

movement takes place with sufficient frequency, it cannot by any effort of the will become again dissociated; as is the case, for instance, with the associated movement of the eyeballs, which does not begin to obtain till some days after birth, but which then soon becomes as closely organized as any of the associated movements in the muscles of the limbs.*

And if this is the case even in the life-time of individuals, we can scarcely wonder that in the life-time of species heredity with natural selection should still more completely adapt the anatomical plan of ganglia, with their attached nerves, to the performance of the most useful—*i.e.*, the most habitual—actions. Thus we may see in a general way how such nervous machinery may at last come to be differentiated into specially distributed anatomical structures, which, on account of their special distribution, are adapted to minister only to particular co-ordinations of muscular movements. That is to say, we are thus able to understand the rise and development of Reflex Action.

* Mr. Darwin called my attention to the following passage in the writings of Lamarck (*Phil. Zool.*, tom. ii, pp. 318-19):—"Dans toute action, le fluide des nerfs qui la provoque, subit un mouvement de déplacement qui y donne lieu. Or, lorsque cette action a été plusieurs fois répétée, il n'est pas douteux que le fluide qui l'a exécutée, ne se soit frayé une route, qui lui devient alors d'autant plus facile à parcourir, qu'il l'a effectivement plus souvent franchie, et qu'il n'ait lui-même une aptitude plus grande à suivre cette route frayée que celles qui le sont moins."