

## BOOK REVIEW

**Inside the Brain.** By W. H. Calvin and G. A. Ojemann. New American Library, New York. 1980. XIII+226 pp. Price \$2.50.

Science represents the ever growing collective knowledge of human race which should eventually be applied in the best interests of mankind. Unfortunately, the public is mostly ignorant of, non-interested in or even hostile to the goals proposed by science. The percentage of national income invested into research and the priorities of the research depend to considerable degree on the capability of science to recruit public support for entire disciplines and/or for specific projects. All scientists are aware of the above truisms, but only few are willing to do something about it. W. H. Calvin and G. A. Ojemann, well-known brain scientists from the Department of Neurological Surgery of the University of Washington School of Medicine in Seattle must be highly commended on the attempt to convince the readers of their book *Inside the Brain* that '... a great many people had personal interest in the progress of brain research.'

The book is an unusual popular science text, combining several levels of explanation of theoretical and technical problems with various motivational devices which should lure the easily fatigued reader over the more difficult paragraphs. The central narrative follows an epileptic patient, Neil, through a day of open skull neurosurgery. Since the epileptic focus is in the left temporal lobe, the neurosurgeon has to establish the boundary of the language areas by stimulation and the source of epileptic discharge by recording, to perform a number of neuropsychological tests and to weigh the risks involved in removing too much or too little of the brain tissue. The authors succeed to render well the atmosphere of the neurosurgery operating room, the complexity of the participating team, the importance of each test and the responsibility of the final decision. The story is dramatic enough to inspire A. Hailey or M. Crichton to write a plot around it, but here it is used to give continuity to a series of lectures on localization of function, hemispheric specialization, electrical manifestations of brain activity, memory and brain plasticity, emotions, pleasure and pain. In numerous digressions from the main story the authors cover the pathophysiology of Parkinson's disease, stroke, multiple sclerosis, schizophrenia and other psychiatric disorders. The

various issues are discussed in a clear, comprehensible way, with a number of well-chosen examples, analogies and case stories. Interested readers will find more rigorous explanations and guide to additional literature in the 30 pages of notes at the end of the book. An excellent subject index (16 pages) does not only provide access to the information scattered throughout the volume, but also gives short definitions of the most important terms.

There is no doubt that the clinical orientation of the book will attract large readership, including many patients and their relatives. In this respect the book is remarkable by its honest approach to the practical applications of research. There are no gratuitous promises, the risks are pointed out and failures discussed as openly and realistically as successes. This sober, impartial attitude, unfortunately scarce in many popular science books, is the best safeguard against disappointments due to failure of too optimistic predictions.

The authors did not succeed equally well on all points, however. The book is richly illustrated, but the 87 figures are not used in the most efficient way. Almost half of them are brain schemes showing localisation of function established in stimulation and recording tests. Only a few figures explain the nature of various examinations and the mechanisms of brain activity, or give examples of recordings. A series of 11 full-page drawings of neurons from various areas of human cerebral cortex at birth and at the age of six years has no obvious relation to the subject matter of the book. The authors seem to overestimate the advantages of presenting the material in the form of rather artificial dialogues between students and professors or patient and physician. The dubious improvement of readability of the text is outbalanced by poor surveyability of the information embedded in irrelevant conversation. As pointed out in the preface, the effort to avoid excessive use of terminology has led to some curious omissions, e.g. hemispheric lateralization is described without mentioning the existence of corpus callosum. The reviewer finds it still more curious that the split-brain studies are described without a single reference to the work of R. W. Sperry.

*J. Bureš, Prague*