

caused the earlier naturalists greater difficulty than the explanation of the so-called "*rudimentary organs*,"—those parts in animal and vegetable bodies which really have no function, which have no physiological importance, and yet exist in form. These parts deserve the most careful attention, although most persons know little or nothing about them. Almost every organism, almost every animal and plant possesses, besides the obviously useful arrangements of its organization, other arrangements the purpose of which it is utterly impossible to make out.

Examples of this are found everywhere. In the embryos of many ruminating animals—among others, in our common cattle—fore-teeth, or incisors, are found in the mid-bone of the upper jaw, which never fully develop, and therefore serve no purpose. The embryos of many whales—which afterwards possess the well-known whalebone instead of teeth—while still unborn, and while they take no nourishment, have teeth in their jaws, which set of teeth never comes into use. Moreover, most of the higher animals possess muscles which are never employed; even man has such rudimentary muscles. Most of us are incapable of moving our ears as we wish, although the muscles for this movement exist, and although individual persons who have taken the trouble to exercise these muscles do succeed in moving their ears. It is still possible, by special exercise, by the persevering influence of the will upon the nervous system, to reanimate the almost extinct activity in the existing but imperfect organs, which are on the road to complete disappearance. On the other hand, we can no longer do this with another set of small rudimentary muscles, which still exist in the cartilage of the outer ear,