

Purbeck series, is sudden. These are about 8 feet thick, and contain fresh-water remains of the genera *Cyclas*, *Valvata*, *Limnæa*, *Physa* and *Cypris*.

Near the base of the Purbeck rocks, in the Isles of Portland and Purbeck (figs. 39 and 75), lie three beds, known as the 'dirt beds,' which, from their colour and earthy character, were clearly ancient soils. They are full of the silicified stems and stools of coniferous trees, the former procumbent and the latter with roots attached, standing in the soil in the position in which they grew. Plants (*Cycadites microphyllus*, &c.) allied to the modern *Cycas* and *Zamia* are also found in them. In the Isle of Purbeck the whole of the Purbeck strata are about 360 feet thick in their largest development. They consist chiefly of limestones and marls, principally of fresh-water origin, with interstratifications of marine, brackish-water, and terrestrial bands. According to the sections of the Government Geological Survey, by Bristow, there are indications of four terrestrial surfaces, eleven sets of fresh-water beds, four brackish water, and three marine bands, the last containing *Pectens*, *Modiolas*, *Aviculas*, and *Thracias*. One of these, the 'cinder-bed' of the quarrymen, is about 12 feet thick, and is composed almost exclusively of oysters (*Ostrea distorta*). Along with these, sparingly, was found a *Perna* and an Oolitic genus of *Hemicidaris*, *H. Purbeckensis*. The fresh-water shells of the various beds are chiefly species of *Paludina*, *Limnæa*, *Planorbis*, *Physa*, *Valvata*, and *Unio*, and *Cyclas*, and along with these are several species of small fresh-water bivalve crustacea of the genus *Cypris*. The celebrated Purbeck marble, so largely used in the palmy days of Gothic architecture for the decoration of churches, lies near the top of the Upper Pur-