

condition, when the plastic material had been created but the magical touch of the Supreme Intelligence had not yet moulded the chaos into wondrous designs that now furnish food for the souls of finite beings. Architecture was then unknown, and without architecture of what use were the materials—the soft clay or the perfect marble? Beauty and utility were yet latent. But ere long the designs and specifications of the Supreme Architect were revealed, and the product of two mighty forces—vital and physical—by the union of mind and matter, produced a living cell. The Great Architect had united the material with the immaterial, the visible with the invisible, and out of the chaos of a dead universe there evolved the greatest mystery of creation—life.

Now, let us take a retrogressive step and look back into the synthesis of living beings. No analytical or synthetical chemistry can give us the origin of life or tell us what it is. The principle that gives the inert mass the power of life is the secret of the Creator, and will never be comprehended by the finite mind of man. What life is, no one knows. It is said to be the result of the activity of the cells. Now, a cell is the lowest form of life, both animal and vegetable, and from these single cells all life is produced.

Let us examine a simple living cell. If we study it carefully we shall find that it is composed of an unresponsive, powerless mass of protoplasm and a vital force. By the union of these two factors it becomes an independent organism, possessing well-marked functions. This is the first step in the wonderful evolution of life.

Protoplasm (from *protos*, first, and *plasma*, mould, or what has been formed) was first so called by Hugo von Mohl as recently as 1846; and the simplest form of life which first emerges from the inorganic to the organic world consists of protoplasm, or, as Huxley calls it, the physical basis of life. It is a colorless semi-fluid or jelly-like substance, which consists of albuminoid matter. It exists in every living cell, both animal and vegetable. It is just as certain that all individual life, from the most elementary protoplasm up to the highest organism, man, originates in a minute or embryo cell, as it is that oxygen and hydrogen combined in certain proportions make water. Our most delicate means of research throw no light on the purely vital endowments of protoplasm, which not only direct and control its activities, but are transmitted in well-defined characters from parent to offspring. One thing we do know, that there is no life without pre-existing life from which it is derived, and the physical basis through which it acts or is made manifest furnishes no satisfactory explanation as to its real essence and constitution.

It is impossible to procure pure protoplasm for chemical analysis, as it contains many extraneous substances; and even if this could be done, a chemical analysis of living protoplasm cannot be made.