

above table (p. 456), are due to British skill and energy, Great Britain being still the only country in which mammalia have been found in Oolitic rocks; the only region where any reptiles have been detected in strata as old as the Devonian; the only one wherein the bones of birds have been traced back as far as the London Clay. And, if geology had been cultivated with less zeal in our island, we should know nothing as yet of two extensive assemblages of tertiary mammalia of higher antiquity than the fauna of the Paris gypsum (already cited as having once laid claim to be the earliest that ever flourished on the earth)—namely, first, that of the Headon series (see above, p. 212); and, secondly, one long prior to it in date, and antecedent to the London Clay.* This last has already afforded us indications of Quadrumana, Cheiroptera, Pachydermata, and Marsupialia (see p. 217). How then can we doubt, if every area on the globe were to be studied with the same diligence,—if all Europe, Asia, Africa, America, and Australia were equally well known, that every date assigned by us in the above Table for the earliest recorded appearance of fish, reptiles, birds, and mammals would have to be altered? Nay, if one other area, such as part of Spain, of the size of England and Scotland, were subjected to the same scrutiny (and we are still very imperfectly acquainted even with Great Britain), each class of Vertebrata would probably recede one or more steps farther back into the abyss of time: fish might penetrate into the Lower Silurian,—reptiles into the Lower Devonian,—mammalia into the Lower Trias,—birds into the Chalk or Oolite,—and, if we turn to the Invertebrata, Trilobites and Cephalopods might descend into the Lower Cambrian,—and some stray zoophyte, like the *Oldhamia*, into rocks now styled “azoic.”

Yet, after these and many more analogous revisions of the Table, it might still be just as easy as now to found a theory of progressive development on the new set of positive and negative facts thus established; for the order of chronological succession in the different classes of fossil animals would probably continue the same as now;—in other words, our success in tracing back the remains of each class to remote eras would be greatest in fishes, next in reptiles, next in mammalia, and least in birds. That we should meet with ichthyolites more universally at each era, and at greater depths in the series, than any other class of fossil vertebrata, would follow partly from our having as paleontologists to do chiefly with strata of marine origin, and partly, because bones of fish, however partial and capricious their distribution on the bed of the sea, are nevertheless more easily met with than those of reptiles or mammalia. In like manner, the extreme rarity of birds in recent and Pliocene strata, even in those of freshwater origin, might lead us to anticipate that their remains would be obtained with the greatest difficulty in the older rocks, as the Table proves to be the case,—even in tertiary strata, wherein we can more readily find deposits formed in lakes and estuaries.

* A bird's bone is recorded as having been lately found in the Woolwich beds (beneath the London clay), by Mr. Prestwich; Geol. Quart. Journ. vol. x. p. 157.