

work, or skeleton, which sustains and protects their fabric. The quadruped, the bird, the tortoise, the serpent, and the fish, however they may differ in subordinate details of organization, are yet constructed upon one uniform principle, and appear like varied copies from the same original model. In no instance do they present structures which are altogether isolated, or can be regarded as the results of separate and independent formations.

In proceeding from the contemplation of the structures of articulated to those of vertebrated animals, we appear to pass, by a rapid excursive flight, from one great continent to another, separated by an immense gulf, containing no intermediate islands from which we might gather indications of these tracts of land having been originally connected. At the very first sight, indeed, the general fabrics of these two descriptions of animals appear to have been constructed upon opposite principles; for, in the one, as we have already seen, the softer parts are internal, and are enclosed in a solid crust, or shell, or horny covering, answering, at once, the purposes of protection and mechanical support, and furnishing extensive surfaces for the attachment of the organs of motion. But, in the Vertebrata, the solid frame-work which serves these purposes, occupies, for the most part, an internal situation, constituting a true-jointed skeleton, which is surrounded by the softer organs, and to which the muscles, destined to move their several parts, are attached. The office of external defence is intrusted solely to the integuments, and their different appendages. Such is the general character of the arrangements which nature has here adopted; from which, however, she has occasionally deviated with respect to some important organs of extremely delicate texture, and which require to be shielded from the slightest pressure. This occurs with regard to the brain, and the spinal marrow, which, we shall presently find, are especially guarded by a bony structure, enclosing them on every side, and forming an impenetrable case for their protection. The solid mass of bone, thus provided to defend the brain, gives also the opportunity of lodging safely the delicate apparatus subser-