are pursued, the slate practice is one thing and the mental exercise quite another. The two do not properly assimilate or come into immediate association, as they should in a single study. The mental powers are crippled in the process, and therefore the pupil cannot make the intelligent progress aimed at by the teacher. There is a proportion of mental training necessary in the solution of every arithmetical question. The mental study and application that belongs to every question should be employed when the solution of the question is in progress. It is not enough that the memory should be able to hold the mechanical working of the primary rules. The intelligence contained in the primary rules, as intelligence, should be thoroughly incorporated into the mental powers. The pupil should be able to reason in the use of those rules. In the process of this employment of his reason in the use of the rules, he should work his way in the solution of the question, rendering the mechanical department subservient to the mental, through the entire process. And when the solution is complete he should read his question from the starting-point to the answer, giving his reason for every performance in the working out of the answer.

Practical Association of Mental Arithmetic with the Slate Practice.—Suppose the question to be in Long Division and worked upon the black-board and on the slates of the pupils. The process may be as follows:

Divide 68002 by 22.

22.	
22)68002	(3091)
66	22
	0100
200	6182
198	6182
22	68002
22	
00	

The first operation is that of notation, or the writing of the numbers. The writing should be done by the pupil from the oral statement of the teacher. The use of ciphers should be frequent, as it affords profitable employment for the mental powers of the pupils in ascertaining the amount. The filling up of the sub-amounts is original practice for the mind, and without the practice, the habit of using the ciphers may never be properly attained.

What is notation? The writing of numbers. How are numbers written? In the use of figures. What are figures? Signs used to represent numbers.

The terms of the arithmetical question to be asked should be stated distinctly by the teacher, designating the dividend as the number to be divided; the divisor as the number by which the dividend is to be divided; the purpose for which the divisor is to be divided into the dividend, the finding of the answer to the question; what the answer is called—the quotient. Why? Because it is the quota or share of each unit contained in the divisor, that is, it is the share of each twenty-two contained in the dividend. What is the dividend? Why is it called dividend? What is the divisor? Why is it called divisor? What is the answer called? Why is it called quotient?

The second operation is that of numeration, which is the reading of numbers as they are written. How are numbers read? By naming the amounts represented by the figures. Do you merely name the figures? In reading by numeration we not only name the figures but express the quantities contained in the numbers they represent. Express the quantities contained in the numbers as represented by the figures. Units, tens, hundreds, thousand, tens of thousands. How many tens of thousands? Six. How many thousands? Eight. How many hundreds? None. How many tens? None. How many units? Two. How much altogether? How many units are contained in the question? What do you mean by so many units? So many single things. A unit is a single thing. What kind of a thing is a unit? This question will hardly receive its proper answer unless