theory applies to *every* concrete representation of these symbols for which the fundamental assumptions are satisfied. These concrete representations of a given abstract theory may be many and varied in character; the abstract theory serves to unify them all.

It would seem that a clear understanding of this point of view is of particular importance to the prospective teacher. It is now well recognized that a knowledge of the foundations of mathematics is essential in the best preparation of the teacher, and the abstract point of view, if not absolutely necessary, greatly facilitates a clear understanding of the problems here presented. That the non-euclidean geometries serve, though not as conveniently, to describe the properties of our intuitional space, is merely due to the fact that the points, lines, etc., of the latter may be regarded as satisfying all the assumptions lying at the basis of each of these geometries.

The volume closes with a very interesting account of the movements toward reform in the teaching of elementary geometry as they have developed during the past years in England, France, Italy, and Germany. The work as a whole is a remarkable example of the distinguished author's mastery of the art of clear and stimulating exposition. We sincerely hope that it will have a wide influence, also in America, in arousing an active interest in a more serviceable preparation of our teachers.

J. W. YOUNG.

CORRECTION.

The following misprints occur in page 122 of Dr. Onnen's paper in the December number of the BULLETIN:

Lines 4–5. *For* . . . dividing n times by any integer a . . . *read* . . . dividing n times by a any integer. . . .

Line 6 from the bottom. *For* . . . an integral value for n . . . *read* . . . an integer. . . .

NOTES.

THE opening (January) number of volume 11 of the *Transactions of the American Mathematical Society* contains the following papers: "Theorems on simple groups," by H. F. BLICHFELDT; "Infinite discontinuous groups of birational