The Continuum and Other Types of Serial Order. By EDWARD V. HUNTINGTON. Second edition. Harvard University Press, 1917. vii + 82 pp.

FROM some cause the writer of this notice had never read the first edition of this book. It was therefore with a fresh, as well as a peculiar, pleasure that he followed the author in his remarkably beautiful and satisfying exposition of one of the highly fascinating subjects of modern mathematics. Any one else not at first hand acquainted with this work, whether or not he has been interested in the theory of the continuum and related matters, will find awaiting him here a purely intellectual delight of unusual order. It would be hard to seek out anywhere a more satisfying account of a topic in mathematics.

It should be emphasized that this exposition is useful to others as well as to mathematicians. Such in fact is one of its leading values. It deals with a subject which requires no technical knowledge of mathematics and which therefore is "peculiarly accessible to the increasing number of non-mathematical students of scientific method who wish to keep in touch with recent developments in the logic of mathematics." In the treatment before us full use has been made of this characteristic of the subject. The mathematical prerequisites for understanding it have been reduced (except in one or two illustrative examples) to a knowledge of the natural numbers 1, 2, 3, $\cdots$, and the simplest facts of elementary geometry. Numerous well-chosen examples are given to illustrate in a concrete way the abstract notions which are treated. The work is therefore accessible to all mature persons who are interested in purely intellectual matters and take pleasure in the more ideal æsthetic elements of thought.

The mathematical reader does not lose by this non-technical exposition; on the other hand, such a treatment has for him a peculiar value of its own. One has only to run over a general list of mathematical topics for a given definite period, as, for instance, the six months covered by a single recent issue of the *Revue Semestrielle*, to get a striking realization of the diversity of elements in modern mathematics and of the fact that mathematicians have not only largely grown apart from other scientific workers but that they have become, in small groups, isolated from one another and often are hardly able to speak across the chasm which separates one group from even its nearest neighbor. A great disintegrating tendency arises from this fact; and there seems to be a growing feeling that it is necessary to take steps to combat it. Probably this can be done in no way better than by having non-technical developments of connected bodies of doctrine in many modern subjects. For such a treatment the exposition in Huntington's Continuum may possibly serve as an ideal toward which to labor, but nevertheless an ideal which probably can be attained only in relatively rare cases owing to the nature of the topics themselves.

R. D. CARMICHAEL.

A Course in Mathematical Analysis: Differential Equations, being Part II of Volume II. By EDOUARD GOURSAT. Translated by EARLE RAYMOND HEDRICK and OTTO DUNKEL. Boston, Ginn and Company, 1917. viii + 300 pp.

To the translators it seemed best, for the purposes of American schools, to issue separately the two parts of the second volume of Goursat's Cours d'Analyse Mathématique; and this has been done with the approval of Professor Goursat. The treatise before us consists of the second half of the second volume.

This work is too widely known for us to give here a statement as to its contents; it is too favorably known for us to attempt an analysis of its main characteristics. The excellent translation is worthy of the original. The printing and in fact the whole mechanical make-up are appropriate to the contents.

On page 109 insert "the" between the fourth and fifth words of line four. On page 115, line 4, "Appel" is printed for "Appell." "Mécanique" is spelled incorrectly in the last line of page 151.

The sentence in lines 3–5 of page 102 the reviewer would be pleased to see put in stronger terms. Concerning the differential equation

$$y^{(n)} + a_1 y^{(n-1)} + \cdots + a_n y + a_{n+1} = 0$$

it is said: "It may, however, happen that a point α is a singular point for some of the coefficients a_i without being a singular point for all the integrals." Here "all the integrals" might be replaced by "any of the integrals," as one sees from