

THE RIDDLE OF THE UNIVERSE

were certain peculiar changes, especially movements, which were wanting in lifeless nature: spontaneous locomotion, the beat of the heart, the drawing of the breath, speech, and so forth. But the discrimination of such "organic movements" from similar phenomena in inorganic bodies was by no means easy, and was frequently impossible; the flowing stream, the flickering flame, the rushing wind, the falling rock, seemed to man to exhibit the same movements. It was quite natural that primitive man should attribute an independent life to these "dead" bodies. He knew no more of the real sources of movement in the one case than in the other.

We find the earliest scientific observations on the nature of man's vital functions (as well as on his structure) in the Greek natural philosophers and physicians of the sixth and fifth centuries before Christ. The best collection of the physiological facts which were known at that time is to be found in the *Natural History* of Aristotle; a great number of his assertions were probably taken from Democritus and Hippocrates. The school of the latter had already made attempts to explain the mystery; it postulated as the ultimate source of life in man and the beasts a volatile "spirit of life" (Pneuma); and Erasistratus (280 B.C.) already drew a distinction between the lower and the higher "spirit of life," the *pneuma zoticon* in the heart and the *pneuma psychicon* in the brain.

The credit of gathering these scattered truths into unity, and of making the first attempt at a systematic physiology, belongs to the great Greek physician Galen; we have already recognized in him the first great anatomist of antiquity (cf. p. 23). In his researches into the organs of the body he never lost sight