

culated and performing the office of bones, have, like them, spines and processes ; with this difference, that their aspect is towards the centre, instead of projecting exteriorly. Were we to compare the system of “ resisting parts ” in man and in the insect, we should be forced to acknowledge the mechanical provisions to be superior in the lower animal ! The first advantage of the skeleton (as we may be permitted to call the system of hard parts in the insect) being external and lifeless, is, that it is capable of having greater hardness and strength bestowed upon it, according to the necessities of the animal, than can be bestowed upon bone ; true bone, being internal and growing with the animal, is penetrated with blood vessels ; and therefore must be porous and soft. The next advantage in the exterior crust or skeleton is mechanical. The hard material is strong to resist fracture, and to bear the action of muscles, in proportion to its distance from the centre : for the muscles in the insect, instead of surrounding the bones, as in the higher animals, are contained within the shell, and the shell is, consequently, so much the further thrown off from the axis of the limb.

When considering the larger vertebral animals, we had reason to say that there is a correspondence between the resistance of the bones and the power of the muscles ; and we may indulge the same reflection here. As the