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CONTENTS

<i>The American Association for the Advancement of Science:—</i>	
<i>The Relations between Jupiter and the Asteroids: PROFESSOR ERNEST W. BROWN</i>	79
<i>Organic Response: DR. D. T. MACDOUGAL</i>	94
<i>Educational and Industrial Efficiency: PRESIDENT RICHARD C. MACLAURIN</i>	101
<i>Scientific Notes and News</i>	103
<i>University and Educational News</i>	106
<i>Discussion and Correspondence:—</i>	
<i>Special Committees on Zoological Nomenclature: DR. C. W. STILES. Facts and Principles: PROFESSOR SIDNEY GUNN</i>	107
<i>Scientific Books:—</i>	
<i>Van Hise on the Conservation of Natural Resources in the United States: W J M. Chesneau on Theoretical Principles of the Methods of Analytical Chemistry: PROFESSOR M. A. ROSANOFF</i>	108
<i>Scientific Journals and Articles</i>	112
<i>Special Articles:—</i>	
<i>Elliptic Interference in Connection with Reflecting Grating: PROFESSOR CARL BARUS</i>	113
<i>The American Society of Naturalists: DR. CHAS. R. STOCKARD</i>	113
<i>The American Chemical Society: PROFESSOR CHARLES L. PABSONS</i>	114
<i>The American Physiological Society: PROFESSOR A. J. CARLSON</i>	115
<i>The American Mathematical Society: PROFESSOR F. N. COLE</i>	117
<i>The Southern Society for Philosophy and Psychology: PROFESSOR R. M. OGDEN</i>	118

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THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE THE RELATIONS BETWEEN JUPITER AND THE ASTEROIDS¹

THE story of the smaller bodies which form part of the solar system belongs altogether to the nineteenth and twentieth centuries. The discovery of Ceres on the first of January, 1801, followed by those of Pallas, Juno and Vesta, in the next six years, gave promise of a new field for the astronomer. Nearly forty years, however, elapsed before any more were found. The improvements in star maps about the middle of the century enabled observers to detect new objects more easily, so that from 1845 to 1860 over sixty were captured. Since that time scarcely a month but brings one or more to the list, and now nearly 700 are known. But this by no means completes the tale. New asteroids are constantly being recorded and receive a temporary designation and are perhaps observed two or three times. In fact the number of new discoveries has become too great for the few astronomers interested to obtain orbits of sufficient accuracy for future observation. It has become a question whether the search should be continued, and if so what plan should be adopted for the computation of the orbits.

To the student of celestial mechanics these small bodies furnish many interesting problems. The older planets and our own moon have had such thorough attention accorded to the study of their motions, that the outstanding difficulties are almost solely in the last refinements and

¹Address by the retiring vice-president of Section A, American Association for the Advancement of Science, Minneapolis, December 28, 1910.

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