integrals, Differential Equations and Series Related to the Modified Bessel Function of the First Kind. By A. H. Heatley. (University of Toronto Studies, Mathematical Series, no. 7.) Toronto, University Press, 1939. 32 pp.

Let $I_n(x)$ denote Bessel's function, and let $T(m, n)$ denote the integral over $0<t<\infty$ of the function $I_n(2at)t^{m-n}\exp(-p^2t^2)$. Differential equations are given for $T(m, n)$, for $T(m, n)\exp(-a^2/p^2)$, and for $T(m, n)\exp(-a^2/2p^2)$; and these lead to explicit formulas for $T(2n+1, n)$ and for $T(n, n)$. Then recursion formulas lead to evaluation of $T(m, n)$ for other pairs of values of m and n.

Power series expansions of $T(m, n)$ and $T(m, n)\exp(-a^2/p^2)$ are obtained. These results of Part I (pp. 7–21) are used in Part II (pp. 21–30) to evaluate an integral used by the author (Physical Reviews, vol. 52 (1937), pp. 235–238) in the Langmuir collector theory.

Part III (pp. 30–32) deals briefly with integrals of $x^{n+m}e^{x}I_n(x)$ and $x^{n+m}e^{-x}I_n(x)$.

R. P. AGNEW

Theory of Probability. By Harold Jeffreys. Oxford, Clarendon Press, 1939. 7+380 pp.

This book of Jeffreys is an outstanding addition to the relatively few substantial treatises of probability in English. It is in line with the author's *Statistical Inference.* At the start, it resembles Keynes' *A Treatise on Probability* in its subjective or psychical approach to probability. But it carries the implications of this approach to a great variety of problems arising in the physical sciences, in biology and in