

mechanical, physical, and chemical causes, which are inherent in the nature of matter itself. The simplest animals and the simplest plants, which stand at the lowest point in the scale of organization, have originated and still originate by spontaneous generation. All animate natural bodies or organisms are subject to the same laws as inanimate natural bodies or anorgana. The ideas and actions of the understanding are the motional phenomena of the central nervous system. The will is in truth never free. Reason is only a higher degree of development and combination of judgments."

These are indeed astonishingly bold, grand, and far-reaching views, and were expressed by Lamarck eighty years ago, in fact, at a time when their establishment, by a mass of facts, was not nearly as possible as it is in our day. Indeed Lamarck's work is really a complete and strictly monistic (mechanical) system of nature, and all the important general principles of monistic Biology are already enunciated by him: the unity of the active causes in organic and inorganic nature; the ultimate explanation of these causes in the chemical and physical properties of matter itself; the absence of a special vital power, or of an organic final cause, the derivation of all organisms from some few, most simple original forms, which have come into existence by spontaneous generation out of inorganic matter; the coherent course of the whole earth's history; the absence of violent cataclysmic revolutions; and in general the inconceivableness of any miracle, of any supernatural interference, in the natural course of the development of matter.

The fact that Lamarck's wonderful intellectual feat met with scarcely any recognition, arises partly from the gigantic