

which must, like the tails of all the more ancient fish, be formed mainly on the under side, the vertebral column running on to its termination ;—and the fish so formed will be a fair representation of the ancient *Dipterus*. Presenting externally in its original state no fragment of skin or membrane, and with even its most flexible organs sheathed in enamelled bone, it must have very much resembled a fish carved in ivory. What chiefly struck me in the examination was the peculiar structure of the ventral fins,—the hind paws of the creature, if I may so speak. Their internal angle of scales imparts to them an appearance of very considerable strength,—such an appearance as that presented by the hind fins of the *Ichthyosaurus*, which, as shown by a lately-discovered specimen, were furnished on the outer edges by a fringe of cartilaginous rays ; and I deemed it interesting thus to mark the true fish approximating in structure, ere the reptilia yet existed, to the reptile type. The young frog, when in its transition state, gets its legs fully developed, and yet for some little time thereafter retains its tail. The *Dipterus* seems to have been a fish formed on this sort of transition plan.

FOSSIL-WOOD OF THE OOLITE AT HELMSDALE, SUTHERLAND.

WHAT first strikes the observer in the appearance of the fossil-wood of this coast is the great distinctness with which the annual layers are marked. The harder lines of tissue, formed in the end of autumn, stand out as distinctly on the weathered surfaces as we see them in pieces of dressed deal that have been exposed for a series of years to the light and the air. The winters of the Oolitic period in this northern locality must have been sufficiently severe to have given a thorough check to vegetation. We are next struck by the great inequality of size in these layers, as we find them shown