

under such methods, it was not taught before the third or fourth year, by which time the child would be able to read and write. Pestalozzi would relegate written arithmetic to a later period, but would begin oral arithmetic immediately upon entry of the child into school. In thus beginning number work early, Pestalozzi maintained he was meeting the legitimate desires of the children, who, he declared, liked numbers as well as they liked letters.

Pestalozzi placed strong emphasis on perception, *i.e.*, the use of objects in developing the number sense. This was but part of his general enunciation that sense impression was the absolute foundation of all knowledge. The application which he made of this principle to number teaching revolutionized the character of the instruction then in vogue; and the excellent results which followed his teaching were the admiration of the many visitors to his schools.

An examination of Pestalozzi's writings and those of his immediate followers would indicate the following as his leading contributions to the subject of arithmetic:

1. He would have pupils "think" in their number work and not merely memorize words, rules, etc.
2. He would have pupils gain their first numerical ideas by means of objective teaching. Then they should pass to representations upon the blackboard. In this way he hoped pupils would grasp number in its abstract character.
3. Number work should begin when the child enters school. The nature of the treatment was to be oral, no written arithmetic to be taken until the number space 1 to 10 had been covered.
4. The processes should not be taught simultaneously.
5. The work was to be characterized by thoroughness.
6. It must be correlated at every stage with language.
7. Pestalozzi gave arithmetic practically the foremost place in school. As training for the mind, he considered instruction in arithmetic unequalled, particularly oral arithmetic.

The influences most felt were perhaps the idea of sense perception as the basis and formal discipline as the aim of instruction.