

a peculiar trait, which I have failed to detect in any of the recent fishes; nor have I yet seen it indicated, in at least the same degree, by the Carboniferous or Secondary coprolitic remains. In the bowels which moulded the coprolites of Lyme-Regis, of the Chalk, and of the Newhaven and Granton beds, a single screw must have winded within the cylindrical tube, as a turnpike stair winds within its hollow shaft; and such also is the arrangement in the existing Sharks and Rays; whereas the bowels which moulded the coprolites of the Lower Old Red Sandstone must have been traversed by triple or quadruple screws laid closely together, as we find the stalk of an old-fashioned wine-glass traversed by its thickly-set spiral lines of thread-like china. And so, while on the surface of both the Secondary and Carboniferous coprolites there is space between the screw-like lines for numerous cross markings that correspond to the thickly set veiny branches which traverse the sides of the recent placoid bowel, the entire surface of the Lower Old Red coprolites is traversed by the spiral markings. Is there nothing strange in the fact, that after the lapse of mayhap millions of years,— nay, it is possible, millions of ages,— we should be thus able to detect at once general resemblance and special dissimilarity in even the most perishable parts of the most ancient of the Ganoids?

I must advert, in passing, to a peculiarity exemplified in the state of keeping of the bones of this ancient Ganoid, in at least the deposits of Orkney and Caithness. The original animal matter has been converted into a dark-colored bitumen,

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suspect that the *Asterolepis* was not the only large fish of the Lower Old Red Sandstone; but my facts on the subject are too inconclusive to justify aught more than sedulous inquiry.