

water formation, be nearly contemporary with either of the other two, or, as seems more probable, interposed between them ; while they themselves, on the other hand, generically similar and decidedly marine in their character, must have been so widely separated in time, that all the species of the lower group became extinct ere those of the upper one had been ushered into being. And such are some of the considerations that still lead me, notwithstanding the failure of previous evidence, to hold, at least provisionally, that our Scottish flagstones to the north of the Grampians occupy a lower horizon than our Scottish tilestones to the south. It must, however, be stated, on the other hand, that the crustaceans of the gray tilestones of Forfar and Kincardine not a little resemble those of the Upper Silurian and red-tilestone beds of England ; and that, judging from the ichthyodorulites found in both, their fishes must have been at least generically allied. The crustaceans of the Upper Silurian of Lesmahagow, too, seem certainly much akin to those of the Forfarshire tilestones.]

Above this gray tilestone formation lies the Upper Old Red Sandstone, with its peculiar group of ichthyic organisms, none of which seem specifically identical with those of either the Caithness or the Forfarshire beds. For it is an interesting circumstance, suggestive surely of the vast periods which must have elapsed during its deposition, that the great Old Red system has, as I have just said, its three distinct platforms of organic existence, each wholly different from the others. Generically and in the group, however, the Upper fishes much more closely resemble, I repeat, the fishes of the Lower or Caithness and Cromarty platform, than they do those of the Forfarshire and Kincardine one. The vegetable remains of the Upper formation in Scotland are both rare and ill preserved. I have seen what I deemed fucoidal markings dimly impressed on the planes of some of the strata, not in