

perfect as those of modern tertiary deposits. I have collected in the lowermost clays of the Wealden, fresh-water shells having traces of the epidermis, and of the ligament by which the valves were held together ; and bones of reptiles in Tilgate Forest, as light and porous as those of the bear and hyena, from the caverns of Germany. On the other hand, fossil remains from the newest tertiary formations are often completely petrified, that is, permeated by, or transmuted into stone.

Another prevalent error is that of considering incrustations to be petrifications ; a mistake which is sanctioned, by the custom of calling waters that are loaded with calcareous earth (*lime*), and deposit it in considerable quantity, petrifying springs or wells ; as those of Matlock, and other places in Derbyshire. (*Wond.* p. 58.) But incrustations are not petrifications ; stems and branches of trees, skulls, bones, shells, &c., are simply invested with a calcareous coating or crust, which is sometimes porous and friable, but often crystalline and compact. The enclosed bodies are not permeated by the stony matter ; if the mass be broken, or the incrustation removed, we find either the twig, or stem, dry and shrivelled, as in the specimens, figs. 2, 3, 4, Plate III. ; or tubular cavities left by the decay and removal of the vegetable structure, as in fig. 10, Plate III.

But although incrustations be not petrifications, natural specimens, (not the so-called petrified nests