Articles: Original and Selected.

THE TEACHING OF NUMBER AS RATIO.*

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The desire to be hospitable to all new theories and methods doubtless accounts for the silence of educators respecting the recent departure in teaching number as ratio. It is possible that the idea of ratio has not hitherto received sufficient attention in arithmetical instruction, and so long as experiments are made to ascertain what is possible and feasible in this direction, no one wishes to call the new theory in question. But the assertion that all instruction in arithmetic is erroneous that is not based fundamentally on ratio, justifies an earnest inquiry as to the correctness of the ratio theory.

It may be true that every abstract number *may be considered* a ratio, but this is not the idea of number first possessed by children or by the race; nor is it the sense in which the term number is generally employed in mathematics. Permit me to call attention to a few facts.

1. The idea of number that is first in the mind of a child, as well as in the mind of the race, answers the question, *How many?* The first idea of number in the mind is *a collection of ones.* The idea of ratio is much later in its appearance. The child perceives that it has one mouth and

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