Book Reviews

G. Th. Pavlidis and T. R. Miles (Eds.)

Dyslexia Research and its Applications to Education

New York: John Wiley and Sons, 1981.

Reviewed by M. C. Corballis.

Despite its title, this collection is really about *developmental* dyslexia, a specific disability in reading that sometimes afflicts individuals who are otherwise normally intelligent, well-adjusted, healthy, and without signs of neurological damage. It is necessary to mention this because of the recent surge of interest in the various forms of *acquired* dyslexia (also known, especially in the earlier literature, as alexia), in which reading difficulties can be clearly related to brain injury. In many respects, then, the volume under review is complementary to the recent collection of articles on so-called "deep dyslexia" edited by Colheart, Patterson, and Marshall (1979), although it is a matter of some contemporary debate as to whether developmental and acquired dyslexia are really so distinct as has been supposed (see chapters by Ellis and Miles, and by Meudell).

The dominant figure in the history of ideas about developmental dyslexia was an American physician called Samuel Torrey Orton, whose views were especially influential in the 1920s and 1930s. Orton believed that dyslexia was due primarily to left-right confusions, which in turn were due to a failure to establish clear cerebral dominance. In popular currency, left-right reversals are still often regarded as the hallmark of dyslexia; I have several times heard dyslexic children diagnosed as "seeing things backwards," as though a simple cure might be to fit reversing prisms. Orton's influence is also felt in the present volume. Macdonald Critchley, another Grand Old Man of dyslexia, writes from the lofty viewpoint of the medical consultant reviewing his case notes. He observes that many dyslexics do show an excess of left-right confusions and "not infrequently betray an infirm one-sided cerebral dominance." Rawson, representing the Orton Society, up-dates Orton's views by appealing to contemporary ideas about hemispheric specialization, suggesting (as others have) that dyslexics effectively adopt "right-hemispheric," holistic strategies of processing. This romantic conception of dyslexia implies that dyslexics may compensate for their reading difficulties by being unusually artistic or creative. Masland, a neurologist, finds evidence for Orton's neurological theory of dyslexia in experiments on interhemispheric mirror-image reversal in pigeons and monkeys, suggesting that engrams of patterns may be left-right reversed in transfer from one hemisphere to the other. Masland's analysis is somewhat oversimplified and is actually charitable to Orton, who makes no mention of interhemispheric transfer; Beale and I have discussed this matter in detail elsewhere (Corballis & Beale, 1976).

Orton does not fare so well in other chapters. Pavlidis finds no difference between dyslexic children and matched controls on measures of laterality, but does not say what these measures are. T. R. Miles and Ellis, who have an unfortunate penchant for awkward acronyms, observe that "the evidence for an association between UHE and dyslexia . . . is anything but strong." UHE means "unusual handedness or eyedness." They also mount a lengthy attack on the evidence that dyslexics are especially prone to left-right confusions were important, "it is hard to see following chapter by E. Miles. This attack is sometimes misplaced; for instance, T. R. Miles and Ellis remark that if mirror-image confusions were important, "it is hard to see why dyslexic children do not sometimes walk away from objects which they wish to approach." This betrays a total misunderstanding of the nature of left-right confusions (Corballis & Beale, 1976).

Even so, there has been a clear swing away from Ortonian ideas about dyslexia. Bakker and Schroots argue that dyslexia is linked to a deficit in temporal processing. Pavlidis documents a deficit in saccadic eye movements, and argues strenuously if not entirely convincingly that this is not merely a consequence of reading disability. Legein and Bouma suggest that the deficit is one of

phonological recoding. Ellis and T. R. Miles reach the delightful conclusion that "dyslexia involves deficiences in the VIL, VILLL, P-to-L, AL, and OL systems and that it is the VIL, VILLL, and P-to-L systems which are most seriously affected." I shall not bother to translate, and doubt that it would be helpful if I did. In all of this one can sense some kind of concensus that the deficit is somehow related to a finely tuned sequential component, whether of eye movements or of phonological encoding. In view of recent speculation that the programming of sequences may lie at the root of left-hemispheric specialization (e.g., Kimura, 1979), we may find something of an Ortonian flavour here after all.

In one of the more useful chapters, Naidoo observes that despite the various and changing theoretical conceptions of dyslexia effective techniques for remediation have remained much the same since Orton's day. Those who actually work with dyslexic children will find this chapter by far the most valuable, and it is pleasingly devoid of theoretical pretension.

As is common in collections of this type, many of the contributions would not be acceptable to a refereed journal. Much of the writing, especially that of Critchley, Masland, Pavlidis, and T. R. Miles and Ellis, is rambling and disjointed. The typesetters have done their job reasonably well, but the editors have not. In some of the chapters describing experimental evidence, such as those of Bakker and Schroots, Pavlidis, and Legein and Bouma, the reader is referred elsewhere for crucial information. There has been little attempt to rationalize contraditions between different authors, to discover common themes, or to reach general conclusions. On the other hand, this volume does provide a fairly representative sampling of contemporary ideas about dyslexia. Research on dyslexia has for too long proceeded along three parallel lines, representing the neurological, psychological, and educational approaches. It is pleasing to see all three approaches represented between the same covers, even though in rather raw form.

References

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Kimura, D. Neuromotor mechanisms in the evolution of human communication. In H. D. Steklis and M. J. Raleigh (Eds.), *Neurobiology of social communication in primates*. New York: Academic Press, 1979.

Wang, W. S-Y (Ed.)

Human Communication: Language and its Psychobiological Bases.

(Readings, fom *Scientific American*)
San Francisco: Freeman, 1982.

Reviewed by M. B. Simmonds

This volume contains a collection of 18 articles that appeared in "Scientific American" between January 1950 and April 1981. One third of them first appeared prior to 1969; it follows therefore that many of the articles are of mainly historical interest.

A virtue of "Scientific American" reprints is that they enable one to obtain authoritative written accounts of many of the key areas of research in a discipline. Indeed this volume contains articles by such historical figures as Von Frisch, Premack, Geschwind and Liberman. Herein lies the volume's weaknesses and strengths. It cannot be regarded as a major text on communication, yet it does provide a valuable collection of background readings that offer a wide-ranging introduction to some of the shared content areas of linguistics, psychology, anthropology, archaeology and computer science. The volume errs on the side of over-inclusion. For example, the article by Hockett (1960) on the origin of speech provides a mediocre opening to the collection, and Nicolai's (1974) article on mimicry in parasitic birds is of doubtful relevance in a volume on human communication. The more purely linguistic sections on the Chinese language, Zapotec writing, Pidgin languages and the spread of Bantu, make fascinating reading and are unlikely to go out of date as rapidly as some of the more psychologically

oriented articles on such topics as hemispheric localisation, bilingualism and speech synthesis. Wang's introductions to the various sections provide a suitable historical context within which the reprinted articles can be interpreted, however, they do not go far enough in the direction of bringing the collected papers up to date; there is no discussion of the alternative theories and interpretations that have emerged in the decades since some of the reported research was completed. A section on sociolinguistics would have been welcome in a broad introductory volume of this type and there is a notable absence in such areas as the relationship between language and thought and the problem of meaning.

The collection cannot seriously compete as a textbook or as a primary source in the study of human communication. However, it does provide a useful and diverse collection of background readings in a field that can be profitably looked at from widely differing perspectives.

William Ickes and Eris S. Knowles (Eds.)

Personality, Roles, and Social Behaviour
New York: Springer Verlag, 1982.
Pp xviii + 362, US$30.20.

Reviewed by Barrie G. Stacey.

This book is an attempt to merge two approaches to social psychology that reflect a division which has been most prominent in the USA. The two approaches stem from the sociological emphasis on self, roles and symbolic interaction, and a psychological emphasis on personality traits and situational determinants. Each chapter discusses a particular area of social psychology, e.g. sex roles, dyadic interaction, social awareness, or a specific issue, e.g. loss and grief, assisting homemakers re-enter the workforce, discretionary justice. The authors are prominent American sociologists and psychologists. Their chapters, for this reader, intermesh successfully, probably reflecting the contribution of the editors.

The authors rely predominantly on American research and writing, though some Europeans are referred to, including Argyle, H. J. and S. B. Eysenck, Giddens, Magnusson, Rommetveit, Stroebe and Tajfel. Unfortunately, much of the American research quoted is derived from academic production line studies based upon undergraduate student subjects which are of uncertain validity and significance. This means the book is much stronger on conceptual issues than on empirical findings. However, field work features prominently in the chapters dealing with assisting displaced homemakers and discretionary justice.

The book will be of value to readers with an interest in personality or roles or both. It will be especially valuable to those teaching courses which attract sociology as well as psychology students. The discussions of conceptual and methodological issues, together with the paradigm for the study of personality, roles and social behaviour presented by Ickes, will be of practical use to researchers including postgraduate students. The various treatments of issues such as the relationship between psychology and sociology, interdisciplinary communication, and the interplay between the individual and society, are located within the historical development of social psychology in the USA. This will probably limit their utility outside the USA.

Andrew Croyden Smith

Schizophrenia and Madness
London: George Allen and Unwin
Pp. 160

Reviewed by H. R. Unger

Dr Smith is a psychiatrist and although in this purportedly historical and eclectic survey of theories of schizophrenia he claims no bias, it is obvious that he sees it as the field where the psychiatrist is the expert. It is interesting that psychologists are not once mentioned, although social workers are often seen as being part of the treatment team.

A good historical survey of schizophrenias interpreted in famous personages of the past and other cultures is traversed to the Middle Ages when the church provided the religious model in the understanding and treatment of mental disorders thought to be caused by ex-

ternal influences stigmatised as the Devil. Although the early humanitarian doctors who helped to abolish mechanical restraint would seem to have had greater understanding they yet continually looked for hypothetical physical influences. For example the frequent self-undressing of the insane was thought to arise from a morbid sense of heat or uneasiness in the skin.

Laing, Szasz et al are briefly described with Laing's interpretation of schizophrenia as a mystical voyage into inner space which, with a guide, can come back to the starting point enriched by new insight and Szasz's concepts of insanity as a fabrication to keep the parasite professions occupied, these being dismissed as evolved by those not constantly in touch with the insane, particularly in institutions. Schizophrenia is still, according to the author, a serious mental illness with a dislocation between the inner world of the person and the outer world, and therefore distortion of the usual processes of perception, thinking, feeling and action

Finally, he tries to combine four theories of schizophrenia—the neurological, the psychiatric, the sociological and the prophetic—and achieve a goal not attained by Wing in his "New Synthesis" but ends up with just as confused a picture as other authors with a combination of constitutional tendencies precipitated by life events causing circular type of reactions to the individual. Always there is the fervent hope that some sort of physiological, neurological or endocrinological cause will be found soon to explain the confusion in a more scientific way.

The book is most readable but not deep in its descriptions of various theories that become so simplified that they sound more like commonsense than the results of intensive studies and not taking our knowledge of the schizophrenic disorders any further. It is in fact in the true British psychiatric tradition of careful rephrasing.

Tony Bastick

Intuition, How we Think and Act.

New York: John Wiley and Sons Ltd, 1982
Pp. 494.

Reviewed by Carol Parrott.

Bastick has made a commendable attempt to define and produce a formal theory of intuitive thinking, a phenomenon which has been surrounded for too long by an air of mystique, defying serious investigation.

An extensive review of the vast literature on intuition, insight and creativity, from the early pioneering efforts of Gestalt Field Psychologists to present, occupies eight of the nine chapters. The review is organized around 20 properties of intuition/insight, views, definitions and descriptions extracted from the literature, diverse perspectives integrated within the framework of Bastick's Theory of Intuitive Thought. Anticipation is built up in the first eight chapters with the implication that the Theory of Intuitive Thought will provide the missing link to the multifarious psychological writings and research. This tantalization necessitates great restraint from going immediately to the final chapter where the theory is formally explicated. In retrospect I would recommend reading the last chapter first.

Without subjecting the reader of this review to a similar frustration . . . the central issue of Bastick's theory is the concept of 'emotional set' or the emotional encoding of information and associated response tendencies. The latter may be instinctive or conditioned and together with physiological sets, comprise the emotional set. As similar information may be associated with different emotions e.g. duplication through sensory perception cross-modally, there may be an overlap or redundancy in emotional sets and this overlap guides a drift from one set to another, resulting in thought/behaviour change (thought/behaviour are the decoded versions of associated information and response tendencies). The redundant responses act then as stimuli to evoke the overlapping sets. The difference between knowledge and understanding in this model is explained, "Knowledge may be described by the quan-

tity of response tendencies whereas understanding is reflected by the amount of redundancy, the links and nodes of the network" (p. 363). This is a hierarchical model of information processing and one of change. Primary process and secondary process thought are distinguished in terms of degree of redundancy, the former characterized by greater overlap, and intuition is directed primary process thinking. The theory then is not only directed at intuitive thinking but postulates an information processing model for all thought and behaviour. The basic organizing principle of thought and behaviour is considered to be "tendency to increase redundancy—a natural parsimony" (p. 355).

A necessary component of intuition is the highly redundant structure of emotional sets, but this isn't sufficient—utilization of this structure requires ease of emotional drift, empathy, self-sensitivity to emotions and the ability to evoke initiating anxiety. Initial anxiety (considered to be curiosity) is resolved by the intuition which is reinforcing (if perceived) and leads to further use of intuitive thinking processes which may become a cognitive style or preferred problem-solving strategy. Though 'drifting' has been referred to exclusively so far, 3 methods of combining emotional sets, or intuitive cognition, are described. The least rewarding i.e. minor anxiety resolution, is hierarchical embedding when two emotional sets are very similar therefore probability of transition is very high. Drifting occurs from continuous problem-solving effort, with solution responses being collected during the drift and this is accompanied by a continuous decrease in initial anxiety. The subjective experience is a feeling of progressing towards a solution, though not knowing what it is. Recentring occurs when very dissimilar emotional sets are combined, usually triggered by some mild, kinaesthetic stimulus and following a period of no conscious attention to the problem. Because of the original low probability of the sets combining through any other means, there is a euphoric release of tension, the mythical 'Eureka' experience. Mild recentring may give rise to déjà vu experiences.

Intuitive thought processes occur as part of the creative process but the difference between an intuitive type and a creative type is the latter's ability to control and direct shifts from intuitive to analytic thinking. In itself, analytic thinking is of importance in verification and judgement of objective consistency of solutions.

A few examples of the post hoc theorizing Bastick indulges in, follow. According to his model, the finding that intuitive types are more emotionally variable is due to their redundant encoding of responses which greatly encourages change of emotional sets. Tolerance of ambiguity, an attribute associated with both intuitive and creative persons, is related to the ability to multicategorize stimuli which enables easier processing of complexity that might cause cognitive dissonance in others. The cognitive style of functional fixedness is explained as heavy conditioning of a response to an emotional set e.g. familiarity with the standard solution to a problem, consequently the familiar response is given which evokes the same emotional set, in turn evoking the same response. The intuitive type 'escapes' fixation by easily drifting to another set, thereby increasing the variety of responses. One rather interesting application of the theory which Bastick makes involves the evoking of associated kinaesthetic responses in recall. He proposes that body language could be used in assessment of lying. Contrary to commonsense, when a person is fidgeting or gesticulating, he or she is probably telling the truth, responding with the kinaesthetic and physiological responses which were encoded with the original experience!

Implications of and predictions from the theory, which are necessary to evaluate utility are sadly lacking. The former are briefly outlined with respect to enhancing intuitive/creative thinking by building a highly redundant structure through emotional sensitivity to an enriched environment, learning to be curious by creating dissonance in order to experience reinforcing resolution of anxiety and recreating environments in which intuition has been previously experienced, (a behaviour well documented in descriptive accounts of some eminent creative thinkers). However, these implications are not dealt with operationally beyond brief reference (again post hoc) to some of the methods described in the literature for enhancing creat-

ivity. Explicit predictions from the theory are not offered. However implicitly it is conjectured that increased redundancy in information processing will lead to an increase in intuitive thought processes. This appears to be empirically testable by increasing redundancy using a number of different sensory modalities to present information in a problem-solving task. Synectics (using analogies, metaphors to elicit empathic experiencing of other perspectives), physiognomic perception and focusing awareness on different sensory modalities, methods which have been used to encourage creativity, seem to illustrate this process.

The generalization of the model of emotional encoding to all processing of information is possibly the major shortcoming of this theory. There is some empirical support for the validity of emotional encoding but the writers in this area generally suggest two independent memory structures (Posner and Snyder, 1975), an emotional memory of evaluations and impressions and an item memory. Whether all information processed has emotional or impressionistic associations is not clear and would be difficult to test. If Bastick included a dimension of degree or strength in emotional sets as well as redundancy, the theory would be in a better positon to accomodate some of the research findings from the area of cognitive psychology.

With respect to style of presentation, an admirable attempt at structuring and objectifying this historically nebulous area of study has been made with the use of mathematical probability equations which appear abundantly in the formal explication of the theory. This may increase the ease with which implications can be subjected to empirical investigation, however for those less mathematically minded, this approach adds little to understanding. The same may be said about the frequent diagrammatic schema, rather organic in appearance compared to the usual mechanistic flowcharts found in most cognitive information processing models. While this is appealing in the context of abstract art (in keeping with the subject matter?) they offer little as visual aids in understanding. The incongruity in modes of presentation feels somewhat awkward, particularly in its fluctuation throughout the book.

Despite some of the shortcomings, many of which are due to inherent difficulties in the study of the phenomenon of intuition, this book is really a pioneering effort at formulating a comprehensive theory to account for insight experiences. Whether or not one accepts the model presented, the comprehensiveness and clarity of the literature review makes it worthwhile reading for those interested in this intriguing area of human thought.

Reference

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Joyce H. Lowinson and Pedro Ruiz (Eds.).

Substance Abuse: Clinical Problems and Perspectives.

Williams & Wilkins, 1981.

Reviewed by Max Abbott.
$144.00

The use of psychoactive substances (substances which alter our moods or consciousness) is closely woven into our social fabric. Many daily rituals are associated with the ingestion of mood-altering drugs, namely caffeine, alcohol, tobacco and in some social circles, marijuana. In recent years there has been a proliferation of new psychoactive substances. While the number of regular users of the so-called 'hard' drugs is small the physical, psychological and social costs associated with their abuse are high. They challenge our criminal justice system and put major strains on our under-staffed treatment facilities.

Contemporary medicine recognizes that some of the major health problems of today, the so-called diseases of affluence (perhaps more correctly, the diseases of the poor in affluent societies), are linked with life-style factors including diet, stress, and the overuse of alcohol and tobacco. Curative clinical medicine is of only minor assistance and health workers are left with the major task of finding new ways to combat and prevent

the 'life-style' diseases. The term substance abuse reflects the growing recognition that in health terms, the 'respectable'—illicit distinction is a false dichotomy.

This source-book of 885 pages brings together in one volume contemporary views and empirical data covering virtually every aspect of the broad substance abuse field. Over one hundred leading American clinicians, researchers and policy makers summarize and discuss their specialist areas in 68 chapters. The appearance of this book is timely for health workers in this country. The day is passing when alcoholism and the addictions are viewed as a rather obscure offshoot of psychiatry. Knowledge and competence in this field is increasingly seen as a necessary component in the training of all health and welfare workers. While this book will undoubtedly be a valuable resource for health workers and students, it also has much to offer the more specialized researcher and those involved in making decisions about the optimal distribution of scarce health resources.

The text begins with historical and epidemiological accounts of substance abuse along with an overview of the classification of abuse disorders given in the DSM-3. The following six chapters review theoretical models which attempt to explain substance abuse. Biological, behavioural, psychodynamic, sociological and systems theory perspectives are outlined. The next section examines the 11 main categories of abused substances including alcohol, tobacco and caffeine. The next two sections are devoted to differential diagnosis, treatment, and patient-treatment matching. In addition to conventional approaches such as detoxification, methadone maintenance and therapeutic communities, more controversial approaches, e.g. heroin and oral opium maintenance, are discussed. New treatment modalities including LAAM, opiate antagonists and accupuncture are also described, along with the application of more general therapies to the specific problems posed by substance abusers. Psychoanalysis, behaviour therapy, group therapy, vocational rehabilitation, family therapy and multimodal interventions are considered in this context. As well, transcendental meditation and religion as treatment modalities are discussed.

A further 20 chapters are devoted to special treatment problems and specific issues which affect treatment outcome. Matters such as patients' rights, confidentiality and community opposition to the setting up of treatment centres are considered. In light of recent changes in the pattern of drug taking, a chapter reviewing treatment approaches to polydrug abuse is particularly welcome. Consistent with the current view that specific groups require specialized treatment, considerable attention is given to the special needs of women, ethnic minorities, the elderly, children, adolescents and abusers with concurrent psychiatric disturbance. It is in this middle section of the book that a mine of useful reference material is provided for the practicing clinician.

An added strength to the book lies in the inclusion of three chapters addressed to programme monitoring, treatment evaluation and cost-benefit analysis. The value of applied research in providing feedback to facilitate informed decision-making regarding changes in treatment and the effective deployment of resources is stressed. Therapist training and certification are also discussed. The book concludes with an attempt to predict future trends in substance abuse and approaches which might be followed to control some of the dangers associated with this method of coping with reality.

While there are still large gaps in understanding, confusion, and frustration in the substance abuse field, it is equally clear that major advances in pure and applied knowledge have been made over a short period of time. Far from being out on a limb, research in the addictions area has illuminated issues of central importance to medicine. For example, biochemical research on the action of opiates has led to the discovery of opiate receptor sites in the brain and spinal cord and the presence of naturally occurring opiate-like substances (endorphins) in animal and human central nervous systems. While these discoveries have potential implications for understanding and treating opiate addiction, they are also opening up an exciting field of research into the action of analgesics and mechanisms of endogenous pain modulation.

In summary, this volume comes a long way in pulling together research from diverse dis-

ciplines and perspectives and juxtaposing this information with accounts of specific abused substances in various populations and discussion of approaches to control, prevent and treat consequent clinical manifestations. Because so many contributors are involved, the quality varies. Given the magnitude of alcohol problems, the treatment of this topic is a little disappointing. No mention is made of the now large literature on brain damage and cognitive dysfunction associated with chronic alcoholic abuse—an important area considering that over 10 per cent of patients resident in New Zealand psychiatric hospitals carry a diagnosis of alcohol-related brain damage. Coverage of the abstinence—controlled drinking debate is also somewhat superficial and onesided. These criticisms aside, the editors have done us a service in bringing together and classifying a wealth of interesting and useful information in a previously scattered literature. It is a pity that this degree of integration is not similarly reflected in approaches to the control and treatment of substance abuse in New Zealand.