influence of so high an authority as Professor Owen, we are much mistaken if it ever forms a part of the creed of the geologist. Mr. Miller indeed has, by a most skilful examination of the heads of the earliest vertebrata known to geologists, proved that the hypothesis derives no support from the structure which they exhibit, and Agassiz has even upon general principles rejected it as untenable.

Mr. Miller's next chapter on the structure, bulk, and aspect of the Asterolepis, is, like that which precedes it, the work of a master, evincing the highest powers of observation and analysis. Its size in the larger specimens must have been very great; and from a comparison of the proportion of the head in the Ganoids to the length of the body, which is sometimes as one to five, or one to six, or one to six and a half, or even one to seven, our author concludes that the total length of the specimens in his possession must have been at least eight feet three inches, or from nine feet nine to nine feet ten inches. The remains of an Asterolepis found by Mr. Dick at Thurso, indicate a length of from twelve feet five to thirteen feet eight inches; and one of the Russian specimens of Professor Asmus must have been from *eighteen* to *twenty-three* feet long. "Hence," says Mr. Miller, "in the not unimportant circumstance of size — the most ancient Cœlacanths yet known, instead of taking their places agreeably to the demands of the development hypothesis among the sprats, sticklebacks, and minnows of their class, took their place among its huge basking sharks, gigantic sturgeons, and bulky swordfishes. They were giants, not dwarfs." Again, judging by the analogies which its structure exhibits to that of fishes of the existing period, the Asterolepis must have been a fish high in the scale of organization.

A specimen of Asterolepis, discovered by Mr. Dick, among the Thurso rocks, and sent to Mr. Miller, exhibited the singular phenomenon of a quantity of thick tar lying beneath it, which stuck to the fingers when lifting the pieces of rock. "What had been once the nerves, muscles, and blood of this ancient Ganoid, still lay under its bones," a phenomenon which our author had previously seen beneath the body of a poor suicide, whose grave in a sandy bank had been laid open by the encroachments of a river, the sand beneath it having been "consolidated into a dark colored pitchy mass," extending a full yard beneath the body. In like manner, the animal juices of the Asterolepis had preserved its remains, by "the pervading bitumen, greatly more conservative in its effects than the oil and gum of an old Egyptian undertaker." The bones, though black as pitch,