

scending in regular order, as in a succession of *dominant ideas*, each in its own age expressing itself in more than one organic type. Thus, in the reign of reptiles, the reptilian idea was dominant, and we find it invading the structure of the contemporaneous fishes. Afterward the avian or ornithic idea became dominant, and reptiles were endowed with wings, and even with feathers—if we may credit the reptilian character of the *Archæopteryx* of Solenhofen. Still later, the mammalian idea became dominant, and the forms of the *Ichthyosaurus* and *Plesiosaurus*, but more especially of the terrestrial Deinosaur, indexed the impress of that idea upon the reptilian class. Even in the Age of Molluscs, the dominant idea was expressed in the bivalve nature of the Ostracoid Crustaceans.

The forms styled “synthetic” or “comprehensive” types may perhaps be generalized under the formula of *dominant ideas*. Comprehensive types are those in which certain characteristics of a group are ingrafted upon a distinct though kindred stock. The Ganoid fishes are of this kind, since they combine reptilian with fish-like features. The Labyrinthodonts were comprehensive types, because they were Amphibians with the scaly covering of Reptiles. The *Lepidodendra* of the Coal era combined the characteristics of the Cryptogams with the foliage and general habits of the Conifers. Such a synthesis of types seems to be occasioned by the overlapping of consecutive ideas in time—a penumbra occurring while the last dominant idea is passing under the shadow of the coming one. The Pterosaurs, or flying reptiles, were the most marvelous of all comprehensive or penumbral types. On the basis structure of a reptile we find ingrafted the head and neck of a bird, the trunk and tail of a quadruped, and the leathery wings of a bat; while, not improbably, their feet were furnished with a web; so that these creatures were fitted for all elements,