Newton. By GINO LORIA. Rome, A. F. Formíggini, 1920. 69 pp.

THIS little volume, written by one who seems never to rest in his literary labors, is number 52 of a series of biographies issued under the rather poetic title of Profili. The title is quite appropriate, for each number is a kind of side glance at the profile of the individual whose biography is rapidly sketched by some worthy and skilled literary artist.

What Professor Loria has done is to set forth in popular style the incidents in Newton's life that are more or less known to mathematicians but are not so familiar to the general cultured public. It is needless to say that he has not attempted to present material not already known, since this was not his problem. In this case his is the mission of a popularizer. He has apparently drawn, directly or indirectly, from Brewster's well-known work, as all other historians of mathematics have done for the last two generations.

The life of Newton is briefly told,—his rather unpromising boyhood, the unusual promise shown by him at Trinity College, Cambridge, his power of easily grasping the theories of his predecessors, his rise to fame, his discovery of the laws of gravitation and of the fluxional calculus, and his later contributions to mathematics in general. The writer calls attention to the fact that the respect due to Newton is partly a case of hero worship, not less marked than the mental attitude of devout pilgrims to the Holy Sepulchre when in the presence of a portion of the true cross. In this he gives us the view of one who sees the Anglo-Saxon civilization from without, and it is a fair question whether we who see it from within have not been guilty of unduly exalting the contributions and powers of the author of the Principia. The fact is that Newton is today a good deal of a mystery, and there is need for a mathematical scholar of judicial mind, of literary ability, and of sufficient leisure to give us a new biography of the discoverer of the fluxional calculus, and a bibliography that is worthy of the man. We have Brewster and De Morgan and various minor writers, but we need an authoritative life of Newton and a definitive edition of his works, with a list, approximately complete, of published Newtoniana in general. It is very strange that we have modern editions of the works of the great mathematicians of Germany, France, and Italy, and of British scholars like Cayley and Sylvester,

but that Newton seems so sacrosanct that we feel that we must consult his works only in a first or second edition of two centuries ago, or in the Opera quae exstant omnia which Horseley published in 1779–1785. As an example of our lack of information, we do not really know why it is that Newton left Cambridge and spent the last thirty years of his life in London. The usual reasons are familiar, but no one of them seems sufficient to account for this substantially complete break with Cambridge; and if one will seek to ascertain, for example, what Newton was doing in 1720, he will very likely find an absolute blank. Did the story of his serious mental failure have any foundation in fact? We do not know from any authoritative evidence. We can say that on such a year he contributed an article on a certain subject, that at such a time he was corresponding with one of the Bernoullis, that he was president of the Royal Society during such a period, and we can link these facts together in a fragmentary fashion; but some capable historian is needed to take the problem up, basing his solution upon trustworthy documentary evidence and giving to the world a biography that shall be worthy of such a genius.

Needless to say that Professor Loria has not, in sixty-nine pages, attempted anything of this kind; but when he speaks of the state of hero worship that exists in all our Anglo-Saxon minds, with respect to Newton, he does us a good service. It is not a question of Newton's greatness,—it is a question of the precise facts by the knowledge of which we can properly measure that greatness.

It must not be thought that Professor Loria is an iconoclast, —far from it. Voltaire, in one of his baser moods, wrote that he had once believed that Newton was made the master of the mint because of his great merit, but that he "avait une nièce assez aimable, nommée Madame Conduit; elle plut beaucoup au grand trésorier Halifax. Le calcul infinitésimal et le gravitation ne lui auraient servi de rien sans une jolie nièce." If Professor Loria had a biased mind, he might have repeated the story without comment, but he shows, as we all know, that the statement was false and was unworthy the better nature of the "old invalid of Ferney."

The famous priority controversy relating to Newton and Leibniz is considered briefly, but the facts are now fairly well known and the dispute no longer has its former interest.

The Profili now sell for three lira each in Italy,—about fifteen American cents, at the present rate of exchange. They are artistically printed and each is the work of a scholar. It seems strange that we have never, in this country, been able to support a series of this kind. The chief criticism of the work of this Italian press lies in the number of typographical errors that appear. On a single page (68), for example, we have the "Leiters of Sis Isaac Newton," "R. Benthey" (for Bentley), "and other autenthic documents," "Eeral of Macclesfield, "Côtes" (for Cotes), and "Comptes-Rendus," while on page 66 there are no less than nine errors of a similar nature.

DAVID EUGENE SMITH.

Mathematiker Anekdoten. Zweite, stark veränderte Auflage. Von W. AHRENS. Teubner, Leipzig and Berlin, 1920. 42 pp.

WHETHER the telling of an anecdote shall provoke the interest of a pleased smile or the different amusement which leads to a shrug of the shoulders depends intimately and delicately upon the mental associations which arise involuntarily when a story is related; and the latter in turn depend upon the varied elements, and even the most minute, which make up the daily life and experience and environment. Hence it has always been, and perhaps always will be, difficult for one people to appreciate the humor of another. It is therefore natural that a book of anecdotes, containing humorous ones among others, shall be addressed by an author principally to his own countrymen.

These stories related by Ahrens of mathematicians and things mathematical are evidently intended primarily for his own countrymen; hence it is fitting that far the greater space should be given to men and things that are German. One of the pleasing features of the booklet is the inclusion of fifteen or more excellent likenesses of mathematicians. The stories range in excellence from some of high quality to some which are not pleasing. We do not find much of value in the story of the boys who convinced a simple old man that in their use of logarithm tables they were mastering the house numbers of Europe. We are only mildly interested when we are told of L. Fuchs' surprise when a long computation in his lecture led to the result $0=0$, that he first painfully suspected