

With the advent of the Hindu numerals a great change came about in the method of teaching arithmetic. Prior to that time, object teaching was in general vogue, the abacus and numerical counters being chiefly used. Teachers now saw that the old-time objective teaching was unnecessary and practically abandoned objective work of any kind whatsoever. The result was that arithmetic, which was mechanical before, became even more so, and rules upon rules were manufactured and placed in the texts to be memorized by teacher and pupils. And for over three hundred years this memoriter method held sway, though objected to occasionally by such men as Locke.

The necessity of committing such a mass of definitions, rules, etc., to memory, and the consequent difficulty, led to the invention of rhyming rules which became very popular. Another outcome was an undue attention to form, which resulted in fantastic ways of setting out the mechanical work to the loss, very often, of efficiency.

Arithmetic became a most laborious subject. Fortunately, because of the difficulties involved, it was delayed until the child could read. Numeration was first taught to tritons, then the four fundamental processes in order, and so on. Thus it remained until the close of the eighteenth century, when such men as Trapp, Busse, Rochow, Pestalozzi, and others, began to lighten the burden. Trapp used objects in an endeavour to teach number ideas rather than figures and words. To Busse we owe, in addition, the number pictures, while Rochow tried to make the subject somewhat more interesting. It remained, however, for Pestalozzi to revolutionize primary arithmetic, especially along the line of method. To him must be given the credit for the increased attention which arithmetic aroused in the nineteenth century. The importance which he held for the subject follows partly from his belief that all our knowledge has its origin in the three primary capacities or faculties—sound, form and number.

By his time arithmetic had degenerated into mere ciphering and memorization of facts, rules and principles, and, when taught at all in schools, it made tremendous demands upon the patience and energy of the pupils. Fortunately,