

“There then remains an innumerable quantity of fishes, to which we can no longer apply any characters except those of the exterior organs of motion. After long examination, I have found that the least bad of these characters is, after all, that employed by Ray and Artedi, taken from the nature of the first rays of the dorsal and of the anal fin. Thus ordinary fishes are divided into MALACOPTERYGIANS, of which all the rays are soft, except sometimes the first of the dorsal fin or the pectorals;—and ACANTHOPTERYGIANS, which have always the first portion of the dorsal, or of the first dorsal when there are two, supported by spinous rays, and in which the anal has also some such rays, and the ventrals, at least, each one.

“The former may be subdivided without inconvenience, according to their ventral fins, which are sometimes situate behind the abdomen, sometimes adherent to the apparatus of the shoulder, or, finally, are sometimes wanting altogether.

“We thus arrive at the three orders of ABDOMINAL MALACOPTERYGIANS, of SUBBRACHIANS, and of APODES; each of which includes some natural families which we shall explain: the first, especially, is very numerous.

“But this basis of division is absolutely impracticable with the Acanthopterygians; and the problem of establishing among these any other subdivision than that of the natural families has hitherto remained for me insoluble. Fortunately several of these families offer characters almost as precise as those which we could give to true orders.

“In truth, we cannot assign to the families of fishes, ranks as marked, as for example, to those of mammifers. Thus the Chondropterygians on the one hand hold to reptiles by the organs of the senses, and by those of generation in some; and they are related to mollusks and worms by the imperfection of the skeleton in others.

“As to Ordinary Fishes, if any part of the organization is found more developed in some than in others, there does not result from this any pre-eminence sufficiently marked, or of sufficient influence upon their whole system, to oblige us to consult it in the methodical arrangement.

“We shall place them, therefore, nearly in the order in which we have just explained their characters.”

I have extracted the whole of this passage, because, though it is too technical to be understood in detail by the general reader, those who have followed with any interest the history of the attempts at a natural classification in any department in nature, will see here a fine example of the problems which such attempts propose, of the difficul-