compartment of extracellular water. If, as seems the case, concentration in the blood is the determinant of toxicity, such an approach introduces the possibility of error which approaches 50 per cent. The authors' distrust of this drug is not shared by the majority of clinicians.

A similar nihilism underlies the approach to the treatment of hypertension in unilateral renal disease by nephrectomy. Their conservatism will, we hope, serve to counter the reckless optimism of certain surgeons. But, since it seems an unnecessarily extreme point of view, it may not be given the weight it should have.

An interesting chapter on peripheral resistance is included. The appendix includes succinct descriptions of the methods for its determination and for the study of renal function by the author's methods.

This is a provocative book which reflects and summarizes the author's experience. It is therefore welcome. Disagreement concerning some of its conclusions should, we trust, serve to stimulate efforts to resolve the areas of doubt.

VASCULAR RESPONSES

Vascular Responses in the Extremities of Man in Health and Disease. By D. I. ABRAMSON. Chicago: University of Chicago Press. 1944. $5.00.

DR. ABRAMSON'S book, "Vascular Responses in the Extremities of Man in Health and Disease," reviews his material in critical and comprehensive fashion. The richness of the bibliography is to be commended. After a detailed description of methods for studying peripheral blood flow, the physiologic responses of the blood vessels in different portions of the extremities are described. This is followed by consideration of the responses to various pharmacologic agents, of blood flow in abnormal states and in systemic disease, of peripheral vascular disease, and finally, by an evaluation of methods of treatment of peripheral vascular disease.

The sections on peripheral vascular disease are particularly good and may be read with profit by clinicians. They might be read first, the more so because the detail of the sections on methods and physiological variations might strain the average clinician's patience. The latter will prove especially valuable to physiologists.

In some places the author seems to stretch the interpretation of the results obtained by the plethysmograph. This instrument has not yet reached either qualitative or quantitative perfection. For instance, his results cast doubt upon the view that the arterial hypertonus in hypertension is generalized and is due to a circulating vasoconstrictor substance. Quite apart from the possibility of methodical error, more consideration should be given to the differences in response of peripheral and central arterial beds. Thus the evidence is inadequate indeed for such an important conclusion. But, on the whole, facts are critically, impartially and completely presented.

There is much to recommend books of this type in which a central theme, blood flow in the extremities, is used as the trunk on which to graft knowledge of both the physiology and pathology of the blood vessels. Abramson has done his task well.

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AQUARIUM ANIMALS

Guide to Higher Aquarium Animals. By EDWARD T. BOARDMAN. Cranbrook Institute of Science. 1944. $2.00.

IN 107 pages Dr. Boardman has tersely and thoroughly covered this subject. If you live in Michigan or thereabouts and wish to stock and maintain an aquarium or vivarium with fish, amphibians or reptiles this is your *vade mecum.* My guess is that at least 75 per cent. of the facts presented apply in general to an aquarist in New York or California as well. From lampreys to turtles all the better-known forms are represented by an illustration and brief paragraphs on appearance, size, habitat, breeding habits and food. Full credits are given for the good illustrations, the diction is authentic and clear, the type and format are excellent, and appendices deal with aquaria, their water and management, and hints as to parasites and some common diseases. This is a companion volume to the author's "Field Guide to Lower Aquarium Animals."

WM. BEEBE

SPECIAL ARTICLES

BULBAR INHIBITION AND FACILITATION OF MOTOR ACTIVITY[1, 2]

SINCE Sherrington's discovery of decerebrate rigidity in 1898, it has been known that the bulbar portion of the brain stem exerts an excitatory influence on neural motor systems, particularly those activating the extensor muscles of the body. That this bulbar region, in addition, contains a mechanism capable of exerting a general inhibitory influence on motor activity does

[1] Aided by a grant from the National Foundation for Infantile Paralysis.

[2] Grateful appreciation is expressed to Dr. W. F. Windle, director of the Institute of Neurology, for the loan of most of the apparatus employed in this study.