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NOTES ON NUMBER AND NUMBER TEACHING.

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THERE can be little doubt that the conflicting opinions which prevail upon primary number teaching and methods in advanced arithmetic are, in the main, due to misconceptions regarding the nature of number. To the same cause (*see* Nov. number CANADA EDUCATIONAL MONTHLY) may be attributed the absurdities in both matter and method which are put forth under the sanction of certain noted American educators, and which are not without a mischievous influence on Canadian teachers and teaching. Teachers and professors in prominent positions persistently maintain that the quotient in a division operation is equal to the dividend; that it is always a concrete number—that the divisor can never be abstract—that a “fraction” never represents division—that the denominator of a fraction “is not a number but simply a *namer*,” etc., etc.; and on the side of method we hear it asserted by many of the leaders of the new education, or upon their authority, that six months or a year should be given to the teaching of the number five—that

one year or even two years should be devoted to the number ten—that much drill should be had “upon the number one by means of interesting exercises,” etc., etc. Under these circumstances it seems desirable to make some enquiries as to what number and numerical properties really are as psychological facts. It seems quite plain that in order to help a child to think number, the instructor should know how number is thought. If number as learned by the child is the result of a thought-process, then clearly the teacher should be familiar with this process—with the way in which the idea of number is constructed in order to make his method helpful to the normal movement of the child’s mind. A full discussion of this topic will appear in due season; meanwhile the following notes, given by way of suggestion, may not be out of place.

NUMBER, A MENTAL CONSTRUCTION.

Number is not a *thing* any more than the perception of a colour or of a sound is a thing. Nor can it be