

The rings which encircle the body are connected laterally by a looser and more flexible portion of integument, and also by layers of muscular fibres curiously collected into bands. The muscular flesh of insects, and other animals of this class, differs much from that of the larger animals, being soft and gelatinous in its texture, though endowed with a high degree of irritability, and contracting with great force. The fibres composing each band are all parallel to one another, and have seldom any tendinous attachments; being generally inserted directly on the parts they are destined to move. Thus, the adjacent margins of the rings of worms, (as shown in the diagram, Fig. 131,) are connected together by these muscular bands, which pass transversely from the one to the other, immediately under the skin, and parallel to the axis of the body. There are generally four distinct bands provided; two running along the back, and two along the lower part of the body.

The effects which result from the action of these muscles are such as might easily be anticipated. The lower set must, when contracting, bring the rings nearer to one another at that lower part; and when the whole series occupying that situation are exerted in concert, they raise the body in the form of an arch. An opposite curvature will be produced by the contraction of the upper bands, which, by raising both ends of the body, bend the back downwards. In proportion as the two bands, situated on each side, act in concert, while the others are relaxed, the body will be bent laterally towards that side. When all the four muscular bands contract together equally, their joint effect will be to bring the rings near to each other, and to contract the length of the worm; the skin being at the same time wrinkled and swelled out between the rings.

Other muscular bands, also, attached to the rings, pass from the one to the other in oblique directions. By means of these muscles the rings may be made to recede at some points, while they approach at others; so that the body may be either twisted laterally on its axis, or wholly elongated, according as the actions of these oblique muscles are partially or generally exerted.