

it he gives the development of those computational techniques that he devised for the relocation of the planetoid Ceres. Because of the few existing observations, and the unusual elements of its orbit, existing methods did not suffice. But from Gauss's calculations, as he proudly announced, Ceres was rediscovered "the first clear night".

The appendix contains an account of other computational techniques by Encke and Peirce, and 39 pages of tables by Le Verrier, Bessel, and others to facilitate certain astronomical calculations.

D. S.

85[R].—I. TODHUNTER, *A History of the Mathematical Theories of Attraction and the Figure of the Earth*, Dover Publications Inc., New York, 1962, xxxvi + 984 p., 22 cm. Price \$7.50.

This is a timely and most welcome reprint of Todhunter's history, which was originally published in 1873. In it he gives a detailed and critical account of all the work in this field from the time of Newton to that of Laplace. This includes that of Newton, Huygens, Maupertius, Clairaut, Maclaurin, D'Alembert, Boscovich, Laplace, Legendre, Poisson, Ivory, and others.

The volume is not only of current physical interest but also contains valuable historical accounts of the origins of potential theory and of many investigations in partial differential equations. The style is simple and pleasant, and is enlivened by classical descriptions and original observations of his own. Thus: "Maupertius . . . who flattened the poles and the Cassinis"; "Madame la Marquise du Chastellet . . . from the fluctuation of her opinions, it seems as if she had not yet entirely exchanged the caprice of fashion for the austerity of science"; and "Gauss's writings are distinguished for the combination of mathematical ability with power of expression: in his hands Latin and German rival French itself for clearness and precision."

For the hurried reader the long preface and table of contents give a good idea of the volume's scope.

D. S.

86[S, X].—S. L. SOBOLEV, *Applications of Functional Analysis in Mathematical Physics*, Volume Seven, *Translations of Mathematical Monographs*, American Mathematical Society, Providence, Rhode Island, 1963, viii + 239 p., 24 cm. Price \$6.70.

The development of the theory of distributions and generalized functions has its roots in the works of many famous mathematicians, such as J. Hadamard, M. Riesz, S. Bochner, and J. Leray, to mention a few. In 1936, S. L. Sobolev introduced a concept of generalized functions and derivatives which is essentially equivalent to the one now used. However, it was only with the appearance of L. Schwartz's comprehensive books on distributions in 1950 and 1951 that the field began to receive the systematic and extensive treatment we now know.

In the same year, namely 1950, S. L. Sobolev published the original Russian edition of the present monograph. It was the outgrowth of courses given at Leningrad State University and presented a unifying treatment of a number of problems in partial differential equations, using Sobolev's own approach to the concepts of