

powerful tail, it may be regarded either as an arrow or javelin flung with tremendous force, or as a knight speeding to the encounter with his lance in rest. Now there are missiles employed in Eastern warfare, which, instead of being pointed like the arrow or javelin, are edged somewhat like the crooked falchion or saddler's cutting-knife, and which are capable of being cast with such force, that they have been known to sever a horse's leg through the bone; and if the sword-fish may be properly compared to an arrow or javelin, the combative powers of the *Cephalaspis* may be illustrated, it is probable, by a weapon of this kind — the head all around its elliptical margin presenting a sharp edge, like that of a cutting-knife, or falchion. Its impetus, however, must have been comparatively small, for its organs of motion were so: it was a bolt carefully fashioned, but a bolt cast from a feeble bow. But if weak in the assault, it must have been formidable when assailed. "The pointed horns of the crescent," said Agassiz to the writer, "seem to have served a similar purpose with the spear-like wings of the *Pterichthys*," — the sole difference consisting in the circumstance, that the spears of the one could be elevated or depressed at pleasure, whereas those of the other were ever fixed in the warlike attitude. And such was the *Cephalaspis* of the Cornstones — not only the most characteristic, but in England and Wales almost the sole organism of the formation. (See Note F.)

Now of this curious ichthyolite we find no trace among the fossils of the Lower Old Red Sandstone. It occurs neither in Orkney nor Cromarty, Caithness nor Gamrie, Nairnshire nor the inferior ichthyolite beds of Moray. Neither in England nor in Scotland is it to be found in the Tilestone formation, or its equivalent. It is common, however, in the Old Red Sandstone of Forfarshire; and it occurs at Balruddery