

of this substance. The bones and scales of the fishes are invariably coloured with a ferruginous stain, arising from a curious chemical process; sulphuretted hydrogen was evolved during the putrefaction of the animal substance, but the sulphur entering into combination with the iron contained in the surrounding water, sulphuret of iron was formed, and hence the fossil fishes derived the rich colour which so beautifully contrasts with the white chalk in which they are imbedded.

8. MAESTRICHT BEDS.—I have described the usual lithological characters of the cretaceous strata, and if our observations were restricted to these deposits as they occur in England, the difference between the uppermost *secondary* formation and the superimposed *tertiary* would be most striking, both as regards the nature of the rocks and their organic remains. But, as I shall hereafter explain, the white chalk of England appears to have been formed in the profound depths of the sea, for we have rarely any intermixture of terrestrial or littoral productions; even pebbles are of unfrequent occurrence. At Castle Hill, near Newhaven (p. 223), and at Alum Bay, in the Isle of Wight (p. 224), the *cerithia* (Tab. 38, fig. 4), *turritellæ*, and other tertiary shells, abound in the sand and clay spread over the surface of the chalk, in which no similar shells can be detected. On the continent, however, there exist deposits which form, as it were, a link between the tertiary and the secondary. In