

## CHAPTER I.

## DISCOVERY OF THE ORGANS OF VOLUNTARY MOTION.

*Sect. 1.—Knowledge of Galen and his Predecessors.*

IN the earliest conceptions which men entertained of their power of moving their own members, they probably had no thought of any mechanism or organization by which this was effected. The foot and the hand, no less than the head, were seen to be endowed with life; and this pervading life seemed sufficiently to explain the power of motion in each part of the frame, without its being held necessary to seek out a special seat of the will, or instruments by which its impulses were made effective. But the slightest inspection of dissected animals showed that their limbs were formed of a curious and complex collection of cordage, and communications of various kinds, running along and connecting the bones of the skeleton. These cords and communications we now distinguish as muscles, nerves, veins, arteries, &c.; and among these, we assign to the muscles the office of moving the parts to which they are attached, as cords move the parts of a machine. Though this action of the muscles on the bones may now appear very obvious, it was, probably, not at first discerned. It is observed that Homer, who describes the wounds which are inflicted in his battles with so much apparent anatomical precision, nowhere employs the word *muscle*. And even Hippocrates of Cos, the most celebrated physician of antiquity, is held to have had no distinct conception of such an organ.<sup>1</sup> He always employs the word *flesh* when he means *muscle*, and the first explanation of the latter word ( $\mu\tilde{\upsilon}\varsigma$ ) occurs in a spurious work ascribed to him. For nerves, sinews, ligaments,<sup>2</sup> he used indiscriminately the same terms; ( $\tau\acute{\omicron}\nu\omicron\varsigma$  or  $\nu\tilde{\sigma}\tilde{\upsilon}\rho\omicron\nu$ ;) and of these nerves ( $\nu\tilde{\sigma}\tilde{\upsilon}\rho\alpha$ ) he asserts that they contract the limbs. Nor do we find much more distinctness on this subject even in Aristotle, a generation or two later. "The origin of the  $\nu\tilde{\sigma}\tilde{\upsilon}\rho\alpha$ ," he says,<sup>3</sup> "is from the heart; they connect

<sup>1</sup> Sprengel, *Geschichte der Arzneikunde*, i. 382.

<sup>2</sup> Sprengel, *Gesch. Arz.* i. 385.

<sup>3</sup> *Hist. Anim.* iii. 5.