limbs are even sometimes adapted to different purposes. All these features are brought to a climax in Man, whose vertical station presents the highest contrast with the horizontal position of the body in Fishes; whose head is so raised as to stand free above the whole frame, while the hands have become the willing tools of the manifestations of his mental powers. The gradation, as far as the structure is concerned, is as evident as possible, from the unwieldy, massive, horizontal body of the Fish, up to the commanding attitude of Man; and that this structural gradation stands in immediate correlation to the degree of the psychological development is equally evident, when we compare the mental powers of Man with the imperfect faculties of the Fishes.

With reference to the motions in particular, Dr. Weinland has presented very interesting considerations, in a paper read not long ago before the Boston Society of Natural History.1 He remarked, that there exist in animals two kinds of motions, entirely different from one another, which, however, have not as yet been duly distinguished. If we watch attentively the motions of a dog, for instance, we soon perceive that they are partly subscrvient to himself only; such are his motions when eating, drinking, etc.; while he performs many other motions with his eyes, his ears, his tail, his whole body, by which he evidently intends to show to other animals or to Man, the state of his mind, what he thinks, feels, or wants. Dr. Weinland calls the first kind of these motions "subjective;" the second, "sympathetic." He showed that the first are common to all animals, while the second appear only in the higher types,² and culminate in Man. Moreover, the higher perfection of the organs for sympathetic motions, as observed in Man, expresses at the same time his higher psychological standing. The gradation observed in this respect, in the different classes of Vertebrata, is not less appre-The Fishes, lying horizontally in the water, move simultaneously the whole ciable. body by the lateral bendings of the vertebral column, and the fins perform only locomotive functions; the eyes are little movable, and without expression. Fishes have no voice, indeed hardly any means by which they can communicate with their fellow-creatures, and yet they may be seen moving together in such a manner as to indicate a kind of concert; I have even observed some playing with one another.

In Batrachians and Reptiles, the sympathetic motions are already more varied, the relations of the individuals of the same species to one another are more extensive and more frequent, and their ability to emit sounds almost universal, though these sounds are still very monotonous. With the Birds and Mammalia, all these

¹ See Dr. Weinland, "On the Motions of Animals," in Proc. Boston Society of Nat. History, 1856.

² It is impossible, for the present, to extend such investigations to the faculties of Invertebrata.