

## Book Review

MENTAL RETARDATION AND CONGENITAL MALFORMATIONS OF THE CENTRAL NERVOUS SYSTEM. Josef Warkany, Ronald J. Lemire, and M. Michael Cohen, Jr., Year Book Medical Publishers, Chicago, 459 pp.

I found this book revealing not only for its information on cephalic defects, which is considerable, but also for its lack of information on how these defects might relate in any specific way to mental retardation. This lack is not a failing of the authors but a commentary on how completely science has failed to explain intelligence, consciousness, and other higher human functions in anatomic terms. The book is testimony both to the holistic nature of the nervous system—specific anatomic lesions do not necessarily yield different behavioral phenotypes— and to the modern relevance of such philosophical dilemmas as the mind-body problem or the location of "soul." Appropriately, congenital malformation of the nervous system is the author's prime concern, rather than functional, behavioral, or therapeutic aspects of mental retardation. This concentration on pathology rather than on philosophy has produced a valuable reference and is an excellent counterpiece to those discussions of mental retardation without consideration of etiology that have saturated the literature.

The book is organized into four parts, headed Introduction, Craniocerebral Malformations, Tumors and Malformations, and Various Indicators of Central Nervous System Malformations. The introduction (11 pp.) contributes a useful review of epidemiologic studies of mental retardation and cites some of the difficulties that complicate interpretation of brain pathology. Part II, which is the largest section (255 pp.), includes chapters on microcephaly, hydrocephaly, hydranencephaly, megalencephaly, craniostenosis, encephaloceles, holoprosencephaly, porencephaly, lissencephaly, nuclear aplasia, agenesis of the corpus callosum, meningeal malformations, and vascular malformations. Part III (68 pp.) discusses congenital brain tumors, hamartoses, and hemisyndromes while Part IV (76 pp.) is more of an appendix with chapters on eye, ear, heart, skeletal, skin, dermatoglyphic, and chromosomal findings that accompany malformations of the central nervous system. Thorough coverage is thus

achieved, and many of the chapters are unique contributions by nature of their emphasis and grouping.

Some deficiencies which I noted include the lack of a chapter on the development of the central nervous system. This undoubtedly reflects the previous volume by Lemire et al. (1975), but I believe a summary chapter would be helpful. There is also a tendency to present factual details without discussing underlying concepts. For example, recurrent Cri-du-Chat syndrome is mentioned without reference to chromosome translocation and Pierre Robin syndrome is cited without discussing the concept of malformation sequence. Indeed, some allusion to modern concepts and distinctions in classifying anomalies (i.e., disruptions, deformations, etc.) should have been included. In some cases the text is rather convoluted, as when the data of Spielmeier are discussed three separate times in the chapter on hydranencephaly. I must also mention my disappointment that the anecdotal genius which enlivens *Congenital Malformations: Notes and Comments* (Warkany, 1971) is not more evident in this book.

Strengths of the book include its unique nature, thorough compilation, and many strong sections such as the one on Down syndrome in the chapter on microcephaly. The excellent index and copious references will be extremely useful guides to the complex literature on brain malformations. Perhaps its best attribute is the critical examination of this literature from the perspective of dysmorphology/teratology. Now that the hard work is done, one hopes that a second edition will add more spirit to this useful compendium.

### LITERATURE CITED

- Lemire, R.J., J.D. Loeser, R.W. Leech, and E.C. Alvord (1975) Normal and Abnormal Development of the Human Nervous System. Harper and Row, Hagerstown, MD.
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GOLDER N. WILSON  
*Pediatric Genetics*  
 University of Michigan  
 Ann Arbor, Michigan 48109