first aecia the third season following infection. Some galls fruit when only two years old.

HARLAN H. YORK

CONSERVATION COMMISSION,
ALBANY, N. Y.

A NEW BIBLIOGRAPHY OF SCIENTIFIC JOURNALS

A LARGE number of the principal libraries in the United States and Canada are now cooperating in the compilation of a check list of periodical literature which will be of great value to all workers in science. It will not be limited to scientific literature but will include practically all serials of a scientific nature that are held by one or more of the cooperating libraries. No classification is attempted. The list gives the full name of each serial (including academy publications), the places and dates of publication, variations in titles and an exact statement of the holdings of each cooperating library. For such workers as enjoy the privileges of a library which enters into the inter-library loan arrangement, this new list will provide access to practically every journal or society publication which has reached America. Others will be informed of the nearest library at which the desired reference may be consulted.

The new work will be called the Union List of Serials and will be published by the H. W. Wilson Company of New York. The Provisional Edition from A to R is now available in sections and the Final Edition, a volume of about twenty-five hundred pages and seventy-five thousand entries, will be ready late in 1927.

CHARLES J. LYON

DARTMOUTH COLLEGE

SCIENTIFIC BOOKS

Brains of Rats and Men. A Survey of the Origin and Biological Significance of the Cerebral Cortex. By C. JUDSON HERRICK. xiii + 382 pp., 53 figs. Univ. of Chicago Press, 1926.

IN the first eight chapters of "Brains of Rats and Men" the author lays the anatomical foundation for his discussion of the learning processes of rats and men which constitutes the latter part of the book.

The practically unlimited potentialities of diversity of cortical association combinations are argued mathematically upon anatomical data (Chapter I), and are regarded "adequate for any theoretic explanation of cerebral functions whatever." The author then shows (Chapter II) how there has been worked out in the cerebral cortex a mechanism of maximum efficiency adequate for the analysis of many afferent systems of different kinds and their regrouping through a wide range of different pathways, a type of organization that is in strong contrast with the mass reflexes of the spinal cord and corpus striatum. The problem of the conditional reflex (Chapter III) is approached through an illustration of the neural mechanism of lower vertebrates, particularly fishes and amphibians, in relation to the behavior pattern. In a similar manner the evolution of the cerebral cortex (Chapter IV) is traced through the ichthysiopsid (fishes and amphibians), sauropsid (reptiles and birds), mammalian and human types, and the genetic, structural and physiological interrelations of the cerebral cortex and the corpus striatum is analyzed for birds and reptiles (Chapter V), and for mammals (Chapter VI). The phylogenetic development of the thalamus is then comparatively treated through the ichthysiopsid, sauropsid and human types, and the phylogenetic age of the thalamus (Chapter VII) is emphasized as a basis for appreciation of its bearing on physiological and psychological problems. In illustration of these relations a series of new diagrams (page 31) is introduced with good effect. In the treatment of the cerebral hemispheres (Chapter VIII) the marsupial brain as described morphologically by Obenchain, histologically by Gray and physiologically by Gray and Turner, is given large place, and somewhat similar studies of the brain of the rat by Furtuyn, Craigie, Sugita and Lashley are taken as the immediate approach to the discussion which comprises the latter part of the book.

In an effort to arrive at a true interpretation of "how rats learn" (Chapter IX) the author discusses, upon the basis chiefly of Lashley's work, the questions of strictly subcortical processes, special structures for facilitation of learning, short-circuiting of habit formation processes from cortical to subcortical mechanisms, disturbance of learned processes by cortical injury, interrelation of the amount of cortex functioning and the rate of learning, localization of cortical functions, equipotentiality, the relation of cortex to corpus striatum in the habit-learning process, and the unique rôle of the frontal cortex. Certain phases of this discussion are elaborated in detail (Chapters X to XIII), under the topics "Mechanisms of Learning in the Rat," "Localization of Learned Processes in the Cerebral Cortex of the Rat," "The Frontal Lobes" and "Association Centers." These topics are then reviewed (Chapter XIV) as a "Summary of Cortical Evolution." In his treatment of the "Subconscious" (Chapter XV) the author presents the cerebral cortex as an organ of creative automaticity that has designed and fabricated itself during its ontogenetic and phylogenetic development, and the working of which is intelligence. He insists that appeal to the "metaphysical, theological, mythologi-