

have observed, in the cases of a museum of Natural History preparations of fish of two several kinds — preparations of the skeleton, in which only the osseous parts are exhibited and preparations of the external form, in which the whole body is shown in profile, with the fins spread to the full and at least half the bones of the head covered by the skin but in which the vertebral column and internal rays are wanting. Now, in the fossils of the chalk, with those of the other later formations, down to the New Red Sandstone, we find that the skeleton style of preparation obtains; whereas, in at least three fourths of the ichthyolites of the Lower Old Red, we find only what we may term the external style. I had marked, besides, another circumstance in the ichthyolites, which seemed, like a nice point of circumstantial evidence, to give testimony in the same line. The tails of all the ichthyolites, whose vertebral columns and internal rays are wanting, are unequally lobed, like those of the dog-fish and sturgeon, (both cartilaginous fishes,) and the body runs on to nearly the termination of the surrounding rays. The one-sided condition of tail exists, says Cuvier, in no recent osseous fish known to naturalists, except in the bony pike — a sauroid fish of the warmer rivers of America. With deference, however, to so high an authority, it is questionable whether the tail of the bony pike should not rather be described as a tail set on somewhat awry, than as a one-sided tail.

All these peculiarities I could but note as they turned up before me, and express, in pointing them out to a few friends, a sort of vague, because hopeless, desire, that good fortune might throw me in the way of the one man of all the world best qualified to explain the principle on which they occurred, and to decide whether fishes may be at once bony and cartilaginous. But that meeting was a contingency rather to