book goes beyond behavior therapy. The historical development of many of the techniques is sparse and somewhat biased. There is little discussion of practical issues pertaining to many of the techniques that are described. For example, the reader is not informed as to which technique is apt to be the treatment of choice for a given disorder, how to evaluate the effectiveness of a given technique, or how to decide when to change techniques. There is little mention of any studies on the comparative effectiveness of different techniques or on the numerous variations of the same technique. All of which seems somewhat inconsistent in a book which otherwise argues for an inductive, objective and experimental therapeutic process. However, the Behavior Therapy and Beyond characteristic that is apt to draw the most criticism is the explicit assumption throughout the book that the techniques described are, or ever have been, effective. While this may well be the case, the reader is not informed that for many techniques (especially those which go beyond behavior therapy) there is no empirical data to support such a claim. As with most descriptions of therapeutic success, the reader is left with that uncomfortable skepticism that the particular procedure may or may not have produced the ascribed effect and that it may or may not work in a different setting, with a different client and a different therapist.

Finally, on a more theoretical note, Lazarus makes it clear that ultimately, he would like to see behavior therapy expand to incorporate most of the techniques he describes. However, he provides little assistance as to how this might be accomplished. Certainly in terms of his definition of behavior therapy as involving “objective laboratory-derived therapeutic tools,” the reader who attempts to incorporate such techniques as the “desert island fantasy” into the realm of behavior therapy is left with quite a challenge!

Clearly the strength of the book lies in the wealth of ideas which might be used for dealing with people and their problem behaviors. Techniques are described which will, no doubt, be adopted by students, practitioners, and researchers alike. Whether or not those techniques are efficient, effective, or even involve behavior therapy are unresolved questions, which at present will only stimulate controversy.

**Learning: Static or Dynamic Structures?**

Richard R. Skemp


**Reviewed by Joseph M. Scandura**

Richard R. Skemp, the author, is Senior Lecturer in charge of the Child Study Unit at Manchester University. He received his PhD there. Skemp is the author of the series, Understanding Mathematics, Books 1, 2, 3, 4M, and 5M, which appeared between 1964–1970. He is a Fellow of the British Psychological Society.

The reviewer, Joseph M. Scandura, is Associate Professor and Coordinator of Structural Learning, University of Pennsylvania. His PhD in Mathematics Education was obtained from Syracuse University. Scandura has published extensively in educational psychology, psychology, and mathematics education, and is the author of Mathematics: Concrete Behavioral Foundations, and the two-volume Structural Learning: I. Theory and Research, and II. Issues and Approaches.

Skemp’s book is typical of its type. The theoretical framework is comprehensive—but loose—and leans heavily on the ideas of Piaget, Bartlett, Dienes, and Sawyer. It is, however, highly readable and to some extent offers a new perspective on familiar ideas.

To fully appreciate this book, the reader must realize that the author be-longed in outlook to a cadre of foreign-trained mathematicians-turned-psychologists in the over-45 classification. It is an inherent belief of these individuals that a psychology which cannot deal in an intuitively satisfying manner with complex mathematical knowledge is not worth having. The disdain shown for the bulk of American work on learning, for example, is reflected in the choice of such terms as “habit learning” or “rote memorization,” especially when set in contrast with “learning involving understanding,” which is so central in their thinking.

The book consists of two parts. In Part I, Skemp introduces his basic theory, a theory which purports to explain both what it means to understand and how to bring about understanding. His concern is primarily with operational intelligence involving actual behavior, as opposed to innate or potential intelligence, the physiological capacity for intellectual development. He begins in Chapters 2 and 3 by introducing concepts and schemas as his basic units for analyzing complex knowledge. Concepts are defined in the familiar manner, in terms of what is common among exemplars. As is common in mathematics education, Skemp is careful to distinguish between concepts and their names.

He also talks loosely about irrelevant attributes and concept learning via example. As used by Skemp, the term “schema” refers to complex conceptual structures, but, unfortunately, his various descriptions lack precision. He begins his discussion by talking of hierarchies of concepts, including relational ones, and then provides some examples and data showing how existing schemas can form a basis for further learning. The familiar Piagetian mechanisms of assimilation and accommodation are cited in this connection. To his credit, Skemp is careful to point out certain limitations of schemas (e.g., schemas may result in premature closures).

In Chapter 4, Skemp makes the distinction between knowing something and reflecting on that knowledge. Chapters 5 and 6 deal, respectively, with the role that symbols play in communication,
and the role that verbal and visual imagery play in reasoning. According to Skemp, visual imagery is the more favorable for the integration of ideas and creative activity. The final chapter in Part I switches the emphasis from understanding learning to observations concerning the teaching of mathematics. Although the author refers to such psychologically relevant notions as intrinsic motivation and anxiety, nothing new seems to be included.

Part II of the book will be of much less interest to the typical psychologist. In these chapters, Skemp develops and reflects on standard mathematical topics in a way reminiscent of Sawyer, Dienes, and others of the same general orientation. He does make some attempt to show how the ideas in Part I provide a basis for thinking about mathematics, but there is relatively little additional information of value to the psychologist not specifically interested in mathematics education.

It must not be thought that this book reflects the whole of the psychology of learning mathematics, or even the most promising approach to the problem. It is rather a recent restatement of one position that has been around in one form or another for many years. Psychologically, it is a close cousin to Piagetian theory in some respects and to conceptual, relational and other static representations of knowledge in others. Perhaps its main contribution to psychology is that it is suggestive of the extent to which normative theories of this type can be expected to contribute to an understanding of complex human knowledge and behavior. The theory fails to provide a basis either for talking rigorously about the processes humans go through in behaving mathematically, or for dealing with the behavior of individual subjects.

In my opinion, the most promising theoretical developments at the present time are deterministic in nature and center on the notion that knowledge may best be represented in terms of rules or procedures (cf. Scandura, 1973). Nonetheless, judged in terms of its ancestry, this book does make a contribution, if not in the originality of its basic concepts, in the readability of its prose and the richness of its examples.

A Nineteen-Branch Psycholinguistic Tree without a Trunk

Paul Pimsleur and Terence Quinn (Eds.)


Reviewed by Michael Wertheimer

The first editor, Paul Pimsleur, is Professor of Education and Romance Languages, State University of New York at Albany. His PhD was obtained from Columbia University. He has taught at UCLA, Ohio State University, the University of Heidelberg, the University of Colorado, and in institutes at Lyon, France. Pimsleur has programmed courses in five languages and has written articles on the psychology of language learning. Terence Quinn, Lecturer in French at Monash University (Australia), obtained his PhD from The Ohio State University. His previous publications have been articles in Australian language and education journals.

The reviewer, Michael Wertheimer, is Professor of Psychology at the University of Colorado. Since receiving his PhD from Harvard, he has worked in perception, cognition, the history of psychology, and philosophical psychology. The reviewer, an immigrant to the US from Germany at six years of age, has long been interested in the psycholinguistics of multilingualism. Among his other publications in second-language learning, he coauthored (with George Scherer) A Psycholinguistic Experiment in Foreign-Language Teaching. Wertheimer for a number of years was an Advisory Editor to CP.

The gold-embossed, brown cloth covers of this expensive, slender volume bind a piecemeal sampling of some of the late-1960's thinking about the psychology of foreign-language teaching. Although the distinguished editors tried hard in their brief Introduction to find some common themes that hold the pieces together, it remains a rather uneven collection of 19 unrelated papers, most of them by Americans (though the Congress that spawned this volume was held at Cambridge University in England) and most of them too short to yield real insight into what each author is up to, and why. Many of the authors are well known in the field; some are not; one misses such familiar names as Miller, Bruner, Jakobovits, Rommetveit, Lambert, and Carroll, not to mention Skinner and Chomsky.

Reading between the lines does yield a glimpse of some of the trends that characterized the close of the 60's. The S-R based audio-lingual habit method, which had looked like the answer to the foreign language teacher's prayer a decade earlier, was definitely on the way out, being replaced by the newer fad of a Gestalt theory based "cognitive code" approach. While disillusionment had begun to set in about the potential contribution of transformational generative grammar, some people were still trying to use it to make sense out of real everyday language behavior and were exploring its implications for foreign language teaching strategies. Following the lead of some impressive recent developments in cognitive psychology, notably Neisser's "analysis-by-synthesis" model of perception, the language teaching field was somewhat reluctantly becoming aware that the so-called "passive" skills of listening and reading are really no more passive than the so-called "active" ones of speaking and writing. There was a welcome acknowledgment, which had, curiously enough, been lacking for decades, that language is indeed complex in its real, spontaneous, natural form, and that language is, after all, at bottom a process of communication among two or more people in highly specific situations whose social and real-world details richly determine each linguistic act. There was growing tolerance for a variety of teaching strategies, paralleling the recognition that no particular strategy had a clear edge over all others. Above all, there was evidence of new respect for the learner, for differences among learners,