

Book Reviews

Ian P. Howard

Human Visual Orientation

John Wiley and Sons, New York 1982

Reviewed by John Perrone

I have recently encountered several cases in the engineering literature where problems of visual perception have been discussed with reference to 'outdated' psychology textbooks. A cursory mention of gestalt principles is thrown in as a token gesture to the 'human side' of a design problem. With the advent of technologies such as robotics and image processing, the problem of how human beings perceive the direction and orientation of objects has become an important issue. Howard's new book on human visual orientation leaves the engineers with no excuses for quoting from outmoded psychological sources.

Howard covers topics of visual acuity; optical and retinal mechanisms; the neurophysiology of orientation detectors; the coding of spatial information; the relationship between vision and the vestibular, auditory and kinaesthetic systems; and visual motor coordination. It is an extensive and detailed treatment of a large topic and so the book runs to 587 pages with a further 80 pages of references.

The large number of references reflects Howard's approach and style of writing. His usual treatment of a topic begins with an outline of the problem followed by the different theories that exist to explain it. Howard then makes a statement regarding suggested future experiments, which in his view would help solve the problem. For anybody planning an investigation into one of the areas covered in this book, the approach provides a concise yet complete description of the work carried out to date.

Howard initially planned this book as a second edition of *Human Spatial Orientation* (Howard and Templeton, 1966), one of the few books out at that time dealing with this topic. The large amount of work that has been published since 1966, prompted

Howard to make some major changes. He has confined himself to visual direction, dropping chapters in the earlier book on kinaesthesia, auditory localization and geographical orientation.

A large proportion of the first half of the book deals with the physiology and neurophysiology of the visual system, including a review of much of Hubel and Wiesel's work. The question arises as to how well can we understand human orientation perception from just a knowledge of the mechanics of the sense organs? This question involves a wider issue, namely the theoretical approach to perception, but it is an important one which Howard seems to have ignored. Take for example the following statement made by Howard: 'Thus the human colour vision system cannot rival even an inexpensive spectrophotometer when it comes to analysing spectral components of complex mixtures of wavelengths.' (p 47). No mention is made of Edwin Land's work which demonstrated that it is the ratios of the wavelengths that is important to the human perception of colour, not the individual wavelengths themselves. The visual system does not need to match a spectrophotometer in order to experience colour. The detailed discussion of the mechanism of retinal detectors and their sensitivity to individual wavelengths, is wasted in this case. An analysis of the properties of light, as carried out by Land, is more informative than an analysis of the retinal detectors, when it comes to understanding the perception of colour.

Howard states in his introduction that the task of any enquiry into the mechanism of perception is to determine carefully the stimulus and descriptive domains with which one is operating. In later chapters, especially when dealing with the orientation of shapes, Howard puts this into practice. He points out how some experimenters have failed to determine the stimulus domains for their shapes and how this results in 'confused' findings. Unfortunately though, for much of the book, the stimulus domain simply consists of points, lines and gratings in the frontal

plane. Only rarely does Howard mention the natural environment in which man normally orientates himself. He is dealing with the problem of orientation at such a fine 'molecular level' that at times I felt that the wood couldn't be seen for the trees.

For such a large book, Howard has only addressed a small part of the entire problem of orientation. He has presented a very thorough account of the sense organs involved in visual orientation and of the 'organism', but relatively little is said about the environment in which man's visual orientation occurs. Howard's book will nevertheless prove to be valuable to those people working in the area of perception. The title belies the range of topics included in the book. For instance there are several chapters on eye-movements as well as a good section on intersensory conflict. There are also sections on mental rotation and shape perception.

The cover notes state that the major purpose of the book is to show how information relevant to judgements about direction and orientation is dealt with in the visual system, starting at the most peripheral level and proceeding to higher levels in the nervous system. My complaint is that too much emphasis has been placed on the 'higher levels' and too little on the type of information normally dealt with by the visual system. I was left with the feeling of somebody who has attended a lecture on the 'mysteries of the universe', only to sit through a talk on the construction of telescopes.

W. A. B. Black and A. J. W. Taylor (Eds.).
Deviant Behaviour: New Zealand Studies.
Auckland: Heineman Education Books,
1979.

Reviewed by R. G. Knight

The Preface to this book describes it as a milestone—the first collecting together of the most significant published papers by New Zealanders in the area of crime and delinquency. The articles selected are diverse in their content, quality and presentation but

they have the charm of being parochial, and in many cases, old friends. As an historical review of the concerns of applied psychologists in New Zealand this book is both successful, and, considering it comprises largely a series of academic papers, unexpectedly entertaining.

Deviant Behaviour is divided into five parts, the first of which, covering general aspects of crime, focuses on psychometric and statistical investigations of criminal populations. The first paper in this series, by A. J. W. Taylor (which incidentally seems a bit removed from the general theme of those that follow) is a succinct introduction into the mysteries of forensic practices as they affect the psychologist. This is a useful report. As more psychological practitioners become involved as expert witnesses in court proceedings, this kind of review from those experienced in local practices will be particularly welcome. In the second section on borstal trainees, three of the four papers describe Taylor's work at Arohata, the fourth paper being an operant analysis of control procedures in a small open boys' borstal, by Donald Sandford. The next section concerns adult imprisonment, and some of the effects of incarceration are explored and attempts to remediate adult prisoner described. In a small editing error, the authors' names at the head of the paper on the criminal alias are missing; presumably complete anonymity was seen as a demonstration of the ultimate in name change.

The fourth section features five papers describing case studies of persons who have committed major offences against the person. Regardless of how one views the utility of psychodynamic explorations of the disturbed personality, there is no denying that the writing of both R. J. Medlicott and Leon Shenken is vivid and compelling. The final section is made up of papers on matters of current social concern—drug abuse, abortion and offensive language.

In many ways this book serves as an evaluation of and a chance to reflect on the impact mental health professionals have had on the justice system in New Zealand. If it represents a reasonable summary of criminological research in New Zealand, then it

is not unfair to label the efforts thus far as sporadic and puny in the face of the enormity of the problems to be addressed. Systematic attempts to evaluate or implement intervention procedures have been few and far between. There is little in the research reported to herald the awakening interest in an organization/systems level approach to remediation in prison settings nor to preventive work at a community level.

Nevertheless, a summary of what has been achieved makes most interesting reading for the applied psychologist in New Zealand. If the book were to do more than this, if it perhaps serves as a stimulus for the production of a second generation of indigenous research into deviant behaviour, of greater scope and substance, then its publication will be very worthwhile indeed.

Elliott Aronson (Ed.).

Readings About The Social Animal (3rd Edition).

San Francisco: Freeman, 1981.

Reviewed by P. N. Hamid

Following the new edition of *The Social Animal* Aronson has put together this set of readings. *Readings About The Social Animal* set out to complement and supplement the work contained in *The Social Animal*. The selections of readings follow the main chapters of the text including conformity, communication, self-justification, aggression, prejudice, attraction and interpersonal processes. Both classic and more recent research literature are taken with a decided bias towards research with the dramatic results.

Aronson's basic aim to stimulate students' interest in social psychology is very well accomplished in *The Social Animal*, judging by the general accolade it receives from the first year students at Waikato. The response to this set of readings will, I think, not be so easy to judge. While I have not come across a better selection of readings in social psychology there is such a vast gap between the fluent style in the original text and the mechanical, jargonistic writings of journal articles that plague the current scene as to leave all

but the most persistent and dedicated student stunned. Aronson has tried to balance the research chosen with some theoretical and less turgid readings. Nevertheless the conceptual gap is there for all to see. To be fair to Aronson however, the chasm is not his. Students who wish to delve into the background and details of the original text will find the selection covers a wide range of studies that will last the test of time in terms of their implications for our understanding of social behaviour. In fact, taken on its own, *Readings About The Social Animal* would form the basis of a very good second year course in social psychology. Much better, I think, than most of the standard texts which try to cover so much that they accomplish very little as far as coming to grips with the nature and extent of current research in social psychology.

Overall the research chosen emphasize the relevance to current social issues and the basic content is interesting and most definitely thought provoking. Some research effects in social psychology have changed completely our understanding of what humans can do under minimal pressure and these results are well represented in this volume.

The most glaring omission as with the original text is the proper attention given to the ethics of much of the experimentation. If as it appears one of Aronson's aims is to encourage a greater participation of students in social psychology research then the readings must in some way include more than a cursory examination of deception. Many students nowadays and thankfully so, in my opinion, though fascinated by the content of social psychology will not compromise their honesty. There is a double standard which they recognize and it is nowhere more obviously given than in this set of readings.

While Aronson's advice to his readers in the preface is generally sound I would take him to task when he says that reading the summary of a journal article is most useful. More often than not such activity results in complete confusion. Research articles typically provide a summary which is full of jargon specific to the hypotheses and if not misleading are often completely unintelligible

to the uninitiated in a given area. Why don't journals require a clearly written unencumbered version of what the aims and outcomes of the research are?

In summary I would class this set of readings as the best selection I have come across and welcome it on my shelf but as an adjunct to *The Social Animal* it will be devoured by only the keenest and most ardent novice of social psychology.

John L. Phillips, Jr.

Piaget's Theory: A Primer

San Francisco: Freeman, 1981

Reviewed by P. S. Freyberg

Phillips will already be well-known to many students of child development through his earlier book *The Origins of Intellect: Piaget's Theory* (1975). This was a straightforward and useful introductory text. The present volume is more conversationally written, easier to read and obviously benefits from Phillips' attempts to 'teach' Piaget over the past decade or so.

The result is an admirable, albeit simplified and uncritical, account of its topic. But in describing itself as a *Primer* it under-rates its own profundity. For example, how much prior knowledge and consideration would be required to fully explore the statement . . . "assimilation to those schemes gives the (object) its meaning; it is the operative aspect of knowing. Representation in the broad sense (knowing) includes meaning, and meaning is operative" (p. 21, author's emphasis).

This *Primer* is laced with similar observations, expressed with sufficient succinctness to make old Piaget-hands pause and review their previous conceptions. From that point of view it is as much a book for lecturers as for the students for whom it is obviously intended. As Phillips says, much of Piaget's thinking is difficult to follow—unnecessarily obtuse, some might say. Phillips' exposition is generally clear, uncomplicated and probably accurately reflects the basic tenets of its subject. What it fails to do is to draw attention to the theory's weaknesses as well as its undoubted strengths,

D. W. Goodman and S. B. Guze

Psychiatric Diagnosis (Second Edition)

New York: Oxford University Press, 1979.

Pp. xiii + 254.

Reviewed by A. R. Forbes

One of the most interesting topics in contemporary biometrics is the development of algorithms for formal numerical taxonomy. Given a set of attributes on which each of a set of entities is measured, the purpose of numerical taxonomy is to identify clusters of entities in the attribute space, should such clusters exist. The logical and mathematical foundations of the various algorithms now available are not too difficult, and many are available in computer programme libraries. Given the demonstrations of the utility of clustering procedures in fields as diverse as archaeology and zoology, their application to the rationalisation of the basics of psychiatric diagnosis would appear to be a sensible enterprise. Indeed, several limited studies of this kind have already been reported. It would be surprising, however, if the principal groupings of psychiatric patients identified during a full-scale taxonomic exercise differed radically in their definition from those in use at the present time.

Whatever classificatory system one adopts, however, the rules for allocating individuals to classes, and the correlates of class membership have to be clearly specifiable as conditions necessary for the system to work at all. It is to this issue, with regard to the major psychiatric categories as defined by current convention, that Goodman and Guze have addressed themselves in the second edition of a book first published with Woodruff in 1974. As with that first edition, the stated goal of the new one is: "to provide a concise compendium of current knowledge in psychiatry, with abundant citations, not much theory, and as little opinion as we could get by with."

The authors have certainly attained their goal of conciseness, at least in part because they have omitted extended descriptions of what is often mistaken for theory. In part

they have attained conciseness by dealing with broad categories of psychiatric illness. For example, Goodman and Guze deal with affective disorder under only two categories, primary and secondary. In the section on schizophrenia discussion focuses on the features associated with outcome rather than on the classical varieties of the disorder such as paranoid, hebephrenic or simple schizophrenia. Similarly, only four varieties of neurosis are dealt with. The authors have chosen such a policy deliberately, omitting discussion of diagnostic categories of dubious identifiability and validity. Consequently, the categories they do discuss cannot accommodate all patients suffering psychiatric disorder. This means that some must be regarded as "unclassifiable", but the authors assert that this is preferable to pretension to more knowledge than psychiatry presently commands.

The resulting discussions of affective disorder, schizophrenia, four neuroses, alcoholism, drug dependence, sociopathy, brain syndrome, anorexia nervosa and sexual problems each contain lucid accounts of presentation, differential diagnosis, etiology, management and prognosis, with the research basis for the statements made listed at the end of each chapter. (Several of these research reports appeared subsequent to the 1974 edition and so inform some of the contents of the present one, partially with regard to the effects of treatment).

The principal appendix comprises those extracts from the draft of DSM-III germane to the categories of disorder recognised by the authors, replacing the scheme presented in the 1974 edition.

As an introduction to the features, course and prognosis of the principal psychiatric disorders as they are presently categorised, Goodwin's and Guze's book is quite outstanding. In a style reminiscent of Bacon's essays, it presents its facts and the basis for them tersely, clearly and elegantly. Some will undoubtedly fault it because it does not detail their favourite etiological theory or their favourite treatment, but both beginners in the field and those seeking a fair judgement of the present state of the art will find it a mine of clearly-presented information.

Educational Psychology: An international Journal of Experimental Educational Psychology, V1 N1, pp. 103.

Richard J. Riding and Kevin Wheldall (Joint Editors). Journals Oxford Ltd, 1981.

Reviewed by David Hughes

The editors of this new quarterly journal spell out their editorial policy in a brief editorial and a more detailed editorial article. The editorial article, "Effective Educational Research", provides a critique of current educational research implicit within which is the proposed policy for the Journal. In brief, *Educational Psychology* aims 'to provide an international forum for the rapid dissemination of experimental psychological research which has a direct bearing on educational topics and problems' (p. 3, italics theirs).

With six countries represented on the editorial board and contributions from five countries, the editors are justified in claiming an international emphasis for this first issue of *Educational Psychology*. Whether the Journal can continue to attract contributions from around the world remains to be seen.

The editors claim that 'psychology has made relatively few discoveries that could make learning more efficient, retention better, or cause students to work harder. Nor has it found much that is useful to teachers about the way in which pupils develop cognitively, or why they behave as they do' (p. 6). They suggest that failure to meet four basic conditions has hindered effective educational psychological research.

First, Riding and Wheldall claim that psychology has concerned itself more with the atypical than the typical in the subjects studied, the materials used and the tasks undertaken. Educational psychology needs to 'understand how children effectively learn, within the school setting, skills and information relevant to everyday life. Progress will only be possible when a large number of researchers investigate ordinary children in commonplace situations doing real-life tasks' (p. 7).

Second, they argue that it is essential that researchers clearly establish the construct

validity of the instruments they adopt or devise and that they avoid using descriptions or labels as explanations. Researchers must 'constantly remind themselves that technical descriptions are often only labels and rarely real explanations, whether the terms are dyslexia, autism, long-term memory, arousal or field-independence' (p. 8).

Third, much emphasis is placed on the editors' intention to publish experimental rather than observational/correlational research. The Journal's primary emphasis will be on Experimental research (with a large 'E') involving change in a dependent variable resulting from systematic manipulation of an independent variable. Also to be published, where relevant, is experimental research (with a small 'e') involving the systematic investigation of variables such as age and sex which are not amendable to Experimentation. To be avoided is large-scale observational/correlational research in which causality is impossible to determine because of the confounding of variables. In addition to experimental articles the Journal will publish reviews of experimental research, brief research notes, technical notes, book reviews and correspondence.

Finally, the editors note that educational research has frequently involved comparisons of two or more methods of teaching. They suggest that progress in educational research requires a different strategy aimed at understanding the basic processes and variables in the classroom.

While this policy does not herald a scientific revolution in educational psychology, it is clearly stated and it certainly identifies some important weaknesses in current educational psychological research. Unfortunately, most of the contributors to the first issue of *Educational Psychology* themselves exhibit one or more of the faults of educational psychological research so clearly identified by the editors as the following brief summary of contents illustrates. If the first issue is liberally sprinkled with these faults, there seems to be little likelihood that subsequent issues will be largely free from them.

In addition to the editorial article, the first issue contains two research notes, a review article, a terminological note and four re-

search articles. The first research note describes the initiation and evaluation of a token reinforcement programme designed to modify command following and out-of-seat behaviour in three emotionally disturbed pre-school children attending a private school for the retarded. The second describes the development and use of a programme to teach a non-iconic symbol system to two boys attending a school for children with severe learning difficulties. The review article, which summarizes behaviour modification studies in Britain, devotes as much space to non-experiments and/or children in special schools as it does to experiments in normal schools. The terminological note is concerned with the use of the term 'disadvantaged' rather than terms from difference-theory such as 'culturally different' when referring to the life-styles, cognitive capabilities and language of some groups of children.

The first research article reports the findings of a study which investigated whether, when reading and interpreting maps, people construct mental images of the areas depicted in the maps and reach decisions by mentally manipulating these images. Eighteen university geography students studied a series of contour maps with a cross-section line drawn across them. After studying each map the subject had to identify cross-section diagrams as correct or not for the map stimulus just studied. The results were interpreted as supporting an imagery-based strategy. The second research article reports the results of a study investigating the effectiveness of a 'morphographic' procedure for teaching spelling. The authors admit that the design employed does not rule out regression and Hawthorne effects as possible explanations of the results which are interpreted as suggesting the superiority of the morphographic approach. Even if these effects could be ruled out with certainty, the study is clearly a comparison of the morphographic method with all other extant methods of teaching spelling lumped together. The third research article is a neat investigation of the effects on accuracy and self-correction of delayed and immediate attention to oral reading errors

with average second-year readers. This article, which found delayed attention to be more effective, fits the ideal article described in the editorial article better than any other in the issue. The final article investigates the causes of the high numbers of reversal errors in beginning, retarded and dyslexic readers. The results, which the author points out have implications for

remediation, suggest that there is no unitary cause of reversal errors, but that the cause differs for the three groups studied.

For future issues the editors will need to attract a higher proportion of contributions which measure up to the standards they have delineated if *Educational Psychology* is not to become just another run-of-the-mill educational psychology journal.