heart and the tonicity of the arteries. When the heart of a cold-blooded animal is removed from the body, it will continue to beat for some time; if, however, it is cut into pieces, it will be found that only such pieces as contain ganglia will continue to move. If all the nerves going to a vessel are cut, and the cut ends separated so that they cannot unite again, the dilation which results soon disappears, and the vessel resumes its tonicity. It may then be made to contract or dilate to a limited extent by applications made directly to its walls.

In cases where the stimulation of an efferent cerebro-spinal nerve causes dilation of blood vessels it is impossible to imagine that such an effect could be produced in any other way than by impulses passing along the nerve to the local ganglia and inhibiting their action upon the vessels. When the nerve of a muscle is divided and its peripheral end stimulated, contraction of the muscle and dilation of its vessels follow. Now, if the muscle is paralysed by urari, dilation of the vessels still occurs when the nerve is stimulated. Many examples of the inhibitory influence of efferent cerebro-spinal nerves upon the local ganglia of the blood vessels might be mentioned.

The submaxillary gland receives its nervous supply from two sources, viz., fibres from the cervical sympathetic, which reach the gland along the submaxillary artery, and the chorda tympani, which reaches the gland along Wharton's duct. It is evident that the tone of the vessels of the gland is maintained, at least to some extent, by means of the sympathetic fibres, as division of these fibres permits the vessels to dilate, and when the peripheral stumps are stimulated the vessels contract. If an irritant is placed on the tongue the vessels dilate, and the same effect is produced by dividing the chorda and stimulating the peripheral part.

Two circumstances in connection with the antagonistic action of the sympathetic and chorda upon the vessels of this gland are especially worthy of notice. In the first place after division of the sympathetic fibres, the dilation of vessels which follows is markedly increased by stimulation of the chorda; and in the second place, stimulation of the chorda will not cause dilation of the vessels if the sympathetic is stimulated at the same time.

All the large nerve trunks in the body are composed partly of sympathetic and partly of cerebro-spinal fibres; and we find that when one of these nerves is divided, and its peripheral stump stimulated, the result will vary according to circumstances; for instance when the sciatic of a mammal is divided and its peripheral part at once stimulated, the vessels of the foot contract. In a short time a weak stimulation will cause dilation of the vessels, while a strong stimulus will still produce contraction, after a time, however, stimulation to any extent will cause the vessels to dilate. From this it is evident that the constrictor degenerate more rapidly than the dilator fibres, and it is reasonable to suppose that the sympathetic being softer and less likely to resist destructive influences would degenerate more rapidly than the medullated cerebro-spinal fibres.

The dilation of vessels is probably a constant result of the stimulation of cerebro-spinal nerves when they are free from sympathetic fibres, and, it is no doubt, for this reason that cutaneous nerves are invariably vaso-dilators.

The nature of the anatomical connection between the cerebro-spinal nerves and the sympathetic ganglia, indicates the paths by which inhibitory impulses reach the latter. Each spinal nerve is connected with a neighbouring sympathetic ganglion in two ways. A prolongation of the sympathetic ganglion being attached to the ganglion on the posterior root of the spinal nerve, and fibres from the anterior root of the spinal nerve going to the sympathetic ganglion and accompanying its fibres of