

*The Integrated Mind.* By MICHAEL S. GAZZANIGA AND JOSEPH E. LEDOUX. New York: Plenum Press, 1978. Pp 168. \$15.95.

The famous split brain studies of Sperry and colleagues are of interest from a developmental, genetic, and neurophysiological point of view, and to both professional and lay students of psychology, which includes almost everyone. Most issues of the popular psychology magazines such as *Human Behavior* and *Psychology Today* contain some reference to the concept that the left hemisphere is specialized for verbal processing and analytical reasoning, while the right hemisphere is specialized in synthesis and perceptual processing. In its extreme popularized version, the left brain is cold, scientific and philosophically Western, while the right brain is creative, intuitive, feminine, and philosophically Eastern Oriental.

This book addresses itself to the question of whether these popular concepts are true. Gazzaniga was involved with Sperry in some of the analyses of the original split brain patients where the commissures were surgically transected to control the interhemispheric spread of epileptic seizures, as well as with a more recent group of patients from Dartmouth Medical School. While the results of the early studies were largely confirmed, the new aspect was realizing the importance of how the testing was done. For example, in a block design test, when a split brain patient was asked to manually reconstruct a design from a set of 4 patterned blocks, the left hand vastly outperformed the right. This is consistent with the early notion that the right brain is superior with spatial concepts. However, when the same test was presented visually using a tachistoscope (so the right and left hemispheres could be tested separately), both hemispheres performed equally well, indicating both were capable of handling spatial concepts, but the right hemisphere was far superior in transmitting this information to hand manipulation. In numerous experiments, the right hemisphere was superior only when hand manipulation was involved. These were termed manipulospatial activities. The authors point out that in nonhuman primates, manipulospatial functions are controlled by both right and left inferior parietal lobules. They theorize that with the development of speech in humans, the synaptic space previously devoted to manipulospatial functions in the left hemisphere was sacrificed in the process of acquiring language. By this view, the right hemisphere advantage in manipulospatial tasks may not be attributable to an evolutionarily superior right hemisphere but instead, to a disadvantaged left hemisphere preoccupied with speech.

In a recent article discussing the popular view of split brain experiments [1], it was said, "With apologies to an ancient Taoist/Zen adage, 'The hemisphere that speaks does not know, the hemisphere that knows does not speak.' " Perhaps this should be changed to "both hemispheres know, but only one chooses to speak; the other will draw us a picture."

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1. HOOVER T: Zen, Technology and the Split Brain. *Omni* 1:123, 1978

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*An Introduction to Medical Genetics. Seventh Edition.* By J. A. FRASER ROBERTS AND MARCUS E. PEMBREY. Oxford: Oxford University Press, 1978. Pp 324. \$13.95.

When first published in 1940, J. A. Fraser Roberts' textbook offered a unique approach to the subject of medical genetics. To quote the author: "The historical approach was therefore abandoned. Genetic principles were recalled as briefly as possible, and their application in the human field made severely deductive. Plant and animal examples were excluded. On the other

hand, the special features of human genetics were treated at length, though in as non-mathematical a way as I could contrive." Thirty-eight years, six editions, and one coauthor later, the aim of the text remains the same: to present the basic principles of genetics as they apply to medicine.

The book opens with a brief chapter on the basis of inheritance. The authors then systematically work through each conceivable mode of inheritance. The discussions of single gene and multifactorial inheritance are exceptionally detailed. No mating type is overlooked. Every possible outcome is considered. So many possibilities are discussed that one is often obliged to go back and sort out exactly what was previously said about the topic.

Some of the specific areas of human genetics which are discussed are molecular genetics, the genetics of blood groups and HLA, linkage, chromosomal abnormalities, and genetic counseling. Each chapter deals with its subject concisely but adequately. The emphasis is consistently on the basic principles pertinent to the topic.

The illustrations are generally good. Some karyotypes are unbanded and should be replaced by banded ones in the next edition.

Several features of the book are outstanding. The table of contents is set up in such a way that it provides a handy reference to specific situations. For example, the reader can easily determine from the table of contents that a mating of two heterozygotes for a dominant trait is described on page 32. Additionally, the text provides a broad base of background information, and suggestions for further reading are well selected.

The book is recommended for physicians, medical students, and graduate and undergraduate students, including those with little or no background knowledge of medical genetics. However, a word of caution is in order. The authors deal almost exclusively with the application of genetics to medicine, so the reader will get far more from the text if he first acquires a background understanding of genetics in general.

As a genetics associate, I also recommend the present edition of this classic text for genetic associate training programs, since it presents a broad and accurate approach to medical genetics.

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*Cardiomyopathy Associated with Systemic Myopathy. Genetic Defect of Actomycin Influencing Muscular Structure and Function.* By F. BÜCHNER, S. ONISHI AND A. WADA. Baltimore/Munich: Urban and Schwarzenberg, 1978. Pp 99. \$18.50.

The title of this monograph describes the content, *except* for one major item: it has to do with golden hamsters.

In 1962, the golden hamster was found by Hamberger et al. to have a hereditary form of cardiomyopathy. The disorder affects skeletal and cardiac muscle. In 1968, by crossbreeding siblings of affected hamsters, Eörs Bajusz was able to develop a stock with the disorder. Bajusz, working with the authors and using electron microscopy, then discovered an embryonic defect in the formation of actomycin. As the first author writes in the preface, Bajusz was an ardent researcher whose "passionate heart was called to eternal rest" in 1973. This book is dedicated to the memory of Bajusz.

This reviewer could quibble with the awkward phrasing which occurred when it was translated from the original German, and other matters such as reference citations to papers not contained in