

Unless we are advanced students of psychical research we will agree that the force called life manifests itself *only* through the medium of *matter*. Protoplasm has the distinction of being the *only kind of matter*, in which *life makes itself evident*. We cannot avoid desiring to know what is the real nature of this vital force, and what is its origin. These questions are yet to be answered to the satisfaction of all. Those who desire to reduce all phenomena to known chemical and physical changes, reason as follows:—Life is made evident by the production of energy. Energy is obtained from matter by chemical changes in the matter—for example, we thus get heat, electricity, explosions, etc. The greatest and most continuous manifestations of energy come from the substances which are the least stable. Such substances as protoplasm are notably unstable, and chemical changes accompanied by energy changes are constantly going on in protoplasm. *Life is the summation or resultant of all these changes*. But can this be true? We may easily so act upon protoplasm that the life in it is destroyed, and yet it is protoplasm, and chemical changes go on rapidly in it. But these changes do not constitute life. They soon result in the destruction of the protoplasm. It therefore seems that the relation of life to chemical changes in protoplasm is rather a directive one—life being a power capable of controlling and deciding the kinds of chemical change which may occur in protoplasm. Huxley clearly set forth the difference between living and non-living matter in his famous definition—"Living matter is distinguished by its continual disintegration by oxidation, and its concomitant reintegration by the intussusception of new matter." Just so! Non-living protoplasm is also continually "disintegrated by oxidation," but there is no "concomitant intussusception of new matter." And so the dead protoplasm is gradually consumed. An alternative explanation of the origin of life is that it was "breathed into" protoplasm from some Source of Life outside the protoplasm. This statement, although apparently not scientific, has the advantage of being more difficult to disprove chemically, than any of the chemical explanations at present offered.

Whatever may have been the origin of protoplasm or of the life force within it giving it sensation, mobility, power of growth and of reproduction,—there can be no doubt of the present existence of minute masses of protoplasm having these properties. The conditions in which this first protoplasm lived were probably warmth, moisture and possibly light. Only in the presence of some moisture, and a moderate temperature will life continue active in protoplasm. The source of heat in the primitive world was probably the cooling crust of the earth, but eventually light