

bladders arise from original semi-fluid globules of the primitive slime, by the fact of their periphery becoming condensed. The simplest organism, as well as every animal and every plant of higher kind, is nothing else than "an accumulation (synthesis) of such infusorial bladders, which by various combinations assume various forms, and thus develop into higher organisms." Here again we need only translate the expression *little bladder*, or *infusorium*, by the word *cell*, and we arrive at the Cell theory, one of the grandest biological theories of our century. Schleiden and Schwann, in 1838, were the first to furnish experiential proof that all organisms are either simple cells, or accumulations (syntheses) of such cells, and the more recent protoplasm theory has shown that protoplasm (the original slime) is the most essential (and sometimes the only) constituent part of the genuine cell. The properties which Oken ascribes to his Infusoria are exactly the properties of cells, the properties of elementary beings, by whose accumulation, combination, and varying development the higher organisms are formed.

These two extremely fruitful thoughts of Oken, on account of the absurd form in which he expressed them, were at first little heeded, or entirely misunderstood, and it was reserved for a much later era to establish them by actual observation. Other principles of the theory of descent also stood in the closest connection with Oken's ideas. Of the origin of the human race Oken asserts, "Man has been developed, not created." Although many arbitrary perversities and extravagant fancies may be found in Oken's philosophy of nature, they must not prevent us paying our just admiration to his grand ideas, which were so far in