They who in our own times have explored the bed of the sea inform us that it is in general as barren of vertebrate remains as the soil of a forest on which thousands of mammalia and reptiles may have flourished for centuries. In the summer of 1850, Professor E. Forbes and Mr. McAndrew dredged the bed of the British seas from the Isle of Portland to the Land's End in Cornwall, and thence again to Shetland, recording and tabulating the numbers of the various organic bodies brought up by them in the course of 140 distinct dredgings, made at different distances from the shore, some a quarter of a mile, others forty miles distant. The list of species of marine invertebrate animals, whether Radiata, Mollusca, or Articulata, was very great, and the number of individuals enormous; but the only instances of vertebrate animals consisted of a few ear-bones and two or three vertebræ of fish, in all not above six relics.

It is still more extraordinary that Mr. McAndrew should have dredged the great "Ling Banks" or cod-fishery grounds off the Shetland Islands for shells without obtaining the bones or teeth of any dead fish, although he sometimes drew up live fish from the mud. This is the more singular, because there are some areas where recent fish-bones occur in the same northern seas in profusion, as I have shown in the "Principles of Geology" (see Index, "Vidal"); two bone-beds having been discovered by British hydrographers, one in the Irish sea, and the other in the sea near the Faroe Isles, the first of them two, and the other three and a half miles in length, where the lead brings up everywhere the vertebræ of fish from various depths between 45 to 285 fathoms. These may be compared to the Upper Ludlow bone-bed; and on the floor of the ocean of our times, as on that of the Silurian epoch, there are other wide spaces where no bones are imbedded in mud or sand.

It may be true, though it sounds somewhat like a paradox, that fish leave behind them no memorials of their presence in places where they swarm and multiply freely; whereas currents may drift their bones in great numbers to regions wholly destitute of living fish. Such a state of things would be quite analogous to what takes place on the habitable land, where, instead of the surface becoming encumbered with heaps of skeletons of quadrupeds, birds, and land-reptiles, all solid bony substances are removed after death by chemical processes, or by the digestive powers of predaceous beasts; so that, if at some future period a geologist should seek for monuments of the former existence of such creatures, he must look anywhere rather than in the area where they flourished. He must search for them in spots which were covered at the time with water, and to which somes bones or carcases may have been occasionally carried by floods and permanently buried in sediment.

In the annexed Table, a few dates are set before the reader of the discovery of different classes of animals in ancient rocks, to enable him to perceive at a glance how gradual has been our progress in tracing back the signs of Vertebrata to formations of high antiquity. Such facts