

# SCIENCE

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## ORGANIC DETERMINISM<sup>1</sup>

OUR daily life is chiefly made up of an array of activities determined in the main by our surroundings. The heart beats more or less vigorously in accordance with an uphill or downhill course. White corpuscles move about in our bodies much as amoebae do in ponds and gather in regions of foreign invasion. Our eyes blink at the quick movement of even a friendly hand. Breathing adjusts itself as heart action does and rebels against a self-imposed restraint. Our daily habits become so ingrained that dressing and undressing, eating, going to our occupations and returning from them follow the course of the sun.

But human life is also permeated by a kind of action that calls for a certain measure of freedom. Our choices and volitions appear to us to be in many respects quite free, and this seems especially true the more we attend to this aspect of them. Such freedom is usually regarded as the basis of our social responsibilities, for a person can not be held accountable for that which he is unable to control. Any complete scheme of nature must include a consideration of what seems to be constrained and of what seems to be free in human action.

Our bodies are made up of some twelve of the approximate hundred elements recognized by the chemist and of these the principal ones are carbon, hydrogen, oxygen and nitrogen. These four elements and in fact all others found in living bodies occur in abundance in inorganic nature. In brief there is no element exclusively concerned with life. The chemical elements are further resolvable into electric units, protons and electrons, which in varying combinations give rise to these elements. How can a constitution such as this make clear to us the diversity of human action?

Such a constitution lends itself with comparative ease to the understanding of many metabolic processes as, for instance, those that occur in digestion and the like, the reflexes and the tropisms and many allied organic operations. But will it make clear the human capacity of imagination, of memory, will it serve to elucidate the emotions, the affections and such other factors in human life?

From this standpoint some of the older evolutionists are responsible for an interpretation of nature

<sup>1</sup>This address, from which certain passages were omitted in consequence of an overcrowded program, was read at the annual meeting of the American Society of Naturalists, held at Cincinnati, December 29, 1923.

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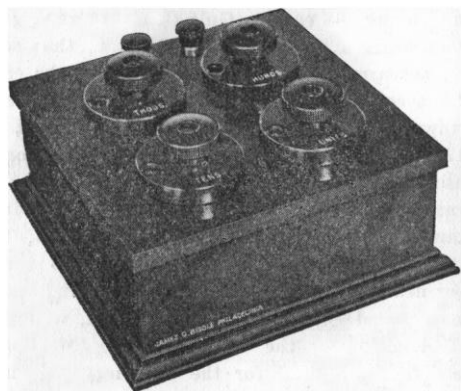
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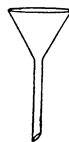
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