

two distinct uses of arithmetic. (1) Its *direct* or *practical* use as an instrument for the solution of problems and (2) its *indirect* or *scientific* use as a means of calling out the reasoning faculty.

With these two objects in view, therefore, it shall be my endeavor to inquire what portions of arithmetic are best suited to lead the pupil to an intelligent possession of the principles, and render him expert and logical in their application, and, secondly, what of arithmetic will best draw out, cultivate and strengthen the reasoning powers of the mind, and what is comparatively valueless in the pursuit of these ends.

With the utilitarian's view before us then, we may inquire what of arithmetic is necessary in the ordinary avocations of life, as, for example, the ordinary industrial pursuits of our towns and cities, the forming of our rural communities and the housekeeping of both? A tradesman should know that six days' labour at \$1.35 a day would give him \$8.10, and that this amount of labour given for fifty-two weeks would give him the sum of \$421.20. He should know how to check a grocer's bill, lest he be cheated. He should know that 15 cents a day spent in tobacco and strong drink would amount to the sum of \$54.75 in a year, the difference between honourable independence and poverty. He should know how many ounces there are in a lb., lbs. in a ton, inches in a foot, feet in a yard, cents in a dollar, pints in a quart, quarts in a gallon. How to find the $\frac{1}{2}$, $\frac{1}{4}$, $\frac{3}{8}$, $\frac{5}{8}$, etc., of any number; how much $\frac{1}{2} + \frac{1}{3}$ is, and how to multiply a simple fraction by a whole and a fractional number. Beyond these simple requirements, possibly add the ability to compute simple interest, and you have all the arithmetic actually required in the ordinary duties of life. To place his requirements in other words, he should be able to add, subtract, multiply and divide simple numbers, should be taught the connection between simple and so-called compound numbers, and know a very little of the tables, and finally should know how to add, subtract, multiply and divide the simple forms of vulgar fractions, and to apply his knowledge of the simple rules to interest.

Time is too short and life too valuable to spend the one and confuse the other by learning anything about the scales, Frenchells, chains, degrees and seconds, compound complex fractions, decimals, compound interest, brokerage, commission, square and cube root, logarithms and series, etc., etc., etc.