

## Book Reviews

Kenneth M. Heilman and Edward Valenstein (Eds.)

*Clinical Neuropsychology.*

New York: Oxford University Press, 1979.  
Pp. 664. \$NZ27.30.

Reviewed by Michael C. Corballis

Neuropsychology is one of the newest and most flourishing branches of psychology. It is also one of the most international, and has so escaped many of the national excesses and cross-Atlantic misunderstandings that have plagued other branches of psychology. Its founding fathers were Hécaen in France, Luria in the USSR, Teuber in the USA, Zangwill in England—all prominently represented in the volume under review—and in a more diffuse way Hebb in Canada. Those were the psychologists primarily responsible for introducing psychological techniques and theories to the assessment of brain lesions in human patients. This does not mean however that earlier neurological assessments were psychologically naive; the contributions of neurologists like Broca, Head, Jackson, or Penfield are milestones in the development of mental science, and were for too long neglected by psychologists. Indeed it is not yet clear whether the overall impact of psychology on the field has been positive or negative. On the one hand, psychology offered more sophisticated ways of testing patients and more rigorous theories of mental functioning. On the other hand, the headlong rush of psychologists into the arena, in the opportunistic search for relevance and respectability through association with neurology, may have brought about confusion rather than clarification.

*Clinical neuropsychology* is an edited volume of contributions from leading experts in the field. Most of them stick closely to the effects of neurological interventions, avoiding the more speculative neuropsychology that is often little more than experimental psychology in disguise. Where hemispheric specialization is discussed, there is little mention of dichotic-listening or tachistoscopic studies, although these grow yearly more numerous and threaten to swamp even those journals dedicated to neuropsychology, not to mention journals of experimental or general psychology. By the same token, there is little attempt at psychological theory or even at a comprehensive theory of brain function. As the title indicates, the emphasis is primarily

clinical, and the volume may therefore be a disappointment to psychologists whose concern is with more general psychological issues.

The selection of topics is sensible and clear, and succeeds fairly well in avoiding redundancy. Chapters by Benson on aphasia, Albert on alexia, Marcie and Hécaen (annoyingly called "Henry" instead of "Henri") on agraphia, Levin on acalculia, Heilman on apraxia, Rubens on agnosia, and Heilman on neglect are all matter-of-fact reviews, focussing on symptoms and on localization of function rather than on more general theories of brain function. Benton's chapter on disturbances in body schema seems little more than a précis of his 1959 book *Right-left discrimination and finger localization* and offers little that is new. His chapter on visuoperceptive, visuospatial, and visuocognitive disorders is better, but overlaps with the chapters by Rubens and Heilman.

Bogen's chapter on the callosal syndrome is a scholarly, informative review of the major symptoms of the split-brain patients. Bogen was one of the chief architects of the notion of hemispheric duality, in which left and right hemispheres are portrayed as representing contrasting modes of human thought, the one rational, propositional, Western, the other intuitive, appositional, Eastern. There is little evidence of this conceit in his chapter here; evidently his left hemisphere has taken over. Damasio's chapter on the frontal lobes is thorough and thoughtful, but right at the end gives in to the clichéd device of promising that the "engima of the frontal lobes will be solved in the near future". Promises, promises. Valenstein and Heilman usefully review emotional disorders resulting from brain lesions, but only briefly touch on the controversial topic of psychosurgery.

Butters provides a solid review of amnesias, but again stays close to the neurological data. If ever there was a chance to integrate neuropsychology with more general psychological theory it was here, for memory has been at the centre of experimental psychology for perhaps 20 years. Yet there is no mention of Broadbent, Hebb, Neisser, Craik and Lockhart, Tulving, or indeed any of the prominent psychological theorists of memory. (Baddeley gets a mention, but only for a paper on amnesia). Joynt and Shoulson write on dementia, and in passing note disarmingly that one feature of dementia is the loss of a

sense of humour. Kertesz provides a helpful general chapter on recovery (though not of the sense of humour) and treatment.

The last two chapters break away somewhat from neurological constraints, for they deal with topics that are really only speculatively neuropsychological. Denckla writes on childhood learning disabilities and focuses mainly on dyslexia, which she reduces primarily to "dysphonemic-sequencing factors" (she does not write lucidly). She steadfastly avoids any mention of Orton, the pioneer in this field, yet in one confessional section she admits that the majority of dyslexic children referred to her clinic show some anomalies of lateralization, usually familial. She suggests that a tendency to regressive eye movements may lie at the source of the difficulty, but fails to integrate this idea with the main themes of her chapter. It might be profitable, and not even difficult, to do so. In the final chapter Denckla and Heilman provide a worthy review of hyperactivity. This topic is truly a quagmire, a muddy repository for every passing whim and fancy; one feels that it has escaped the attention of psychology's most creative talents, perhaps because they are themselves victims of hyperactivity.

This is, overall, a most useful and informative volume, and a sensible antidote to the more extravagant neuropsychological theorizing that is now prevalent. It is highly recommended to those who are serious about neuropsychology.

David Marholin II (Ed.)  
*Child Behaviour Therapy.*

New York: Gardner Press, 1978.  
Pp. xvi + 476. \$US26.00.

*Reviewed by Nirbhay N. Singh*

The title of this book is certain to arouse the interest of most behaviour therapists. It is a collection of 15 invited chapters written by 20 different contributors. The volume is intended for the practising clinician who is already familiar with the basic concepts and applications of behaviour therapy.

The book is divided into three sections. Section I is on the conceptual bases of behaviour therapies. The section begins with a very badly written chapter by Redd and Sleater on the theoretical foundations of behaviour therapy. The chapter has a plethora of naive and superficial statements which becloud the discussion of highly relevant issues. Marholin and Bijou present an excellent review of assessment strategies which have evolved from a functional analysis of

behaviour. Next, Birnbrauer presents a lucid and comprehensive guide to programme design. In contrast to Birnbrauer's very personal but very readable style, Kazdin and Marholin present a fairly dry account of the methods of programme evaluation. To this reviewer, this chapter appears to be merely a rephrasing of what has previously been written by Kazdin on the methodology of applied behaviour analysis. The present chapter does not present any information or progress in research methodology. Furthermore, statistical analysis techniques for single-subject design are not even considered as a technique for programme evaluation.

Section II deals with the applications of behaviour therapy to child psychopathology. Marholin and McInnis present a chapter on techniques which can be used for individualizing behavioural programmes for behaviour-problem children, complete with illustrative examples of case records and behaviour menus from their own clinical files. A chapter by Weathers and Liberman is devoted to the applications of these techniques in the modification of family behaviour. Programme description and data from parent-training workshops from the Oxnard Community Mental Health Center in California are presented, together with several case examples. Touchette's chapter on mental retardation is a well-written summary of the ways in which behavioural intervention can improve the intellectual and social prospects of children with learning disabilities. In the next two chapters, Morris presents a very brief introduction to legal deviance and discusses the application of behavioural analysis to delinquency, and Wolf and his colleagues review their work on the now-famous Achievement Place.

In the final two chapters of this section, Richards and Siegel provide an in-depth review of behavioural assessment and treatment procedures in the control of anxiety states and psychosomatic disorders in children. The first chapter on anxiety states is a pleasure to read. It is comprehensive without being tedious and it allows one to draw meaningful conclusions from a welter of experimental studies already existing in this area. In a similar vein, the second chapter provides a good selective review of behavioural treatment approaches as they pertain to the various childhood somatic disorders. Unfortunately the authors do not cover the theoretical and methodological problems inherent in this area of research, an omission which detracts from

the generally excellent quality of their work. A related problem is that the authors have, at times, uncritically included illustrative case studies which have several methodological flaws and do not represent the best research in this area.

Finally in Section III, there are four chapters devoted to current issues in behaviour therapy. The observation has repeatedly been made that the effective change and maintenance of behaviour change does not automatically occur after the termination of treatment. Marholin and Siegel discuss ten empirically tested strategies which appear to be functionally related to the transfer and durability of behavioural changes in children. The discussion of each strategy is complemented with illustrative experimental studies. Heads presents a reasonable review of ethical and legal issues involved in the use of behaviour modification with children. The last two chapters, which should be read together, present an analysis of the practical problems encountered in programme implementation. In the first, McInnes outlines some variables which are crucial to the successful operation of a residential or educational programme, and in the second, Nay has some interesting insights on intra-institutional "roadblocks" to successful behavioural programming in institutional settings. Nay outlines an array of institutional phenomena which can serve to delimit any effort at imposing a system of behavioural change in a therapeutic environment.

Overall, my reactions to this book were very favourable. The editor has compiled an outstanding book which provides a thorough review of behavioural procedures and treatments across a wide variety of problems and disorders in children. As a final note, it should be mentioned here that David Marholin II died of leukemia at the age of 29, on November 22, 1978.

David Marks and Richard Kammann

*Psychology of the Psychic.*

Buffalo, N.Y.: Prometheus Books, 1980.

Pp. 232. Cloth \$16.95, Paper \$8.95.

Reviewed by Barry Kirkwood

It was one of those not infrequent occasions when Mr Sherlock Holmes had stayed up all night. He handed me a book.

"*Psychology of the psychic.* Written by two psychologists from a colonial university and published by an obscure house. Surely Holmes, you have not spent the night reading this?"

"You fail to observe, my dear Watson, that the work has a foreword by Martin Gardner who is without peer amongst science journalists. A certain indication of exceptional merit." Holmes reached for his cocaine.

"While every detective must be a psychologist, Marks and Kammann show me that the converse can be true. I confess a sense of jealousy. Understand, Watson, that the authors by scientific sleuthing of the highest order have unmasked fraudulent schemes of the boldest claims of psychic power made in the last decade. Moreover, they write their account in racy style that bears comparison with that of my own chronicler, Arthur Conan Doyle. I must look to my Laurels, Watson."

I had never seen Holmes so put down.

"But surely Holmes, the work of Targ and Puthoff on remote viewing by ESP. Carried out at Stanford and published in *Nature* . . ."

"Exploded, Watson. The effect's an artefact of inept experimental design."

"But what of Kreskin, and Uri Geller? Eminent scientists have demonstrated the authenticity of the Geller Effect."

"Unmasked as mere conjurers, Watson. All of their techniques described as tricks that anyone can imitate. Let us hope that this information does not fall into the hands of those who would exploit the great majority of people who are so credulous as to believe in the paranormal. The authors provide statistics that indicate that such beliefs are not only widespread, but increasingly so in the present generation."

"Surely, Holmes, when works such as this, together with Hansel's *ESP, a Scientific Evaluation*, empirically falsify claims of ESP one would expect people at large to renounce belief in the psychic."

"Indeed, my dear Watson, you do well to speak of Marks, Kammann, and Hansel in the same breath. Their works show the rational and analytic mind at its best, and complement one another excellently. Marks and Kammann tell a sorry tale of fools and knaves battering upon belief in the psychic which is so entrenched that empirical evidence to the contrary in no wise modifies the belief. Thus it was that they encountered considerable resistance in their efforts to publish their work."

"How can this be, in these days of universal education?"

"Education has little to do with the case. Our own chronicler Conan Doyle had an excellent scientific education but became addicted to spiritualism in later life. Many eminent scientists have been true believers in

the paranormal. Amongst psychologists the late Burt and his disciple Eysenck attest the reality of ESP. The fact of the matter is that empirical falsification is not sufficient to sway belief. This is a classical problem of empiricism: until all ravens have been seen the empiricist cannot deny the possibility that somewhere a white raven may exist."

Again Holmes used the cocaine. Looking much refreshed he continued: "Marks and Kammann suggest that the initial stimulus for belief in the psychic is an unusual and striking coincidence, such as a dream which turns out to be prophetic. The individual then subjectively validates further evidence for the psychic by taking note of positive claims and ignoring or rationalizing negative evidence. I consider such an explanation to be essentially correct, but more universal than the authors wish to believe. They extend the argument to cases such as the clinical validation of hypotheses, but draw back when they approach the awful conclusion that the boundary between science and pseudoscience is arbitrary to a degree and changes with the fashions of the day. Modern philosophers of science such as Kuhn, Polanyi and above all Feyerabend take such a position and argue that proponents of major scientific paradigms ignore or reject empirical data that is not in accord with theory. Marks and Kammann retain a lingering belief that application of the scientific method should produce consensus amongst those who subscribe to it. Thus they are led to state, for example, that explanations for the behaviour of an alcoholic in terms of original sin, oedipal conflict, reflex learning, social learning, heredity, biochemistry and so on 'cannot all be right'. But the point is that these explanations are to a degree incommensurable, and demonstration of the truth or falsity of any one of them has no influence on the truth value of the others. Marks and Kammann are better detectives than they are philosophers."

"I acknowledge your mastery in these matters, Holmes. When in India I observed that occult practices were widespread. Do the authors deal with myth and magic?"

"I am glad you mentioned India, Watson. Marks and Kammann seem unacquainted with anthropological views on the psychology of the psychic. A pity, since the ideas of social functionalists, such as the excellent Malinowski, would seem compatible with their position and would lead them to appreciate the essential similarity between the casting of horoscopes and the practice of psychological testing, to give but one example."

Holmes consulted his watch and rose from his chair.

"I make these remarks, Watson, to demonstrate that even in areas where the authors fail to display genius they nevertheless have a remarkable power to stimulate it. I must confess I am in their debt. Now I must go. I have an appointment with Madame Mystique, the palm reader."

"You never fail to amaze me, Holmes. Surely you do not believe in the occult?"

"Belief has little to do with the present case. Marks and Kammann made a similar mistake in failing to stress the motivational aspects of involvement with the supernatural. For a mere nine dollars, Watson, a charming human being will hold my hand, give me her undivided attention and talk of nothing but myself for an entire hour. Ask yourself, my dear Watson, if I care whether what she says be true or false? But read the book, Watson. You will find it both instructive and diverting."

James J. Gibson

*The Ecological Approach to Visual Perception*

Boston: Houghton Mifflin, 1979.  
Pp. xiv + 332.

Reviewed by Geoff White

*The ecological approach to visual perception* is a singularly important work, if simply because it provides an antidote to the naive dualism that most psychologists cling to. J. J. Gibson offers a philosophy of perception which summarises and elaborates his earlier work, and which represents perhaps the only articulate alternative to the traditional view of perception as information processing or active construction.

Gibson's thesis is powerful: Perceptual systems directly pick up invariant information specifying change or persistence in the environment. The environment provides an ambient optic array which surrounds the moving individual. Environmental information is thus the specification of an environment. The medium, objects, places, and substances of an environment have *affordances* for an animal of a given species in that they support, furnish or afford perception. Gibson stresses the specification of environment in ecological rather than physical terms. The intersection of two planes, for example, is a straight line in physical (geometric) terms, but represents an edge or corner in ecological terms.

The strength of Gibson's work is in bringing

behaviour back into the environment, and the consequent resolution of many old philosophical puzzles. Environments do not exist independently of animals though they have reality in the terms of physics (although for me, physical reality is merely functionally related to the measurement behaviour of physicists). Stimuli as such are not perceived but may contain information; light is not seen, rather it is the lighted surface which is perceived. Ambient light must be structured or differentiated before it can transmit information about the environment.

The contrast with traditional approaches to perception is perhaps best seen in relation to the fundamental question of epistemology. Traditional accounts of perception are based on sensory inputs which require processing; thus sequential snapshot glimpses may be integrated into a scene or recognisable pattern, as argued in various forms by Bartlett, Neisser, Hochberg, Gregory, Bruner and many others. Gibson's main criticism of the snapshot or information-processing metaphor is that it is tautological: To account for the integration of features into some coherent whole, or in Bruner's terms, to go beyond the information given, there must be prior knowledge of the world which cannot otherwise be gained without prior perception. Notions of prototype abstraction, semantic memory, and real-world knowledge, feature analysers and so on are various attempts to assert the existence of prior knowledge. Gibson's alternative is simply to assert direct perception: "If . . . perception is based on invariant-extraction from a flux, one does not need to have ideas about the environment in order to perceive it" (p. 304).

The philosophy is coherent and the argument persuasive, although I was left puzzled about many issues. The theoretical accounts appear to be rhetorical devices based on the normal use of language, and in this regard rely on extensive definitions and an elaborate terminology. Definitions by themselves do not make a theory: given the potential importance of the book, Gibson devotes relatively little discussion to crucial concepts such as information pickup, affordances and invariants. Unsupported assertions are unhelpful in the development of an argument. Definition of terminology occupies most of the book, and at times seems silly. For example, Gibson gives two cases for the affordance of locomotion, an *obstacle* which is "a rigid object, detached or attached, a surface with occluding edges", and an *opening* which is "an aperture, hole, or gap in a surface, also with occluding edges . . . An

obstacle affords collision. An opening affords passage". Their relation is specified in the following definition: "Loss (or gain) of structure outside a closed contour during approach (or retreat) specifies an obstacle. Gain (or loss) of structure inside a closed contour during approach (or retreat) specifies an opening" (pp. 229-230). Quite simply, openings are things you can get through and obstacles are things you can't. The point is really very important for it emphasises that environmental properties cannot be specified independently of behaviour. But is prolix definition necessary to establish the philosophy?

Gibson's earlier description of himself as a radical behaviourist is consistent with a view of ecological optics that emphasises the fundamental nature of the functional relation between behaviour and environment. But in establishing his philosophy he neglects the reliance on empiricism otherwise encouraged by behavioural treatments. On the one hand he stresses the "mutuality" of animal and environment. On the other, the book is largely a classification system for environmental properties which are defined without regard to the specific behaviours they relate to. If, for example, affordance is relative to the species (p. 128), how can edges, corners, surfaces, ground, clutter, and so on enter into a general classification system without specific reference to their related behaviours? I suspect that this apparent inconsistency stems from the intuitive or introspective basis for Gibson's philosophy. It is as if Gibson has looked around his own world and asked himself what he sees and how he sees it. Why does his world remain constant when he knows his retinal image is moving? What Gibson discovers edges, textures or whatever in a distinctly personal way. The behaviour which bears a functional relation to the environment he classifies is his own. As with Chomsky's philosophy of language, Gibson's is built on introspectively generated hypothetical instantiation.

Is the theory useful in generating new experiments? Yes, insofar as the view has led to experiments on movement perception and with moving observers, and is strongly supported by a number of experimental psychologists such as Bransford, Mace, Turvey, Shaw, Lee, Warren, Neisser, and E. J. Gibson. And of course, Gibson's own distinguished contribution to experimental psychology over the last 50 years is direct background to the theory. Gibson suggests that his view requires the experimenter to "make available an

optical invariant that he expects will specify something about the world on the grounds of ecological optics" (p. 305). This is what Shaw and Pittenger have done in experiments on perception of facial change. The strategy is powerful in that invariants are specified

in the relational properties of stimulus information as determinants for behaviour. Thus the Gibsonian question is to ask not what is inside your head, but what your head is inside of.

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