
It is most difficult to evaluate and criticize this book, for it has many chapters touching on many topics within the field of food intake and energy balance regulation. An analysis, one by one, of the individual chapters would turn into a boring exposition of a few errors of presentation or misinterpretation which would not result in a significant contribution, besides proving that the reviewer read them all. This book is sufficiently specialized, so that most of its readers would become aware of the weakness of certain data presented for the first time. Under different conditions, these data would not have passed the reviewers for a journal publication. Instead I would like to address myself to its value, for books such as this have become the rule in this third quarter of the 20th century, i.e., the presentation in a book format of a large number of papers presumably dealing with a common topic, covering research dating about the same period.

The advantage of this type of book is that it provides the reader with a large collection of papers, a sort of instant *Index Medicus* of manuscripts rather than titles alone. One cannot deny that this situation offers much more comfort than a literature search through a dusty library, often missing many volumes. However, the danger of books of the type presently under discussion is that although they are ‘edited by . . .’, they in fact have just been edited. Better even, they have been compiled by a person that is called an editor who has made sure that chapters have a similar organization. But it is quite misleading to believe that somehow a cogent extract, or a cogent analysis of all the papers presented has taken place. And this is the weakness of this book and of most of the books of its type.

The present state of affairs in the field of publication in the Neurosciences forces scientists to use lots of data with little integration. In general (and the journal editorial policies are to blame for this) authors are forced to 'stick to the data' and not to philosophize. Thus, one gets a very dry and poor impression of the richness of mental processes that do in fact exist among our profession. A book of the type presented here should have provided one of those few instances when neuro-scientists can express themselves freely and when the editor of the book, or others designated by him, should integrate and philosophize about the data, the past, the present and where the future may lead. Individual contributors did write some insightful paragraphs, but these got overshadowed by the abundant data. It often happened, throughout the various chapters, that one author presented a piece of information and raised a question, that unknowingly to him, to the editor and to many but hopefully not all the readers, was answered by another author a few pages before or after. Nowhere is there evidence that anyone took the time to really study and relate and integrate the papers presented. This is a loss to the field. I only hope that the next book may benefit from these comments and that my thoughts be taken in good faith.

Thus, I would give a high mark to the *book as a whole* in presenting to the world the current data produced by various investigators in the field of regulation of food intake, and
I would give it a low mark as an exponent of integrative thinking for which the individual contributors are not at fault.

Saul Balagura, New York, N. Y.


Physiologic mapping of the brain by focal electrical stimulation via electrodes and using the conscious patient's reports of evoked sensations and paresthesias is the modern neuroclinician's most accurate means of determining optimal lesion sites for the amelioration of various neurological disturbances, including intractable pain, Parkinsonian tremors and hyperkinesias. The reliability of procedures for functional localization in the human brain has steadily improved over the years by the combined use of (1) standard stereotaxic neurosurgical procedures that permit accurate insertion of an electrode (stimulating or lesion-producing) to any specified target depth from any particular angle, (2) X-ray contrast ventriculograms to localize specific brain stem landmarks with respect to the stereotaxic coordinates, (3) brain atlases containing photomicrographs of stained thin sections of the thalamus and brain stem showing cytarchitectural details, also oriented with respect to the standard stereotaxic coordinates, (4) computational methods for correction of errors in stereotaxic coordinates of specific structures due to individual differences in brain size and shape, (5) parametrically controlled threshold electrical stimulation via in-depth electrodes, (6) systematic strategies for adequately sampling all relevant neural structures by multiple electrode trajectories, (7) accurate and detailed recording of evoked paresthesias and sensations, (8) graphic representation of the locations of the paresthesias on body figurines in linear arrays that correspond to the trajectories of the stimulating electrode, (9) reconstruction of three-dimensional somesthetic maps of evoked paresthesias by collation of all two-dimensional figurine maps, (10) identification of neuroanatomical location of these somesthetic maps by reference to the stereotaxic coordinates of neural structures determined from the patient's ventriculogram and from the sections of the brain atlas and by localization of electrode tracks and lesions on postmortem histologically processed brain sections and (11) computers and computer programs that rapidly record, correlate and display all relevant data on-line during operative procedures to permit accurate control and placement of stimulating and lesion-producing electrodes with respect to known physiological and anatomical landmarks.

Emmers' and Tasker's Atlas of The Human Somesthetic Thalamus describes, explains and illustrates these procedures. It is the most thorough atlas now available for successfully and accurately producing lesions in those deep nuclei of the human thalamus and upper brain stem for relief of undesirable but treatable neurological symptoms. The book is 15 inches wide and 13 inches high. Apparently, such dimensions were necessary to accommodate the full-page illustrations. The photomicrographs are magnified 11X providing a clear image of the cytarchitectonic organization of cellular masses and the composition of fiber tracts. The atlas portion of the book is organized into four sections. In the first, the stereotaxic and radiological procedures are described and illustrated. These are preliminary and establish the standard stereotaxic coordinates of specific thalamic landmarks (e.g. anterior and posterior commissures) of the individual to be operated upon. In the second section photographs of five sagittal brain slices are presented, together with photomicrographs of cresyl violet-stained sections and associated charts of figurine maps of the same five mediolaterally situated sagittal planes. The figurine maps show the soma-totopic pattern of body fields of the evoked paresthesias along several electrode tracks for each plane of section. The brainstem loci stimulated are also indicated in the appropriate nuclear locations on the brain sections for each plane. The figurine data shown for the five sagittal planes were replotted onto a set of five standard oblique coronal planes at five rostrocaudal locations within the caudal thalamus. The data depicted in these ten plates were derived from stimulation of over 2,000 sites in a large number of patients. These data circumscribe the somesthetic region of the ventrocaudal thalamus in humans and reveal the existence of two adjacent but physiologically distinct somesthetic projections. In the third section, the somatotopic pattern of
organization of the two adjacent somesthetic thalamic regions is portrayed in a composite
three-dimensional model consisting of two distorted humanoid statues that reveal the
relative location, orientation, size and differential development of the body projections to
the two regions. These models are photographed from several angles and should be of
considerable help to the clinician in assessing the location and orientation of a particular
stimulating electrode in an exploratory operation. In the last section are explained the ways
in which computations and adjustments are made to correct for individual differences and
deviations of the electrode from the intended target trajectories, corrections that assure
that successive punctures will reach the intended target.

Practical and successful use of this atlas is promised when, in addition to the commonly
practiced stereotactic approach to the target, the surgeon carries out a relatively simple
procedure of stimulating certain thalamic sites. If the stimulation is done at 2-mm distances
along a particular trajectory of the stimulating probe, the projection fields of paresthesias
reported by the patient should closely approximate those illustrated in the atlas. Any
discrepancies would indicate that the position of the probe deviates from the intended
position by a certain distance. The latter can be determined by using the computational
methods explained in the last section of the book. Since the book appears to be written
primarily for practical use by neuro-clinicians, no references to research on laboratory
animals are made. However, neurobiologists familiar with the comparative aspects of the
subject matter may find the functional organization of the human somesthetic thalamus of
interest. It should be pointed out that in the human thalamus the pattern of organization of
the main somatic sensory projections appear to be inverted when compared with those
found in other mammals. Also, neurobiologists may be surprised by the report that realistic
(e.g., touch and thermal) sensations instead of paresthesias can be induced by patterned
electrical stimulation of certain sites of the thalamus.

Although most of the procedures are described even to the detail of providing names of the
companies which manufacture the needed instruments and surgical materials, the reader can
obtain additional information by writing to Dr. R. EMMERS, Department of
Physiology, Coll. of P & S, Columbia University, 630 W.168th Street, New York, NY
10032 (USA), or Dr. RONALD R. TASKER, Division of Neurosurgery, University Wing of
Toronto General Hospital, Toronto 2, Ontario (Canada).

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