he supplements this theorem by considering the case when $p = 2$. The main results may be stated as follows : If the Sylow subgroups of order $2^m (m > 1)$ contained in any group G are either cyclic or contain a cyclic subgroup of order 2^{m-1} which includes only two invariant operators under one of these Sylow subgroups, then the number of operators of order 2 in G is of the form $1 + 4k$. When this condition is not satisfied the number of these operators is always of the form $3 + 4k$. When $m = 1$, G contains an invariant subgroup which is composed of all its operators of odd order, and the number of the subgroups of order 2 may have either of the two forms $1 + 4k$, $3 + 4k$. This is the only case where the form of the number of the subgroups of order 2 is not determined by the form of this number in a Sylow subgroup.

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G. A. MILLER,
Secretary of the Section.

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THE FOUNDATIONS OF MATHEMATICS.*

The Principles of Mathematics. By BERTRAND RUSSELL. Volume I. Cambridge. The University Press, 1903. xxix + 534 pp.

Essai sur les Fondements de la Géométrie. Par BERTRAND RUSSELL. Traduction par A. CADENAT, revue et annotée par l'auteur et par L. COUTURAT. Paris, Gauthier-Villars, 1901. x + 274 pp.

1. *The Problem.* — Pure mathematics has always been conceived in the minds of its votaries and by the world at large to be a science which makes up for whatever it lacks in human interest, and in the stimulus of close contact with the infinite variety of nature, by the sureness, the absolute accuracy, of its methods and results. Yet what has been accepted as sure and accurate in one generation has frequently required fundamental revision in the next. Euclid and his pupils could doubtless have complained of the lack of rigor and logical precision in his predecessors just as forcibly as some modern pupils of Weierstrass berate their scientific ancestors and companions.

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* We may also refer our readers to the review by L. Couturat, *Bulletin des Sciences Mathématiques*, vol. 28, pp. 129-147 (1904). So large is the work of Russell that Couturat's review and our own supplement rather than overlap one another.