tion of the adrenals gives excretion of adrenalin, and this stimulates the nerve-terminations of the sympathetic; they suppose that stimulation of the pancreas—an antagonist of the adrenals—must excrete a poison “autonimine” which stimulates the vagus-terminations, just as pilocarpine does. In order to determine whether a patient is vagotonic or sympathicotonic, they inject pilocarpine or adrenalin, and according to whether an increased sensitiveness to pilocarpine or to adrenalin is present, they diagnose vagotonia or sympathicotonia respectively. The writer strongly combats their hypotheses, but does not deny that the clinical picture of vagotonia is seen. Undoubtedly some persons show a slow heart-beat and conduction disturbances which disappear under atropine. [Leonard J. Kidd, London, England.]

Friedberg, E. VEGETATIVE NERVOUS SYSTEM IN CHILDREN. [Archiv für Kinderheilkunde, Stuttgart, April 5, 1921, LXIX, No. 2.]

The details of various pharmacological tests for the vegetative nervous system as applied to 72 children, including 12 healthy, 5 with spasmophilia, 3 with asthma, 2 with rachitis, and 5 with various disorders of endocrine origin, are here recorded. Friedberg's conclusions are mainly that the results of pharmacological investigation are quite contradictory. The findings in spasmophilia seem to indicate that tetany in children may be quite different from tetany in adults. Normal responses to the pharmacologic tests were sometimes obtained in the severest forms of rachitis. Disturbances of endocrine origin gave conflicting findings, probably from the interplay of several of the ductless glands. The exudative diathesis does not check up as a definite form of vagotonia in the children he examined.

Bolten, H. SIGNIFICANCE OF THE SYMPATHETIC NERVOUS SYSTEM FOR THE ORIGIN OF THE NEUROSES. [Proefschrift, Leiden, Edward Ijdo, 1921.]

In this dissertation Bolten shows how practical experience has convinced him that both in the neuroses of the vegetative nervous system and in the general neuroses the vegetative system largely dominates the clinical picture, and that the essential condition must be looked for in an inborn inferiority of the sympathetic system in the subjects of the neuroses. The conceptions of vagotonia and sympathicotonia (the existence of the latter he denies) have greatly contributed to the notion that in the neuroses a hypertonia of the vegetative system is at work. But we may not speak of a primary tonus increase, but at most of an increased irritability, an abnormal sensitiveness; and he tries to show that this really depends on a hypotonia and an inferiority. The conception “hypotonia” will appear to some perhaps inaccurate, for we cannot speak of a uniform tonus of the sympathetic system. By the term tonus we must understand the intensity of the innervation stimulus. In the sympathetic system this is subject to continual variations, first of all from unceasing

psychical impulses; further, the regulation of the circulation in its various areas, with their changing degrees of activity, requires the continually changing activity of the vegetative organs, and the action of all sorts of external influences, in order that the regulating function of the sympathetic may adapt itself to all these changing conditions. A constant tonus thus by no means exists in the sympathetic system. But the innervation stimulus conducted through that system must have a certain (normal) intensity in order that it may guarantee the normal regulation of the varying vegetative functions and may maintain the equilibrium with the antagonistic autonomic nervous system. It is just this equilibrium that normally exists between these two systems that gives us the right to recognize a normal tonus in the sympathetic system just as much as in the autonomic. The signs of increased vagus-tonus, met with in some neuroses, are held by Bolten to be of secondary nature and to be really dependent on the primary hypotonia of the sympathetic system. The vegetative system cannot be separated from the endocrine gland system so far as its functions are concerned. In the neuroses the inborn constitutional inferiority of the vegetative system, that has remained latent, finds expression. The large group of cardiovascular symptoms, and the trophic disturbances connected with them, depend on an insufficiency of sympathetic innervation. The spastic constipation is interpreted as an expression of sympathicus-hypotonia, and the eosinophilia points to insufficient sympathetic action. And for the metabolism a normal sympathetic regulation of fermentation processes, such as formation of ferments and antibodies, purine-metabolism, and glycogenesis, is of great importance. Also the general muscular hypotonia is certainly to be accounted for to a large extent by sympathicus insufficiency. On this nucleus of symptoms depending on sympathicus-hypotonia we can have added symptoms due to a secondary increased vagus-tonus. Bolten is therefore a strong advocate for the use of thyroid gland preparations in the treatment of the neuroses; they overcome the hypotonia of the sympathetic nervous system and thus restore the equilibrium between the two vegetative systems; the treatment is a rational one. But it needs to be used with caution and over a long period. It is contraindicated when hypertension or organic cardiac lesions are present, but a quick pulse is by no means against its use. Bolten's views are fully justified in this dissertation with regard to cases of hysteria, neurasthenia, migraine, epilepsy, spasmophilia, vasomotor and trophic neuroses, bronchial asthma, orthostatic albuminuria, dysmenorrhea, and gout. [Leonard J. Kidd, London, England.]

Pottenger, F. M. SYMPATHETIC AND PARASYMPATHETIC SYSTEM BENEFITS. [Endocrinology, March, 1921, J. A. M. A.]

Pottenger directs attention to the fact that the sympathetic nerves and the sympathicotrophic glands of internal secretion aid in the defense of the organism against such condition as enemies from without, infec-