38–49. In these notes Professor Cajori has entered one of the fields of his greatest interest—the history of physical problems. Those here discussed concern the velocity of sound, a field in which Newton did not meet with much success; the Huygenian telescope, the great length of the instrument being rendered unnecessary by Dolland's invention of the achromatic lens; the earth-moon test of the law of gravitation; the figure of the earth, and the problem of three bodies.

Newton's idea of God, his attitude toward hypotheses (*Hypotheses non fingo*), and his views concerning causality are considered in the closing pages (668–680). These naturally lead to a study of the workings of Newton's mind in general rather than to the mathematics of the *Principia*, but the discussion is none the less interesting, psychologically and historically.

Looking at the book from the mechanical point of view of the bibliophile, it is one of the finest pieces of printing and binding to be found among the mathematical books that have come from any press in this country. Congratulations are due to the University of California Press for such an excellent product. The lack of an index is its chief defect.

Thanks and congratulations are also due to the editor, Professor Crawford, for the painstaking care with which he has performed a very difficult task, and for his contribution to such a monumental work.

As to the work of Professor Cajori, he has here and more especially in his treatise on the history of mathematical symbols built for himself a noble and enduring monument, showing himself the leader among the historians of mathematics in this country and a conscientious and thorough scholar.

DAVID EUGENE SMITH

TARDI ON GEODESY

Traité de Géodésie. By P. Tardi. Paris, Gauthier-Villars, 1934. xxx+732 pp. 150 frs.

In a recent issue (vol. 40, No. 9, p. 644) of this Bulletin the reviewer considered Hopfner's book on geodesy and called attention to its highly theoretical nature. Captain Tardi's book is of a much more practical character. A good deal of space is devoted to directions for the use of instruments in the field. In this respect it resembles standard American text books on geodesy. This reviewer, however, will deal chiefly with the mathematical and theoretical portions.

Chapter 3, *Rappel de quelques théories mathématiques*, goes into some rather elementary matters of logarithms, trigonometry, infinite series, approximate formulas, the theory of errors, and the method of least squares. Many of the formulas are given without proof. The reviewer does not like the treatment of the Gaussian law of frequency of error, but this is a subject about which notoriously tastes differ.

Chapter 8 deals with the geometrical properties of the ellipsoid of revolution and of lines on its surface and applies the results to the calculation of a geodetic triangulation. Proofs are mostly given, at least in outline, but Gauss's fundamental theorem regarding the substitution of a sphere of the same mean curvature as the surface itself for the surface in question is merely stated with-