SCIENCE

FRIDAY, FEBRUARY 4, 1916

CONTENTS

MSS. intended for publication and books, etc., intended for review should be sent to Professor J. McKeen Cattell, Garrison-on-Hudson, N. Y.

PONCELET POLYGONS[1]

THERE is nothing which can not be known. Such at least is the postulate of science. Wide as is the universe of matter, numberless as are the objects and the events in the world of either dead matter or living organisms, yet the scientist must have faith that all can be observed, classified, named; that a finite number of terms and a finite system of laws will suffice ultimately for the summing up of what we call the external universe. A dream, if one regards it as a positive expectation! Yet how far it has gone in the direction of realization in certain obvious horizons! In our solar system it is not frequently that a major planet is discovered. In the chemist's domain, does any one concede that the unknown elements are more in number than the known? Does any physicist really expect to come upon a new kind of activity at all comparable in importance with the Röntgen rays? Though the ideal of complete knowledge and perfect explanation may be destined never to be reached, yet how prone are we to imagine that it must be not far away!

In a certain contrast to the material world stands the world of intellect and reason, a contrast partly at least fictitious, but also in part intrinsic. It is in this world that geometry exists. Whatever else be true about geometry, it is plain from experience and from history that its objects are ideas or notions; that they are comple-

[1] Address of the retiring vice-president and chairman of Section A of the American Association for the Advancement of Science, Columbus, December 30, 1915.