

methods of investigation and reasoning which have been learnt in the mechanical, physical, and chemical sciences: the processes of observation, measurement, and calculation. And yet it may be asked, have we come nearer an answer to the question, What is Life? At one time, for a generation which is passing away, we apparently had. But a closer scrutiny has convinced most of us that we have not. The study of life has indeed been transferred from the higher and more complex forms to the lower, the minuter, and the simpler; and now lingers by preference among cells, germs, and primitive organisms, out of which we have learnt to consider the higher ones as put together on the principles of co-operation, division of labour, and mutual accommodation. The problem "What is Life?" has in all this gained a twofold aspect. Wherein consists the peculiarity of the smallest unit of living as compared with not-living matter? In organisation we are told, in growth through intussusception, in metabolism; but we are far from being able mechanically to describe these phenomena or processes. The spectre of a vital principle still lurks behind all our terms.<sup>1</sup> On the other

57.  
Two aspects  
of the  
problem  
of life.

<sup>1</sup> If we broadly summarise the properties peculiar to living things which the nineteenth century has dwelt on in an original manner under the three conceptions of adaptation (fitness), selection (natural or sexual), and organisation (order or harmony), the question presents itself, Is any of these much-used terms intelligible or definable without reference to something which is extraneous to the object we treat of, this reference existing in our own thinking or contemplating mind, and, if actually present in natural

objects themselves, then also indicative of the existence of some immaterial principle? Though this is manifested in mechanical contrivances which it has left behind with its signature upon them, it is nevertheless vaguely analogous to the selective, purposeful, or orderly performances of a human intellect. The exclusive study of detail on the one side, the aspect of the whole on the other, will always induce opposite answers to this question. In addition to the literature given in the notes to this chapter, I may refer