provoke profound interest. The soils and geological engineers too will find many worth-while chapters affording a stimulating and instructive background to their own specialties in relationship to highway work. The layman and the legislator alike would profit by an examination of the book and gain thereby an appreciation of the problems involved in highway construction and the great progress made, especially in the past 35 years.

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Clinical Aspects of the Autonomic Nervous System. L. A. Gillilan. Little, Brown, Boston. xii + 316 pp. Illus. $6.50.

This book is intended to furnish a summary of the knowledge of the anatomy and physiology of the autonomic nervous system as a background for clinical practice. This purpose is not achieved, because, whereas the anatomical summary is adequate, particularly with regard to gross anatomy, the physiological data and theories are presented incompletely, deficiently, and often erroneously.

As examples of these errors I mention the statement (p. 161) that "certain tissue products such as acetylcholine and histamine . . . produce generalized vasodilation of coronary and peripheral vessels," coupled with the further statement that "epinephrine and ephedrine are peripheral vasoconstrictors and coronary vasodilators." Although the chemical mediation of coronary vasodilators and constrictors has not been unanimously settled, there is unanimous agreement that either acetylcholine or adrenaline leads to constriction. As another example I quote the statement (pp. 20–21) that "it is believed that mass release of acetylcholine at the myoneural junction brings about generalized contraction of the voluntary musculature." High concentrations of acetylcholine lead to paralysis, not to contractions.

In the classification of autonomic disturbances and body types, the author accepts the now generally discarded criterions of Eppinger and Hess, of Danielopolu, and of Martinet (not quoted in the bibliography) of sympathicotonia, amphotonia, and vagotonia. I fail to find "a striking parellelism" between this classification and all the others grouped in Table 1.

A salient flaw in the book is a striking negligence to give appropriate credit to many investigators and the giving of undue credit to others. Thus, I disagree with the assertion that "the autonomic nervous system got its first firm footing in medicine when Peet (1935) devised his operation for relief of hypertension." The basis of our knowledge of the chemical transmission of nerve impulses is Loewi's study of the heart, not Dale's work on acetylcholine. The generally accepted theory of hunger was proved by Cannon and Washburn (1912), not by Carlson. The role of the sympatho-adrenal system in emotions was not an "obvious" anonymous contribution (p. 84); it was first emphasized and later beautifully analyzed by Cannon.

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Rural Electrification. vols. I and II. United Nations Economic and Social Council, Geneva, Switz., 1954. vol. I, ii + 163 pp. + tables. Plates. Paper, $1.50. vol. II, ii + 165 pp. Plates. Paper, $1.25. (U.S. distrib.: Columbia Univ. Press, New York.)

This two-volume work, representing the collective rural electrification experience of 14 nations, is an excellent compendium of modern knowledge in this specialized field. The material is admirably organized to accomplish its avowed purposes of (i) making available to relatively less industrialized nations the special techniques that have proved successful in bringing central station electric service to farms throughout the world, and (ii) providing nations already advanced in rural electrification with a means of measuring their own techniques and progress against the achievements of the rest of the world. In addition, a diversified pool of knowledge is made available for the benefit of all nations.

The material is not limited to discussions of broad principles. Its value is not curtailed by any attempt to avoid technical terminology or mathematical analysis where these are applicable. The volumes are well worth study by any agency responsible for initiating, redeveloping, or expanding a national or regional rural electrification program. Volume I provides specific details on proved principles of design applicable to network planning, rural distribution facilities, and small local thermal and hydroelectric generating stations. There is also considerable specific data covering experience with respect to cost and rate structure design.

The early rural electric system design engineers pioneered new construction standards and techniques in order to reduce line construction costs to a point where the relatively sparsely settled rural areas could be economically served. In this endeavor, mistakes were, of course, made in both electrical and mechanical construction practices. These mistakes effectively increased the cost of original facilities in many instances. Present-day higher price levels make it almost mandatory that these early mistakes not be repeated, and a careful review of the comprehensive experience of 14 nations well established in the technology will be of great advantage to present designers in striking an optimum balance between low initial costs on one hand and reasonable maintenance charges and flexibility for growth on the other.

One of the very few faults of the work is the absence of an index and a consequent inability to locate material on specific topics without excessive thumbing. This lack is somewhat compensated for in volume II by the inclusion of a table of contents with chap-