

and letters, known to me, on either side of the Atlantic. Many other circumstances gradually led me, step by step, to resolve the mystery of life to my own satisfaction. It was made clear to me that the human body was composed of ordinary elements which are well known, and controlled by forces equally well known, save in one particular.

A germ of wheat plant; a soil, with moisture, light, heat, and the atmosphere, supplied the conditions of its growth and multiplication very many fold. Its seed, after undergoing sundry mechanical processes of grinding, sifting, etc.; and then some chemical alterations, arrested at a certain stage by heat—baking and bread, "the staff of life," is the result. Of this staff of life, man and beast, reptile and bird, fish or insect, mollusc or worm might partake, and with similar conditions surrounding, to wit: light, heat and moisture, with the occult chemistry and dynamics of organic life, the wheaten loaf formed tissues for all. It was to the mode of force which thus, out of the wheaten loaf, constructed the tissues for all, that the term: "formless" or "organizing" was suggested and applied, because the wheaten loaf was certainly "formless" protoplasm—the first matter or "physical basis of life," and that the form which it should assume when eaten by a living being, depended solely on what that living being should be; whether man or beast, bird or fish, reptile, worm or insect; black or white, or poly-coloured, deformed or symmetrical, old or young, learned or unlearned, civilized or savage; and as each had its own specific forms, the power of force which gave these forms would be accurately or scientifically expressed by the terms "form-force," or "architect of organization." And it appeared certain that the force or power or labor, which assimilated the protoplasm—first matter of life—to each of these forms, was but a continuation of the ordinary physical forces of light, heat, etc., which had organized from carbonic acid, ammonia, water, and the earthy and saline constituents, the wheaten kernel or germ; and as the potter had power over the clay to make one vessel or form for one purpose, and another, out of the same clay, for another, it was evident that in all forms, whether organic or inorganic, there was a necessity for the laborer and the architect; that though there were sometimes, and exceptionally, combined in one person, as in the potter, making the forms of his own fancy or design, they were, in reality, in the construction of organic forms, separate modes of force, or there would be no protoplasm, or first matter of life for all—hence, in substituting for the term vitality—which is apparently single, and without definite meaning, in fact used to cover a vast mass of ignorance, and repel investigation, two terms, expressive of exact and definite modes of force, the matter to my mind was greatly simplified; though Dr. Jones thinks that the multiplication of terms has, to him, added complexity. But it does seem to me that two terms with definite meanings, expressive of exact facts or laws, are more simple than one term without definite meaning. And this was all the more conspicuous in reasoning them, through to consequences. Thus, over the formless or organizing force, therapeutic agents unquestionably have influence to promote or retard its operations in many ways, as by low temperature

and rest, the velocity of tissue waste and repair are reduced to their minimum; while high temperature and physical labor run both to their maximum, as exemplified by laborers in harvest fields.

But the matter of form is beyond the control of remedial agents. Two weeks since it was my privilege to assist at the post-mortem of a child twenty-two months old, from whom was taken what was once a mesenteric gland, but then was a formless mass weighing eight pounds, though the entire little patient, tumor and all, weighed only twenty-two. Here was eight pounds of organic matter out of normal form in a child's abdomen, and was the occasion of its death partly by mechanical pressure on the remaining contents of the abdominal and thoracic cavities, and partly by the appropriation of so much of the protoplasm eaten by the child, to the growth of the abnormal form.

It adds nothing to our knowledge to say that it was a cancerous mass; for what does the word cancer mean? Why, something malignant and awful—that is all. The tumor was constructed out of the same first matter of life as the tissues of normal form, and by the same organizing or formless force. These are the facts; then why not say that the normal type or form was lost, and that therapeutic agents to restore it are unknown, i. e., over that mode of force giving and preserving forms, amidst the ceaseless molecular changes of organic tissues, we can, by remedial agents, exercise no control. To designate such, the term was suggested, because it expresses definitely its purposes and results in organic life; and, as in the child's case, organization went on, producing tissue or structure of one uniform type foreign to the body, the term formless was, in like manner, suggested as expressive of its purposes and results. The little patient had therapeutic agents given to retard the operations of the formless force, which probably prolonged its life many days; but as they had no power to restore lost forms, the little sufferer passed away. Therapeutic agents can and do promote or retard the operations of the organizing or formless force; but cases of lost forms are given over to the surgeon, whose sole power lies in their removal or destruction; and in some cases, as in that of the little child, he, too, is powerless.

It does seem to me, therefore, that my substitution of two forms, with definite meanings, for one without, signifies my conceptions and ideas of organic life. For its mystery, apparently, lies solely in its form. The same formless "first matter of life," being used to construct all organic forms, whether in man or beast, reptile or bird, fish or worm, mollusc or insect.

This explanation and justification for my new terms and division of the forces of organic life, would be esteemed invulnerable, were it not that the difficulties of "communication," so graphically set forth by Mr. Wasson, are remembered and realized. These, like the story of the Englishman and janitor, remind me that, certainly not this side of the millenium, will we all see or think alike. But to me these definite conceptions of the forces of organic life, throw a flood of light upon my ministrations to the sick, and explain intelligible formulas the separate provinces of the physician and surgeon in the management of the "disarrangements" of