

## The Origin of the Chemical Elements and of Cell Life

The fundamental principles of Organic Chemistry must be traced to their primal source before the "Origin of Cell Life" can be discovered.

Chemical substances, such as acetic acid, butyric acid, propionic acid, ammonia, carbon dioxide, hydrogen, nitrogen, phosphorus, sulphur, etc., the products of cell activities, prove the cells to be made up of these substances, because *it is impossible to conceal the fact that all existing plants and animals have originated from others of the same kind.*

If the smallest cells which we know anything about produce certain chemical substances, we must recognize these substances as the "offspring" of these cells, because the cells themselves increase by "fission," part of the mother becoming the new cell. The life of the mother cell is an "everlasting" one because of this equal division of the mother-cell into two new cells. The only actual individual reproductions are the chemical products of the cell's activities.

The statement has been made by Tyndall, and others, that life is the result of "mere chemical affinity," and in order that we comprehend the meaning of this "chemical affinity" we must trace to their primal source the fundamental principles of Organic Chemistry.

Dr. Lowig, the great German chemist, says, "It is constantly becoming more apparent that the organic compounds, if all their relations are brought into view and not alone their individual characteristics, belong to distinct groups, which, as it were, correspond to the natural families of plants, and that these groups are again united to each other by a common bond."

The cell substance termed "protoplasma" is identical in constitution in both animal and vegetable cell construction, so that while we are tracing the "Origin of Cell Life" we will confine our investigations to the products of the most infinitesimal cell, bacteria, whose chemical products, in many instances, can reproduce the same conditions in animal bodies as the cells themselves, so that we have actual proof that liquids are *alive* and can produce protoplasmic cells, as bacteria, in the animal body if introduced into the body after the same manner as bacteria cells.

Dr. Lowig declares the organic compounds belong to distinct groups, united by a common bond.

Bacteria are divided into distinct groups, so that this characteristic of grouping is inherited from the "Organic Compounds," or chemical substances.