

BOOK REVIEW

FUNDAMENTALS OF SENSORY PHYSIOLOGY Edited by Robert F. Schmidt, *Springer-Verlag Berlin, Heidelberg, 1978, Distributed by Narosa Publishing House.*

This book is the English translation of the 3rd edition of original German book *Grundriss der Sinnesphysiologie* published in 1977.

It is one of the most well written books on the subject of sensory physiology that this reviewer has come across. In spite of the fact that it is a multi-author book, it goes to the credit of the editor R.F. Schmidt who is also a major contributor that throughout the book, there is a uniformity of style which is easy, readable and lucid. Perhaps this book is the only one of its type which builds up the subject from its very elements and simultaneously incorporates the most recent knowledge. The book deals with the subject in nine chapters. The first chapter deals with the basic concepts of psychophysics including the stimulus-response relationship, measurement of intensity of sensations, and spatial, temporal and affective aspects of sensory perception. The second chapter introduces the students to neurophysiology of sensory systems very naturally by defining the various types of stimuli and how these are transformed into physiological signals by their respective receptors. This is followed by a survey of sensory functions of various CNS structures and the organization of somatosensory systems. Some excellently written pages in this chapter deal with the organization of the sensory systems in light of the modern information theory. Chapter 3 deals with the somatovisceral sensibility giving a lucid description of mechano-, proprio- and thermo-reception. The chapter ends with a concise but well explained treatment of somatic and visceral pain and various therapeutic measures usually prescribed to alleviate pain. Chapters 4, 5, 6, 7 and 8 adequately deal with special senses of vision, hearing, equilibrium, taste and olfaction. The last chapter i.e. chapter 9 summarizes the knowledge on general senses of thirst and hunger with the help of block diagrams.

Every part of the book is profusely illustrated with meaningful and artistically drawn diagrams, most of these being the reproductions of records or data from actual experiments. Each illustration along with its legend is complete in itself representing a concept or a physiological phenomenon. A welcome feature of the book is the incorporation of a set of multiple choice questions in the text of each chapter so that as the reader progresses in the quest of knowledge he can go on assessing how much he has comprehended. Lists of references most of which are recently published articles or monography for further reading on the contents of each chapter have been also provided. An exhaustive index further enhances the value of the book.

It is evident that the field of sensory physiology has to relate to other areas of neurophysiology. In such situations one finds a frequent reference to a sister publication, Fundamentals of Neurophysiology edited by R.F. Schmidt himself and brought out by the same Publisher. It is understandable that some material of the book on Neurophysiology will have to be repeated in the book on sensory Physiology to ensure continuity. No doubt, sensory physiology is a field for the pursuit of excellence in its own right and the book is complete and compact. Still, there are many advantages of bringing out the two books i.e. Fundamentals of Neurophysiology and Fundamentals of Sensory Physiology into a single volume. This will help in avoiding some of the repetitions in text or illustrative materials, and would provide a compact and tightly knit introduction to neurosciences which I believe is the main purpose of the two volumes.

Going over the Fundamentals of Sensory Physiology has been a rewarding and pleasurable experience. I would safely recommend this book and its sister volume i.e. Fundamentals of Neurophysiology. The new entrants in the field of neurosciences, as also researchers and teachers in its various branches for the clarity of expression and the lucid but concise treatment of concepts that these books bring out. Of course, Springer-Verlag stand upto their reputation in giving the finest to their readers. Both, my friend, the Editor R.F. Schmidt, and the Publishers need to be congratulated.

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