

the simplest, clearest, and most *usable* manner possible. Above all, his aim must be to put the exact truth before them; and as exactness and truth are the heart and lungs of science, it follows that the scientific method should recommend itself to him as not only the most correct, but the most practicable.

The first point, then, to be noticed is that the aim is not to pile fact upon fact within the brain until a veritable tower of geographical confusion has been built; but so to arrange the facts that they may almost explain themselves; to appeal, by careful selection of geographical *data*, to the faculties of observation first and reflection afterwards; to continually provide opportunities for the pupils to work out the simple problems unaided; to train them in the art of accurate definition, so that they may crystallise their knowledge into a neat phrase—for a definition, it should be noted, is the crystal of knowledge; and, finally, to so exercise the reasoning faculties—first in the broader and more obvious, and afterwards in the detailed aspects of the subject—that the pupil may be able to utilise his knowledge as a laborer would handle a tool, and mould for his own use or profit a conclusion or an opinion which shall be as directly helpful as it is directly scientific. When the student has arrived at this stage, even though he have mastered but a few complete principles of geography, I think that he is possessed of far more skill in applying his knowledge, and hence of far more *power to act* (which is the sum of sound instruction), than the unfortunate youth who has been crammed with hundreds and thousands of isolated facts, but never been taught to trace their source and method of distribution, their relation to the environment and their influence on man.

The question which would now naturally occur to the practical teacher is, How am I to attain such results? The facts should be taught first, by all means, as it is only from them that the principles can be elucidated. But the youthful mind—I am not referring to little children, although much that I say is applicable to them—is not incapable of understanding the relation between cause and effect, and, provided the induction be not too subtle, is thoroughly able to reason out a process for itself. On the other hand, principles are not to be illustrated by facts, for that is reversing the natural order of things. Observation must precede reflection, collection is necessary before arrangement is possible. The true means of teaching geography is therefore that which collects and arranges facts in such a manner that the principle which unifies or differentiates them may arise directly and become obvious.

This teaching by induction, if aided by a sober imagination (demanded by science as well as by poetry), is the only true method—the only scientific. Facts first, laws afterwards. Some pupils may be unable—may be too young—to grasp the logical induction of a principle, but none are too young for *facts*. Facts are, it is true, but separated links, necessitating the *principle of connection* to acquire the value of a chain. Yet if only separate links can be utilised, they at least illustrate the nature of the chain—even if they fail to interpret its functions.

But it is not necessary to ignore principles when teaching geography. For instance, I would say to a boy, Here on the map are London, Liverpool, Bristol, Hull and Glasgow. They are all large ports—geographical fact. And applying the question, "Where?" I elucidate the statement that they are all at or near the