

the individual history of human development, we have already recognized the undeniable fact that, in developing out of the egg, man at first does not differ from other Vertebrate animals, and especially from Mammals, we must necessarily come to the conclusion, in regard to the palæontological history of his development, that man has, historically, actually developed out of the lower Vertebrata, and that he is directly derived from lower Mammals. This circumstance, together with the many high interests which, in other respects, entitle the Vertebrata to more consideration than other organisms, justifies us in examining the pedigree of the Vertebrata and its expression in the natural system, with special care.

Fortunately, the records of creation, which must in all cases be our guide in establishing pedigrees, are especially complete in this important animal tribe, from which our own race has arisen. Even at the beginning of our century Cuvier's comparative anatomy and palæontology, and Bär's ontogeny of the Vertebrate animals, had brought us to a high level of accurate knowledge on this matter. Since then it is especially due to Johannes Müller's and Rathke's investigations in comparative anatomy, and most recently to those of Gegenbaur and Huxley, that our knowledge of the natural relationships among the different groups of Vertebrata has become enlarged. It is especially Gegenbaur's classical works, penetrated as they are throughout with the fundamental principles of the Theory of Descent, which have demonstrated that the material of comparative anatomy receives its true importance and value only by the application of the Theory of Descent, and this in the case of all animals, but especially in that in the Vertebrate tribe.