

News and Comment

AMERICAN LEAGUE AGAINST EPILEPSY

Jerry Price Memorial prizes for dissertations in epilepsy, with a total value of \$1,000, were awarded at the annual meeting of the American League Against Epilepsy, held in Boston, Aug. 22, 1953. Essayists were medical students.

Cash prizes went to Dominick P. Purpura, Harvard Medical School; Arnold M. Sobel, New York University College of Medicine; William C. Brown, University of Utah College of Medicine; and J. W. A. Terrell, University of Texas School of Medicine. Twenty-three other contestants received prizes of books or of subscriptions to *Epilepsia*.

Books

Cerebral Changes Following Electrically Induced Convulsions: An Experimental Study on Cats. By Hans Hartelius. Acta psychiatrica et neurologica scandinavica, Supplement 77. Price, 20 Swedish crowns. Pp. 128, with 24 illustrations. Ejnar Munksgaard Forlag, Nørregade 6, Copenhagen, 1952.

Studies published by previous authors have been contradictory as to the changes in the brain following electric shock; so the author has reviewed the literature and undertaken a controlled investigation, using cats and preparing the material with rigorous precautions against accepting artifacts and incidental findings. The fact that he made no mistakes when separating those animals who had undergone electrically induced convulsions from those who had received none is a credit to the perspicacity of the investigator. And yet the changes, such as they are, are not of a kind to meet the wandering or inattentive eye. Some sections were insufficiently demonstrative, while others were misleading, so that a number of slides had to be seen and then reviewed, new ones cut and stained, and, finally, when the changes were well fixed in the mind of the investigator, the sections examined a third time "blind," and even a fourth time, in order to permit the utmost concordance. Finally, the statistical work to prove the validity of the findings had to be calculated, with the result that the final opinion of the investigator could be stated with less than a chance in a thousand of the opinion being due to chance. This is a deliberate and intricate work, and will prove to anyone's satisfaction that there are histologic changes produced in the brain of cats by application of the electric current in a manner analogous to that of electroshock therapy in man. Future arguments may take place over the severity and significance of these changes, but there can be no doubt that they have been demonstrated.

The author points out that after repeated electroshocks there are dilated perivascular spaces of irregular shape in which scattered histiocytic elements are sometimes present; that occasionally free pigment, but oftener phagocytosed, is found in these spaces. Glia cells are increased in the parenchyma, particularly in the neighborhood of ganglion cells. "Satellitosis appeared to be a relatively specific phenomenon . . . Sporadic cases of true neuronophagia also belonged to the category of glia reactions." As far as changes in the nerve cells are concerned (and here the technical part of the monograph recommends chromalum-galloyanin after fixation in Carnoy's solution), the author is more concerned with morphology. "It appeared easier to record a greater chromaffinity from nerve cell to nerve cell than to grade the chromaffinity in general of the nerve population. A special phenomenon found in certain pyramidal cells, i. e. nuclear hyperchromatism with coincident relative chromophobia in the cytoplasm, particularly in its periphery, also seemed to be of great value in substantiating the diagnosis 'shocked'. Particular note was made of focal accumulations of such cells and of a greater variability of nerve-cell chromaffinity in circumscribed areas." Concerning minute hemorrhages, the author

found them more frequently in the shocked than in the nonshocked animals, yet they were always terminal and not of an age that would suggest their occurrence at the time the shocks were administered. "The most plausible explanation appears to be that the electric shocks, in combination with some individual factor, resulted in an increased tendency to terminal cerebral hemorrhages."

There is an interesting table recording the methods and results of 15 investigations. There are 22 columns. The photomicrographs are rather pale, in contrast to those obtained with aniline dyes, but thoroughly readable. The author has made his point.

Parkinson's Disease and Its Surgical Treatment. By Leslie G. Oliver, M.R.C.S. Eng.; L.R.C.P. London. Price, 12s. 6d. Pp. 96, with 12 illustrations. H. K. Lewis & Co., Ltd., 136 Gower St., London W.C. 1, 1953.

"There is at present no cure for Parkinson's disease, but in a small proportion of cases substantial improvement may be accomplished by surgery if great care is taken in the selection of patients. This account has been written chiefly to dispel exaggerated claims for surgery, but also at the same time to counteract prejudice, which tends to deprive some patients of relief from a most distressing malady."

The author has performed spinal pyramidotomy in 40 cases, performing a bilateral operation in 25 of them. The results were poor. He prefers a more radical operation, namely, complete section of the lateral column, which he has carried out in 14 cases, without a death and with uniformly satisfactory improvement. The complications have been similar to those seen after spinothalamic chordotomy, in addition with considerable loss of strength, usually temporary, in the homolateral extremity. The cortical and subcortical operations are frowned upon.

The Living Brain. By W. Grey Walter. Price, \$3.95. Pp. 311. W. W. Norton & Company, Inc., 101 5th Ave., New York 3, 1953.

This book is evidently written for the educated general reader, and not for the trained specialist. It begins with a sketch of the evolution of the nervous system that is remarkably well done. It is then pointed out that man was very slow in recognizing the functions of the brain, not realizing that it is the organ that makes him superior to all other animals. Walter then emphasizes the recent rapid development in the understanding of how the brain works through electroencephalography and suggests that at last we may be seeing the physical counterparts of mental events. The recently devised techniques related to electroencephalography have provided new knowledge that has practical application to epilepsy and hallucinations. He describes the possibility that the brain may work as a scanning mechanism and explains the working models that have been made by the physicists. Berger's discovery of the electroencephalograph and Pavlov's quantitative studies of conditioned reflexes are considered to be the two important paths that have converged to give our present understanding of the process of learning. Walter considers the scanning theory as the climax of recent research which gives us a possible way to explain the learning process. In this connection he describes a marvelous model made by himself which behaves almost like a live tortoise.

His theories are well explained and make interesting reading. One of his main points is that the brain is characterized by being unique for each individual man. It allows for much idiosyncrasy. The other organs of the body are practically uniform and allow for very little idiosyncrasy. Thus the brain is essentially the organ of personality.

This book is a stimulating one for the neurologist and psychiatrist, but for the general reader it is dangerous, because the author does not make it clear as to when he is discussing facts and when he is merely speculating. The style is sprightly but provocative and at times bumptious. It is to be deplored that an investigator with so much originality and ability has so thrown off scientific restraints that he at times is fantastic.