

An endeavour to answer this difficult fundamental question, in accordance with nature, was made as early as the fifth century before Christ, by Empedocles of Agrigentum, the great Greek philosopher. According to him, the forms of animals and plants that serve a purpose, and as we now know them, originated only gradually, and, moreover, owing to the continual struggle of opposing forces of nature; the present living forms he considered the remains of an immensely large number of extinct forms, and, indeed, because they were most advantageously adapted for that struggle, and hence were the most suitable survivors. Empedocles, on the one hand, lays special emphasis on the fact that the structure of the bodies of living creatures serve a purpose; but, on the other hand, he at the same time points out that we must not set up any "principle of intentional design" in explanation of them, as they have arisen in a purely mechanical way by the interaction of natural forces. Fritz Schultze, therefore, in his account of Greek philosophy, justly says, "To have first conceived the grand thought of a theory of tracing the origin of what is suitable from what is unsuitable, is the brilliant merit of Empedocles, and when we consider that his two fundamental principles, love and hate, are the germinal forms of the modern fundamental forces of attraction and revulsion, we cannot assuredly deny Empedocles, the early investigator of nature, our full admiration."

Hence, as regards the solution of this most important question, Empedocles must be regarded as Darwin's earliest predecessor. For although other philosophers of nature, in classic antiquity, especially Lucretius, recognized the great significance of the question, still it was subsequently alto-