

Such examples might be multiplied almost indefinitely, and they show clearly the impotence of the dictum "similar triangles are to one another in the duplicate ratio of their homologous sides" to convey any real knowledge to the mind of the ordinary learner. "Duplicate ratio" and "homologous" are mere sounds, to the latter of which violence is often done, inasmuch as I have frequently met with "homolicus" and "harmologous" sides.

Now, as regards the amount of time which is spent in the schools by young boys in acquiring the elementary facts and conceptions of geometry from Euclid's book, I know that very many months are occupied in attaining to the twelfth proposition of the first Book. I have before me, in fact, a fair-sized treatise written for the purpose of guiding boys along Euclid's exact path to this proposition.

There is absolutely nothing in the first twelve propositions that could not be taught far more effectively to a boy of ordinary intelligence in a few days, if only a rational style of teaching geometry were adopted; but if the exact language and pedantic professionalism of the school Euclids must be followed, to the weariness of the boy's mind and the quenching of his interest, it becomes a very long process indeed—ending, in the case of a large number, in utter failure.

Moreover, the current practice which insists on compelling boys to study geometry in an order and language characteristic of mediæval times, when no physical sciences existed, is a hindrance to the study of such sciences now, inasmuch as geometry is one of the foundations of all exact science; and it is obvious that if an intelligent knowledge of geometry is postponed, the physical sciences must be kept back also.

The plea that Euclid's book is unrivalled as an exposition of clear logical method and arrangement, and, as such, must be the foundation on which to build geometry, is vain—for the simple reason that it is not in England (where Euclid is worshipped), but in France and Germany (where Euclid is unknown as a text-book), that the great discoverers in geometry have been produced.

The late M. Paul Bert, Minister of Public Instruction in France, published a little book on the proper method of teaching geometry to beginners, in which he severely satirised the faults of the existing procedure; and, again,