

of the ocean gradually into calcareous earth; vegetables, on the origin and changes of which they tell us nothing, have changed the water into clay; but these two earths, by dint of being deprived of the characteristics which life had impressed on them, were resolved, by the last analysis, into flint; and that is the reason why the oldest mountains are the most flinty. All the solid portions of the earth owe their birth, then, to life, and without life the whole globe would be still wholly liquid. (1)

Other writers have given the preference to the theory of Kepler. Like this great astronomer, they assign vital powers to the globe; they say that a fluid circulates around it; an assimilation is made as in animate bodies; each of its component parts has life: not only the very elementary atoms have instinct and will, which attract and repel by sympathies and antipathies: but every sort of mineral can convert immense masses into its own proper nature as we convert our aliments into flesh and blood. Mountains are the organs of the respiration of the globe, and the schists the secreting organs; it is by these that sea water is decomposed to engender volcanic eruptions; the veins in mines are the carries, the abscesses, of the mineral kingdom; and the metals a production of putrefaction and disease; and this accounts for their bad smell. (2)

Still more recent is a philosophy which substitutes metaphors for reasoning, setting out with a

(1) See *La Physique de Rodig.* p. 106. Leips. 1801; and p. 169, vol. ii. of *Telliamed*, as well as a great number of German works. M. de Lamarck has, with much research and talent, developed this system in his '*Hydrogeology and Zoological Philosophy.*'

(2) M. Patrin has shown much imagination in supporting these fantastic ideas, in many articles in '*Le Nouveau Dictionnaire d'Histoire Naturelle.*'