

Animals have an organized structure, which regularly unfolds itself, and is nourished and supported by air and food. They consequently possess life and are subject to Death—they are moreover endowed with sensation, and with spontaneous as well as voluntary motion.

Vegetables are organized, supported by air and food, endowed with life and subject to death as well as animals.—They have in some instances spontaneous motion—they are sensible to the action of nourishment, air, and light, and either thrive or languish according to the wholesome or hurtful application of these stimulants. The familiar application of the withered rose to the fate of human life and beauty, is not more striking to the imagination than philosophically and literally true.

These spontaneous movements of Plants are almost as readily to be observed, as their living principle—the general direction of their branches, and especially of the upper surface of their leaves, (though repeatedly disturbed) to the light—the unfolding and closing of their flowers at stated times, or according to favourable or unfavourable circumstances, with other curious particulars, are actions undoubtedly depending on their vital principle, and are performed with the greater facility in proportion as that principle is in its greatest vigour.—Hence arises a question whether Vegetables are endowed with *Sensation*?

SMITH from whom these extracts are principally made, in answer to the question observes—As they possess life, irritability and motion, spontaneously directing their organs to what is natural and beneficial to them, and flourishing according to their success in satisfying their wants, may not the exercise of their vital Function be attended with some degree of sensation however low, and some consequent share of Happiness?

Such questions involve much speculative enquiry, but they are likely to continue questions for the indulgence of the ingenuity of Theorists.

Some Philosophers have made a lo-

comotive power peculiarly characteristic of Animals, not being aware of the true nature of those half animated beings, called Corals and Corallines, which are fixed as immoveably as any plants, to the bottom of the Sea, while indeed many living vegetables swim around them, unattached to the soil, and nourished by the water in which they float. Some have characterised animals as nourished by their *internal*, and vegetables by their *external* surface, the latter having no such thing as an internal stomach—this is tolerably correct, but the proofs of it must fail with respect to those minute and simply constructed animals the Polypes and the Lower tribes of worms, whose feelers put forth into the water, seem scarcely different from roots seeking their food in the Earth, and some of which may be turned inside out, like a glove, without any disturbance of their ordinary functions. Smith says the most satisfactory remark he has for a long time met with on this difficult subject is that of M. MIRBEL, “that plants alone have the power of deriving nourishment though not indeed exclusively from inorganic matter mere earths, salts, or airs, substances certainly incapable of serving as food for any animals, the latter feeding on what is, or has been organized matter, either of a vegetable or, animal nature. So that it should seem to be the office of vegetable life alone to transform dead matter into organized living bodies. The idea appeared so just to Smith, that he has in vain sought for any exception to it. Burning will decide the questions between a Plant, and one of the Lower order of animals. The smell of a burnt bone, coralline, or other animal substance is peculiar, and entirely different from the odour given out by any known vegetable.

The Mineral Kingdom can never be confounded with the other two. Fossils are masses of dead unorganized matter, subject to the Laws of Chemistry alone, increasing by the mechanical addition of extraneous substances or by the Laws of chemical attraction. Their curious crystallization bears some re-