

effect and cause, at least in so far as that all the phenomena of magnetism are producible by electricity, but no electric phenomena have hitherto ever been produced by magnetism. But the analysis of magnetism, in its relation to particular metals, is not yet quite satisfactorily performed; and we are compelled to admit the existence of some cause, whether proximate or ultimate, whose presence in the one and not in the other phenomenon determines their difference. Cases like these, of all which science presents, offer the highest interest. They excite inquiry, like the near approach to the solution of an enigma; they show us that there is light, could only a certain veil be drawn aside.

(85.) In pursuing the analysis of any phenomenon, the moment we find ourselves stopped by one of which we perceive no analysis, and which, therefore we are forced to refer (at least provisionally) to the class of ultimate facts, and to regard as elementary, the study of that phenomenon and of its laws becomes a separate branch of science. If we encounter the same elementary phenomenon in the analysis of several composite ones, it becomes still more interesting, and assumes additional importance; while at the same time we acquire information respecting the phenomenon itself, by observing those with which it is habitually associated, that may help us at length to its analysis. It is thus that sciences increase, and acquire a mutual relation and dependency. It is thus, too, that we are at length enabled to trace parallels and analogies between great branches of science themselves, which at length terminate in a perception of their dependence on some common phenomenon of a more general and elementary nature than that which forms the subject of either separately. It was thus, for example, that, previous to Oersted's great discovery of electro-magnetism, a general resemblance between the two sciences of electricity and magnetism was recognised, and many of the chief phenomena in each were ascertained to have their parallels, *mutatis mutandis*, in the other. It was thus, too, that an analogy subsisting between sound and light has been gradually traced into