

# Book Reviews

## A Behavioral Syndrome

**Minimal Brain Dysfunction in Children.** PAUL H. WENDER. Wiley-Interscience, New York, 1971. xviii, 242 pp., illus. \$10.50. Wiley Series on Psychological Disorders.

Over the last several decades there has been increasing interest in children with a type of behavior characterized predominantly by motor hyperactivity, shortness of attention span, distractibility, impulsiveness, incoordination, emotional lability, and poor academic achievement. The earlier literature attributed such behavior to "brain damage." More recently it has been argued that many of these children show no clear evidence of structural "damage" to the brain, and consequently the syndrome has come to be known as "minimal brain dysfunction" or "MBD." Whereas this syndrome once intrigued only a handful of specialists, it has by now acquired wide notoriety through the lay press, so that it is not unusual for a child who does not measure up to his teacher's expectations either academically or athletically to be labeled a possible case of MBD and sent scurrying off for all sorts of diagnostic evaluations. Wender's monograph provides a new excursion into this murky territory.

He begins with a description of the heterogeneous symptoms which are said to comprise the syndrome. The same constellation of symptoms need not appear in every case, for some MBD children are hyperactive, distractible, and clumsy but do not have perceptual cognitive defects, whereas others may have a specific learning disability without any other manifestations of the symptom complex. Wender proposes a very broad concept of MBD to include not only hyperactive behavior and specific learning disability but also neurotic, psychopathic, and schizophrenic subvariants. Most discussions of the subject give only a description of the behavior characteristic of the affected preschool and primary school child (as in the first paragraph of this review). Wender, however, provides us with the natural history of the syndrome, recording the variable symptoms from infancy through adolescence

and beyond. These may change as the child matures. Some or all may disappear or a lesser degree of some symptoms may persist for many years. In adolescence various neurotic and sociopathic traits may predominate and conceal other symptoms. Wender is cautious about discussing the postadolescent fate of the MBD child but does suggest that the syndrome, at least in its most severe forms, may be a forerunner of adult impulsive character disorders, sociopathy, immature character disorders, and perhaps even schizophrenia.

These sections would benefit from greater detail regarding the quantitative variability in symptoms and their relation to normal development. This is crucial to diagnosis particularly in the younger child, for apparently identical symptoms do appear at different stages of development in the normal child. In MBD they are, as Wender puts it, "normal in kind but abnormal in degree." The definition of "abnormal" therefore becomes essential.

Various etiologies, some well established, others more hypothetical, have been proposed, and Wender lists such factors as organic brain damage, genetic transmission, extreme placement on a normal distribution curve, intrauterine random variation in biological development, fetal maldevelopment, and psychogenetic determinants. He further argues that subclinical manifestations of these various etiological mechanisms may interact to produce the syndrome. He is far less inclusive in his discussion of the neurological deficits and the various psychological investigations of perceptual and cognitive defects in "minimal brain dysfunction." He perpetuates the fallacy of the so-called neurological "soft" (equivocal, slight, borderline) sign. These signs, on the contrary, are very significant when compared with their incidence in normal peer groups and can serve as a useful tool for detection of neurological dysfunction in children.

Wender tells us that the sections on the clinical aspects are based primarily on his own experience with several hundred children (why not give us the actual figure?). I would therefore wish

for more quantitative data regarding the frequency of various symptoms and subvariants of the syndrome. Throughout the book one encounters too frequently such phrases as "is often," "quite likely," "may have," "seems to," "often has," "my impression that." This is particularly vexing in the chapter on treatment, where Wender is overly dogmatic regarding the importance and efficacy of drug management (particularly with d-amphetamine). He reports an "immediate and excellent response" in "approximately one third to one half" of the patients and a moderate improvement in "perhaps 10% to 20%." Why this vague range of figures and the qualifying adverbs if this represents his own experience?

He outlines a detailed program for the administration of medication and does provide some fine points of drug management not generally described in the literature. He is vague, however, regarding the duration of therapy and the appropriate regimen for withdrawal of medication. Stimulant medication can effect a remarkable improvement in behavior when it works, not only in regard to hyperactivity but also in attention span, impulsivity, response to control, social behavior, and cognition and learning. Yet there are many affected children who do not respond to medication of any kind. One can turn Wender's own figures around and show that about 30 to 60 percent of patients are not helped by drug therapy. Consequently it would have been helpful if Wender had expanded his account of counseling and environmental structuring to include a more detailed program for the practical day-to-day management of the child at home.

I cannot accept Wender's cavalier approach to drug treatment. He urges a trial of medication "in all children in whom the diagnosis of MBD is suspected." Suspected by whom—the teacher, the parent, the guidance counselor? And Wender's concept of MBD is extremely broad. Would all children with some learning difficulty or all neurotic adolescents have a trial of amphetamines? If generally adopted, such a policy not only would enlarge the over-medicated society but also might well compound the problem of addiction by making these drugs still more readily available.

Anyone dealing with this syndrome must often wonder which symptoms constitute only epiphenomena. Wender tackles this problem in the final sections of his book, where he proposes a psy-

chological and biochemical theory of "minimal brain dysfunction." Neither, however, constitutes the unifying concept he has promised us in earlier chapters. The psychological theory posits a few symptoms present in every patient from which all the other symptoms can be derived. His three primary symptoms are (i) decreased experience of pleasure and pain, (ii) generally high and poorly modulated level of activation, and (iii) extroversion. He hedges, though, when he states that these symptoms "do seem to appear in most MBD children and explain a large number of the other symptoms." Further on he admits that the scheme does not account for specific learning disabilities at all. His biochemical theory is even less satisfactory as a unifying concept of MBD, since the unifying feature rests on the therapeutic response to amphetamines. Here he draws heavily from the experimental animal (mainly rat) literature and proposes a model suggesting that MBD children have an abnormality of metabolism of biogenic amines and that this biochemical abnormality impairs the reward and activating systems in the brain. The action of amphetamines on the biogenic amines presumably could alter this situation. Wender's own data regarding the therapeutic response to amphetamines in MBD, however, indicate that this theory cannot explain all of "minimal brain dysfunction."

The book appears to have been hurriedly written. Much of the material is poorly organized; a number of important points are concealed in unrelated paragraphs or footnotes, and some clearly related material is separated by many pages. There are an annoying number of sweeping generalizations that later are contradicted or qualified. There are many unnecessary and unhelpful analogies and footnotes. The volume is beset by bibliographic errors (once considered a mortal sin in scientific writing).

Perhaps, though, the problem is as much with the subject itself. It is well to point out that a child's misbehavior or poor school performance need not be the result of willfulness, obstinacy, or daydreaming. Yet the whole notion of "minimal brain dysfunction" is badly in need of critical appraisal. One of the difficulties is with the term. Certainly for many parents and physicians the dysfunction is far more than "minimal," so that one might better speak of "moderate" or "maximal" brain dysfunction; or do some children have

"maximal minimal brain dysfunction" as contrasted with others? And there is the curious notion that the child with overt damage to his brain with, for example, a mild hemiparesis may or may not have "minimal brain dysfunction," depending on the presence or absence of the behavioral symptoms to which the term has now been attached. Yet what are those symptoms, and how many does one need for a diagnosis? Nowhere in this volume (nor in most accounts of this subject) is a clear definition of the syndrome provided which could assist in accurate diagnosis or allow for a correlation of data between different studies. Wender himself points out that different children may have different constellations of symptoms. Should the clumsy child with many abnormal neurological signs but none of the other symptoms of "MBD" fall into this category or not? I have already referred to the problem of quantitative variability of symptoms and indicated that normal children may have symptoms apparently identical to those constituting MBD. But where does the "abnormal" begin and the "normal" leave off? Are we likely to see a profusion of young children indiscriminately labeled MBD because they appear to be overactive and distractible? The "dyslexia" craze appears to have waned, but it was not unusual several years ago to see a three- or four-year-old brought in for a neurological consultation by a worried mother concerned that her child might have "dyslexia" because he reversed his letters and numbers (a normal phenomenon at that age). Might we now see the same with MBD? The whole syndrome has become so nebulous and definitions are so blurred that it is becoming another diagnostic wastebasket, and it is no surprise that attempts to determine the incidence of MBD among school children yield estimates ranging from 1 to 20 percent.

Labels tend to obscure rather than enlighten. I would suggest that we discard the label "minimal brain dysfunction" and concentrate on a more careful documentation of the clinical symptomatology and probable etiologic mechanism in each individual child who would now fall into this group. The identity of many of the symptoms between one child and another may be more apparent than real, and we would do well to look for differences. Wender, I think, provides us with some clues for a solution to this problem. For example, he suggests a number of etiolog-

ical pathways to this syndrome, and it is not inconceivable that they lead only to a remarkable simulacrum of symptomatology. The inconsistent response to medication and the fact that his psychological and biochemical theories fail as unifying concepts further suggest that we may be dealing with several diverse syndromes. He also hints that there may be a number of different mechanisms leading to motor hyperactivity.

A more careful study of this group of children following these leads and others, therefore, may reveal different clinical entities with similar but not identical symptomatology. We might then bring some order out of the present chaos, sharpen our diagnostic acumen, and render our treatment more effective.

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## Useful Animals

**The Life of Sharks.** PAUL BUDKER. English version by Peter J. Whitehead. Columbia University Press, New York, 1971. xviii, 222 pp. + plates. \$12.50.

The original version of this book, *La Vie des Requins*, was published in 1936. For over 20 years it remained the only good general book on sharks written with the insight of a research scientist studying these animals. This new edition has been revised considerably to include summaries and critical evaluations of the studies and findings about sharks since that time. Budker has taken time off from his current work on whales and whaling problems (he is Director of the Laboratoire de Biologie des Cétacés at the Ecole Pratique des Hautes Etudes in Paris) to update this material with the help of Peter Whitehead, ichthyologist at the British Museum, for the revision and translation into English.

It is refreshing to find a popular treatise on sharks with less emphasis on their powers of attack and more information on their general biology. Of course, there are chapters on man-eaters and the myths and legends built on the dangerous aspects of sharks. We can learn many irrelevant bits of information such as how shark brains dried and grated into white wine were once