

Scientific inquiry in biology and psycho-physics has thus advanced on the lines indicated in the earlier chapters, where it was shown how several positive scientific conceptions have been gained, defined, and applied. These conceptions are all generalisations based upon definite observable facts of nature, such as attraction, atomic constitution, motion (rectilinear, periodic, and rotational), energy, form, and change of form,¹ and they have given rise to great branches of science, containing special methods of thought and reasoning. They have all shown themselves accessible, in a greater or less degree, to mathematical treatment, and have consequently been the means of introducing the exact scientific spirit into large fields of research, into ever

¹ The statement in the text is not strictly correct; for of the six definite conceptions mentioned we really, even in single cases, only see two exemplified—viz., motion and form. Neither attraction, nor the atom, nor energy, nor development is, even in single cases, observable, though, with the exception of energy, they are very early and very familiar abstractions. This remark may suggest that motion and form are, at least for the present, the simplest and most obvious conceptions into which we can analyse or resolve all external observations, and that consequently kinetics and morphology may be the fundamental sciences, the first in natural philosophy, the latter in natural history or biology in the widest sense. That a kinetic view will gradually supervene in natural philosophy is, I think, generally admitted. It seems less generally conceded that morphology will supervene in biology; especially as all the rage

is just now for evolution and development. But as development must start from something, it is likely that it will lead back to morphology. As tending in this direction I read the expositions of Lotze, Claude Bernard, and the "Organicists." Organisation must mean a certain arrangement, and arrangement is ultimately the same as order, structure, or form. It may mean something more—viz., unity or centredness; but this is a conception not capable of a purely mechanical or geometrical definition; we know of it only through introspection. A great deal has been written on Morphology and Morphogenesis by that very suggestive author, Hans Driesch; see a list of his writings, *supra*, p. 456 note. I here only refer to them; for, being myself unable clearly to apprehend his main drift, I hesitate to quote him as confirming the argument of this note. The reader must judge for himself.