

CHAPTER XIV

THE UNITY OF NATURE

The Monism of the Cosmos—Essential Unity of Organic and Inorganic Nature—Carbon-Theory—The Hypothesis of Abiogenesis—Mechanical and Purposive Causes—Mechanicism and Teleology in Kant's Works—Design in the Organic and Inorganic Worlds—Vitalism—Neovitalism—Dysteleology (the Moral of the Rudimentary Organs) — Absence of Design in, and Imperfection of, Nature—Telic Action in Organized Bodies—Its Absence in Ontogeny and Phylogeny—The Platonist "Ideas"—No Moral Order Discoverable in the History of the Organic World, of the Vertebrates, or of the Human Race—Prevision—Design and Chance

ONE of the first things to be proved by the law of substance is the basic fact that any natural force can be directly or indirectly converted into any other. Mechanical and chemical energy, sound and heat, light and electricity, are mutually convertible; they seem to be but different modes of one and the same fundamental force or *energy*. Thence follows the important thesis of the unity of all natural forces, or, as it may also be expressed, the "monism of energy." This fundamental principle is now generally recognized in the entire province of physics and chemistry, as far as it applies to inorganic substances.

It seems to be otherwise with the organic world and its wealth of color and form. It is, of course, obvious that a great part of the phenomena of life may be im-