Book Reviews

A Study of Thinking. Jerome S. Bruner, Jacqueline J. Goodnow and George A. Austin. Wiley, New York; Chapman & Hall, London, 1956. 330 pp. Illus. $5.50.

One of man's most impressive and important characteristics is his ability to group discriminably different events into meaningful and useful categories. For example, although there are an estimated 7 million or more discriminable colors, we get along with only a few color names. Or, with little information, people will classify others as intelligent or not, friendly or not, and so on. Now, although it is clear that such groupings are made and are efficient, we have known relatively little of the way in which intelligent adults arrive at classifications of new events when these events might be categorized in a number of different ways.

In their attempt to provide an answer to this question, the authors of *A Study of Thinking* have written an exciting and thought-provoking book. It can be recommended to persons outside, as well as within, the field of psychology because of its lively and clear prose, and because the authors have constantly related their findings to parallels in everyday life. Finally, the book is of interest because of the proposed solution to the aforementioned problem, one that will surely arouse controversy in the field of psychology.

The book is divided into three parts. The first presents a discussion of the nature of categories and the problems men encounter when using them. The second part presents and analyzes experimental results from an extensive research program. The third, an appendix, is a worthwhile discussion of language and categories by Roger W. Brown.

It is in the second part of the book that the authors' thesis is presented. They argue that, in attempting to place a new event in some category, men approximate ideal, abstractly describable, rational "strategies," and that the strategy approximated will vary as the experimental conditions change. Furthermore, these strategies are conceived of as major determiners of individual choices within a sequence of choices. An example of initial responses in two different strategies may be given by a man suddenly dependent for his existence on eating mushrooms but with knowledge of the appearance of only one nontoxic type. If he could find none of his safe type, he might with little risk test one slightly different and increase his supply by only a few mushrooms. Or he might test one differing in several ways from the safe one and at greater risk increase his potential supply much more. Do experimental subjects who make such initially different responses make further choices consistent with two different strategies? The range of facts that is incorporated by this assumption is impressive. However, the relationship between the responses and the inferred strategy is sometimes rather indirect.

Very likely, psychologists who resonate to this type of interpretation will attempt to specify more closely the nature of these strategies. Others who prefer to think in terms of simpler processes may attempt to formulate these problems in different ways. Regardless of the ultimate fate of these organizing concepts, this work will stand as a major contribution to the psychology of thinking.

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S. P. Botkin and the Neurogenic Theory of Medicine. L. R. Borodulin. State Publishing House of Medical Literature, Moscow, U.S.S.R., ed. 2, 1953. 184 pp. (In Russian)

Sergei Petrovich Botkin, a teacher of the physiologist I. P. Pavlov, played a catalyzing role in Russian medicine similar to the one played by William Osler in American and English medical practice and education. These two great clinicians were almost contemporaries. Botkin was 17 years old when Osler was born in 1849. He died at the age of 57, the year Osler moved his activities from the University of Pennsylvania to Johns Hopkins University. Both were in many ways alike in their keen intellects, their scientific attitudes to medical theory and practice, their abilities to arouse and sustain the enthusiasm of their many students in the investigation and practice of scientific medicine, and their breadth of interests which far exceeded the boundaries of medicine. Both were well versed in the physical and chemical sciences of their time as well as in philosophy, literature, and sociology. Both looked upon medicine as one important way of serving mankind and both exhibited continued interest in any activities and developments that would emancipate mankind from the unhappy triumvirate of disease, ignorance, and poverty.

The one major difference between these two men was that, while Osler was primarily a great clinician, Botkin was a clinician as well as an experimental physiologist. He was equally at home in the clinic and in the experimental laboratory. The environments in which these two men worked were also markedly different. Osler worked in an industrialized society in an atmosphere of liberalism and progressive thought that characterized life in the United States of America. Botkin, on the other hand, had to carry on his activities in an essentially feudalistic society governed by an unenlightened absolute monarchy with its secret police and its omnipresent censor.

In spite of this environmental difference, the two men shared many views in common. Among other things, these included their appreciation of the importance of psychologic factors in health and disease and the conviction that sound medical practice should not be limited to pharmacotherapeutics.

It appears that Botkin and Osler represented the most rational expressions of the general revolt against polypharmacy and so-called "heroic" medicine in which, to paraphrase Osler, "large quantities of drugs, the actions of which we knew little, were poured into bodies, the actions of which we knew even less."

The emotional expression of this revolt was represented by Hahnemann's homeopathy and his advocacy of the use of highly diluted drugs, and A. T. Still's osteopathy and his proscription of the use of any drugs and his reliance on joint manipulation as the only correct and useful form of therapy.

Osler and Botkin, on the other hand, attempted to apply the principles of scientific analysis and of the available scientific facts to the development of more rational and effective forms of therapy based on careful diagnosis and facts derived from physiology and pharmacology.

The author of this book on Botkin attempts to describe the development of Botkin's therapeutic concepts on a background of the medical thinking and practice then current in Russian, German, and French medical circles. The chief theme of this book may be indicated as follows: (i) The accumulation of scientific knowledge by the second half of the 19th century exposed the inadequacy of