

## SOME BOOKS ON CALCULUS.

*Elements of the Differential and Integral Calculus (Revised Edition)*. By W. A. GRANVILLE. Edited by P. F. SMITH. Boston, Ginn and Company, 1911. xv+463 pp.

*Elementary Textbook on the Calculus*. By V. SNYDER and J. I. HUTCHINSON. New York, American Book Company, 1912. 384 pp.

*The Calculus*. By E. W. DAVIS assisted by W. C. BRENKE. Edited by E. R. HEDRICK. New York, The Macmillan Company, 1913. xx+383+63 pp.

*Esercizi di Analisi Infinitesimale*. By G. VIVANTI. Pavia, Mattei, 1913. vii+470 pp.

GRANVILLE'S Calculus is too widely known both in its original and in its revised edition to require any long notice.\* A number of changes have been introduced in the revision and all seem to improve the work as a class drill book. In the number of pages the additions and subtractions exactly balance.

In the preface the author states that in the last few years considerable progress had been made in the teaching of the elements of the calculus and in this revised edition the latest and best methods are exhibited. This statement is entirely incomprehensible to us. So far as we have observed the only important improvement in teaching calculus has been to introduce the calculus earlier in the student's course and so to present it in matter as in time that it may be of greater use to the student in his courses on physics and mechanics. Granville's book veers not the slightest toward this point, no more in the revised than in the original edition.

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\* For a review of the original see E. B. Van Vleck, this BULLETIN, volume 12, pages 181-187. We are personally out of sympathy with that review because we believe that it represents the view-point of the mathematician catering to the one per cent of the students of calculus who will possibly be pure mathematicians rather than the point of view of the teacher of mathematics who sets his heart on doing the maximum good to the maximum number and who regards mathematics through calculus as essentially the handmaiden of the theoretical and applied sciences. We believe that the aristocratic movement has passed its zenith and is giving way to a less selfish and more democratic point of view,—and we daresay the earlier reviewer is in sympathy with the change.