

Book Review

H.J. Markowitsch, *Intellectual Functions of the Brain. An Historical Perspective*, Hogrefe & Huber Publs., Seattle, 1992, VIII + 182 pp. ISBN 0-88937-081-8.

The study of the historical roots of the neurosciences in general and in particular of that branch which Luria called 'higher cognitive functions' is certainly a fascinating subject, but one that is rather difficult to do research on. Major reasons for this difficulty can be found in the facts that the original publications are frequently just not easily accessed, citations to these sources are often inaccurate or incomplete, and language problems are necessarily more prevalent in this older literature than today.

Markowitsch's concise volume – principally covering the period between 1870 and 1940 – reflects these aspects of neuro-historical research: there is a large amount of non-English language literature, German citations make up nearly half of the studies, and French and Italian authors are quoted as well. "Providing accurate and detailed information on the respective sources" was apparently one of the major aims of the book. The large share of references is alleviated by the fact that – as the author stated – "all foreign language citations have been translated so that the reader can easily evaluate whether the title of a book or article is of interest and worth further looking into".

The volume is divided into ten chapters of unequal length, whereby the selection of topics for the chapters was directed by the dominant topics entertained at the turn of the century. Thus we read about considerable philosophical influences at the time, attempts to relate gross morphological appearances of the brain to intellectual functions, and about assumptions on the corpus callosum having a role in memory. A major portion of the book is devoted to the frontal lobes and refers to early work on animals and heated arguments between various researchers (for example, Munk, Ferrier, Goltz, or Hitzig). Another chapter treats the use of psychosurgery on the frontal lobes, starting with the work of Gottlieb Burckhardt who performed lobectomies as early as 1890.

A major part of the work reviews material on memory and its disorders such as psychogenic amnesic states, retrograde disorders, and the consequences of brain damage on memory, and gives special attention to the literature on Korsakoff's syndrome. Interestingly there are also references to early research on the role of the diencephalon and the medial temporal lobe structures in memory.

One of the preferences of the age is seen in the dominance of psychiatry in brain research and in the stronger interest in affective and emotional disturbances, rather than in memory, and likewise topics such as consciousness and soul occupied a good part of the research and publications at that time. Going over this literature brings up some highly interesting information: Sigmund Freud, for example, wrote on neuroanatomy and Korbinian Brodmann on the psychology of memory, to mention just a few of the examples discussed.

Cognitive neuroscientists may well be surprised to find a number of forgotten predecessors. And although the term Neuropsychology had not yet been applied to the field, Markowitsch does show that a number of distinctions and hypotheses of today were already being discussed at that time. This is the case not only for the localization of memory-related "bottle-neck structures" and the postulated functions of the frontal lobes, but also for several current divisions of memory such as declarative memory or priming.

All in all, the book provides a vivid description of neuroscientific research from a time period which successfully laid the foundations for our present-day knowledge, and can be recommended to any neuroscientist interested in the history of the field.

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