

lancing its body in various attitudes, and, in a very short time, is unconscious that these actions require exertion.

In walking, the first effort that is made consists in transferring the whole weight of the body upon one foot, with a view to fix it on the ground; and, then, the other foot, being at liberty, is brought forwards. By this action, the centre of gravity is made to advance, till it passes beyond the base of the foot: in this situation, the body, being unsupported, falls through a certain space, and would continue its descent, were it not that it is received on the other foot, which, by this time, has been set upon the ground. This falling of the body would, if not immediately checked, become very sensible; as happens when, on walking inattentively, the foot we had advanced comes down to a lower level than we were prepared for; in which case, the body, having acquired a certain velocity by its greater descent, receives a sudden shock when that velocity is checked, and thus a disagreeable jar is given to the whole frame.

While the weight of the body is thus transferred, alternately, from one foot to the other, the centre of gravity not only rises and falls, so as to describe, at every step, a small arch, but also vibrates from side to side, so that the series of curves it describes, are somewhat complicated in their form. This undulation of the body, from one foot to the other, would scarcely ever be performed with perfect equality on both sides, if we trusted wholly to the sensations communicated by the muscles, and if we were not guided by the sense of sight, or some other substitute. Thus, a person blindfolded cannot walk far in a straight line; for, even on a level plane, he will incline unconsciously either to the right or to the left.

In all quadrupeds, and even also in the quadrumana, the fore extremities more or less contribute to the support and progression of the body: it is only in man that they are wholly exempted from these offices, and are at liberty to be applied to other purposes, and employed as instruments of prehension and of touch. In the power of executing an in-