

Human Learning. Thomas H. Leahey and Richard J. Harris. Englewood Cliffs, New Jersey: Prentice Hall, 1985, 448 pages, \$28.95.

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When is a book on human learning not exactly a book on human learning? When the book is the one under consideration, *Human Learning* by Thomas H. Leahey and Richard J. Harris (Virginia Commonwealth and Kansas State Universities, respectively). The authors have placed human learning in a very broad context, and for that reason the book departs considerably from what one would expect in the "typical" text. The context of the discussion is biology: behavior is interpreted in biological terms and should be understood as the result of a complex interaction between genetic and environmental variables. Further, behavior evolves, as does the organism, according to natural selection. The context is explicated with considerable sophistication—the obvious traps are analyzed for the student at various places in the book. Fine distinctions, so important in introducing the student to the biological (evolutionary) point of view, are drawn with skill. Excellent illustrations abound in every chapter; extended examples are presented as boxed-off text. I was concerned that that feature might prove distracting, but it did not.

The modern era in texts on human learning dates from 1942, when *The Psychology of Human Learning* was published, written by John A. McGeoch (with an introduction by Harvey Carr). The second edition, by McGeoch and Arthur I. Irion, was published in 1952, and that was the text I used as a beginning graduate student at New York University. It consisted of thirteen chapters and covered topics such as the conditioned response, serial learning, distribution of practice and reminiscence, the law of effect, transfer of training, etc. The psychology of learning was still in the era of grand theory, although Hull died in that year 1952 (in May if I recall correctly—I remember the announcement in class when the news came down to New York from New Haven). The pigeon project was in full swing at Harvard; Skinner published *Schedules of Reinforcement* with Ferster a few years later. The resurrection of cognitivism and the early work on biological "constraints" (what a misnomer!) in the 1960's initiated the attack on grand learning theory of the conditioned response type—the evolution began. The text by Leahey and Harris strikes me as one result of that evolution.

The book under consideration consists of twelve chapters organized into three parts. The first part consists of the first chapter only; this chapter treats some methodological issues and presents a brief history of learning. A number of issues and concepts that will be treated in detail in later chapters are introduced here.

The second part of the book is eight chapters long, the first three of which treat classical (Pavlov and Watson) and instrumental (Thorndike) conditioning along with fairly brief overviews of the grand theories—Guthrie (strict associationism), Hull (logical behaviorism), Tolman (cognitive behaviorism) and Skinner (radical behaviorism). These chapters succeed in giving the flavor of the several grand theories, but more

important, they make contact with interesting issues in learning. For example: how many kinds of learning are there?—one, two or several? Do humans condition? What is the distinction between contiguity and contingency? Etc.

I do have one beef about the section on Hull. While acknowledging the importance of Kenneth W. Spence, the authors do not discuss his work on the grounds that Spence conducted rat research and that this is a text on human learning. First of all, I have always thought that Spence was better (certainly more flexible) at theory construction than was Hull. Second, Spence did a great deal of research on classical conditioning in humans. Third, Tolman, whose work is (correctly) viewed as an indictment of Hull's 1943 theory, experimented almost exclusively with rats. Fourth, by not discussing Spence's work the authors are able conveniently to omit his analyses of discrimination learning and transposition, which scored many points for S-R theory versus cognitive theory. The authors must be cognitivists.

Skinner deservedly gets a chapter to himself. The chapter is fairly written and covers Skinner's work on animal conditioning and his extrapolation of that work to human verbal learning and the design of societies. Peripheral and more recent developments in operant conditioning are also discussed, including the very important work on superstitious behavior by Staddon and Simmelhag and the so-called constraints on learning (Garcia).

Next come two chapters on memory and information processing. The authors begin by describing the Atkinson-Shiffrin "multistore" model. In connection with that model, they discuss such standard topics as sensory memory, attention, pattern recognition, short and long term memories, etc. In the section on pattern recognition there is an absolutely fascinating discussion of speech perception—I could not put the book down. (In the notes at the end of the chapter, the authors indicate the absence of a readable introductory text on this topic—pity.) The second chapter in this section continues the discussion: episodic vs. semantic memory, encoding and retrieval, imagery, forgetting, and alternative conceptualizations to mention a few topics. The material on eyewitness memory is especially interesting.

Part II continues with three chapters on language, comprehension and thinking. Each chapter is well done, but some of the going is more difficult than what came before: schema theory, for example. The chapter on comprehension has a nice section on misleading advertising—the true but deceptive statement being "the most potentially damaging of all."

The third part of the book includes the last three chapters: learning and sociobiology, the origin and development of language and finally development, learning and cognition. The long chapter on sociobiology may be the best chapter in the book. The chapter places sociobiology in context, then introduces the reader to the basic principles of sociobiology and continues with very fine discussions of animal and human behavior: altruism, aggression, sexuality, intelligence, etc. The nature of human nature is extensively examined both from the point of view that human nature is predominantly determined by environment and also from the point of view that it is very largely determined by evolutionary selection. American social scientists have tended to favor the former, a liberal and egalitarian point of view. (The authors mention the well known "attack" on Edward O. Wilson by egalitarian extremist storm-troopers.)

The chapter on language development covers the necessary topics: animal communication, language in chimpanzees (maybe), the evolution of human language. The chapter is well done. By contrast, I did not like the last chapter in the book, the one on development: cognitive, moral and personal. I found it vague.

It should be clear that I think that this book by Thomas Leahey and Richard Harris is an important one. It covers "human learning" (I still can not find it in the book) in a

newly evolved context, one to which I personally subscribe. The book is well written, although one can detect different writing styles for the two authors. It is well documented; there are forty pages of references, in smaller print than the text proper. But there is none of the material that formerly defined the topic we called human learning. There is no discussion of pro- and retroactive inhibition, the serial position effect, etc. There is one reference to Charles Osgood and none to Benton J. Underwood! What about the Ballard-Williams and Ward-Hovland effects? And all the rest. The work that constituted the subject matter of human learning in years past is not irrelevant today, especially for the student of psychology. I am sure that Professor Leahey, whose other specialty is history of psychology, would agree. However, I can appreciate the several difficulties that would have been involved in working that material into this text.

When is a book on human learning not exactly a book on human learning? Maybe this one just needs a different title.