

ing or exercising them. It would be a very great inconvenience, even to a common carpenter, not to have a precise, well understood name for each of the several operations he performs, such as chiselling, sawing, planing, &c., and for the several tools [or instruments] he works with. And if we had not such words as addition, subtraction, multiplication, division, &c., employed in an exactly defined sense, and also fixed rules for conducting these and other arithmetical processes, it would be a tedious and uncertain work to go through even such simple calculations as a child very soon learns to perform with perfect ease. And after all there would be a fresh difficulty in making other persons understand clearly the correctness of the calculations made.

"You are to observe, however, that technical language and rules, if you would make them really useful, must be not only *distinctly understood*, but also learned and *remembered* as familiarly as the alphabet, and employed *constantly*, and with scrupulous *exactness*; otherwise, technical language will prove an encumbrance instead of an advantage, just as a suit of clothes would be if, instead of putting them on and *wearing* them, you were to carry them about in your hand." Page 11.

What is said of *technical language* is, at least, equally true of the *signs and characters* by which we still further facilitate the conveyance of our ideas on such matters as form the subject of the present work. It is much more simple to put down a character which expresses a process, than to write the name, or description of the latter, *in full*. Besides, in glancing over a mathematical investigation, the mind is able, with greater ease, to connect, and understand its different portions when they are briefly expressed by familiar signs, than when they are indicated by words which have nothing particularly calculated to *catch the eye*, and which cannot even be clearly understood without considerable attention. But it must be borne in mind, that, while such a treatise as the present, will seem easy and intelligible