

THE RIDDLE OF THE UNIVERSE

the *chemistry* of the atoms, their "chemical affinity"—that is, the constant proportion in which they combine with the atoms of other elements—is empirical.*

The different relation of the various elements towards each other, which chemistry calls "affinity," is one of the most important properties of ponderable matter; it is manifested in the different relative quantities or proportions of their combination in the intensity of its consummation. Every shade of inclination, from complete indifference to the fiercest passion, is exemplified in the chemical relation of the various elements towards each other, just as we find in the psychology of man, and especially in the life of the sexes. Goethe, in his classical romance, *Affinities*, compared the relations of pairs of lovers with the phenomenon of the same name in the formation of chemical combinations. The irresistible passion that draws Edward to the sympathetic Ottilia, or Paris to Helen, and leaps over all bounds of reason and morality, is the same powerful "unconscious" attractive force which impels the living spermatozoon to force an entrance into the ovum in the fertilization of the egg of the animal or plant—the same impetuous movement which unites two atoms of hydrogen to one atom of oxygen for the formation of a molecule of water. This fundamental *unity of affinity in the whole of nature*, from the simplest chemical process to the most complicated love story, was recognized by the great Greek scientist, Empedocles, in the fifth century B.C., in his theory of "the love and hatred of the elements." It receives empirical confirmation from the interesting progress of cellular psychology, the great significance of which we have only learned to

* Cf. *Monism*, by Ernst Haeckel.