in enteric fever to the same extent as in healthy persons or in patients with diseases other than enteric; and for the divergence of their results the Japanese observers cannot offer any explanation. From examination of the vegetative nervous system in 38 cases of enteric fever by means of injection of atropine, adrenalin, and pilocarpine they concluded that 14 cases corresponded to vagotonia and 11 to sympathicotonia, so that the majority of the cases showed one or other condition. In many of the cases with well marked slowing of the pulse vagotonia was present and may therefore be the cause, whereas many of the cases without a slow pulse showed sympathicotonia. The 5 fatal cases out of the 38 all showed sympathicotonia, and as this state is often accompanied by a rapid heart, which has long been recognized as a bad prognostic in typhoid, the existence of sympathicotonia may be of significance in the prognosis of the disease.

Jackson, D. E., and Pelz, M. THE DISTRIBUTION AND FUNCTION OF CERTAIN NERVES IN CHELONIANS. [Proceed. Am. Soc. Pharmacol., XI, 2.]

In the turtle the intrinsic muscles of the lungs are controlled by two sets of nerve fibers. One of these sets runs in the vagus nerve for at least a part of its course and perhaps throughout its entire length. Stimulation of this set of fibers causes contraction of the lung. The second set of fibers are apparently sympathetic and emerge from the cord in the region of the anterior thoracic nerves. Stimulation of these fibers with a weak tetanizing current causes relaxation of the lung. It seems probable that some constrictor fibers run in the same nerves as those which carry the dilator fibers. We have not been able to follow the course of the dilator fibers completely but have obtained evidence of their existence and action by stimulating the main sympathetic trunk in the anterior thoracic region. Stimulation with a weak current at this point causes the lungs to relax. In many specimens we have failed to obtain this result, and in these cases we have considered our failure to be due either to poor technic, seasonal variations in the response of the nerves and tissues of the animal, or to anatomical variations in different species and specimens. This last feature is especially noticeable, and in snapping turtles we have not been able to identify some of the nerve fibers in the other common species. In box turtles the sympathetic fibers emerging from the thorax give off a branch which passes forward and joins the vagus in a large ganglion. If this branch of sympathetic fibers be stimulated with a *strong current* below the ganglion, *i.e.*, before it has joined the vagus, a contraction of the lung will be produced. It seems probable in this case that some constrictor fibers pass through the sympathetic to the ganglion on the vagus and thence through the vagus to the lungs. The records obtained in these experiments were produced as follows: The animal is

pithed thoroughly, both brain and cord. The plastron, viscera (except the heart and lungs) and as much as possible of the skeletal musculature is removed, after which a cannula is placed in the trachea and connected with a recording tambour having a bowl about two inches in diameter. A considerable magnification is used and the lungs are inflated to about half their capacity or less. This pressure in the lungs is counteracted by the pressure in the tambour. When one lung is being used for experiments the bronchus to the opposite lung is clamped off. The drug responses of the turtle lung varies considerably from that of dogs. Nicotine, pituitrin, lobeline, and veratrine cause marked contraction, which is feeble or absent in dogs. Codeine, pilocarpine, etc., act as in mammals.

Voisin R., and Benhamon. OCULOCARDIAC REFLEX AND THERAPY. [Paris and Méd., Mch. 8, 1919.]

These authors report that pressure on the eyeball had relieved two patients with paroxysmal tachycardia. Pressure for two minutes in one patient ensured a permanent result. The author's analysis of the mechanism is not fundamental.

Gallotti, O. VEGETATIVE NERVOUS SYSTEM AND HORMONES. [Arch. Bras. de Med., January, 1919, 9, No. 1.]

The harmonious action of the vegetative functions is due to the hormones influencing the autonomic and the sympathetic nervous system. Gallotti takes up one by one and rather hastily summarizes the action of the different endocrine glands that the interactions between the various hormones and the vegetative system must be carefully analyzed before an intelligent opotherapy is possible. It is not enough simply to think in terms of an increase or a diminution of this or that gland, but the relationship between autonomic and sympathetic innervation must be analyzed.

Brown, W. L. THE VEGETATIVE NERVOUS SYSTEM IN DISEASE. [Lancet, May 17, 1919.]

In this Croonian lecture on the rôle of the sympathetic nervous system in disease the lecturer first pays a warm tribute to the memory of Gaskell, who first showed that the nerve fibers which flowed from the spinal cord into the sympathetic chain were of a smaller caliber than the nerves to the skeletal muscles, and that there are fibers with visceral functions in the cranial and the sacral nerves which subserve the functions of organic life and are not under the control of the will. Such visceral fibers are now usually included under the term autonomic nervous system, introduced by Langley. The visceral or involuntary nervous system may be classified as (1) the sympathetic (thoracico-lumbar outflow); (2) the para-sympathetic: (a) cranial outflow; (b)