and not in the historical or genetic sense); or, if you will, the self is the hereness in the thereness (p. 98).

Finally, there are two main issues involved in evaluating the book: (a) Is the methodology new and original? and (b) Is the book interesting? The answer to the first question is no: The kind of phenomenological analysis de Rivera proposes dates back at least to Titchener. The answer to the second question is yes: The book is full of intriguing insights and perceptions. The psychology of the future badly needs initiatives of this sort.

Reference

How to Invent Ideas

G. S. Altshuller (translated by Anthony Williams)
Creativity as an Exact Science: The Theory of the Solution of Inventive Problems. Studies in Cybernetics, Vol. 5
New York: Gordon & Breach, 1984. 330 pp. $54.00

Review by
Wayne A. Wickelgren

G. S. Altshuller, a resident of the Soviet Union, is author of The Foundations of Invention and Algorithms of Invention. Wayne A. Wickelgren is professor of psychology at the University of Oregon. He is author of How to Solve Problems.

How might one measure the degree of hardening of a polymer mass when making items out of polymers, if it is impossible to measure directly by feel? Altshuller describes methods to create ideas for inventions that solve problems like this one. The term exact science in the title suggested to me that Altshuller's book might describe some precise and elegantly simple mathematical theory of creative thinking. It does not. Nor does the book describe a complex, but precise, computer algorithm for creative thinking in any domain, though Altshuller does use the word algorithm to describe his methods for creative problem solution. Rather, the book describes many inventive problems and methods of creating ideas to solve them. These methods serve as instructions (in natural language) on how to invent faster and better.

Do the methods work? I don't know. Neither Altshuller nor I have any systematic experimental evidence to support the proposition that if you learn and use these methods you will create better (physical) inventions faster. However, I am sufficiently impressed with the ideas in the book to believe that this is likely. Increases in inventive skill would doubtless depend on how much time and effort you put into mastering Altshuller's concepts and principles and applying them to problems, including the seventy problems described in the book. Of course, if you want to be a successful inventor, you should also know physics, chemistry, engineering, or whatever other fields of study are relevant to the areas in which you wish to invent.

Altshuller got his ideas for analyzing the process of invention by studying patent descriptions from around the world. From a set of around 1.5 million patents awarded over a five-year period, he somehow selected those 40,000 patents representing the more ingenious ideas. This is a staggeringly large data base! I assume he did not give equal attention to each of the 40,000 patents selected for further analysis. There is little statistical or quantitative analysis of these patents, nor is there any statement of rigorous methods for examining this data base. Altshuller generated his ideas simply by reading the patent descriptions. Someone else reading the same patent descriptions would doubtless have developed somewhat different ideas.

It is amusing to contrast Altshuller's goal of developing a precise algorithm of creative thinking with his own use of poorly understood, not methodologically rigorous human thinking. Of course, I used precisely the same sort of methods (albeit on a different and smaller data base) when I wrote a book on how to solve problems, which had the goal of describing methods of solving mathematical problems. When there are as many logical problem constraints as there are in physical or mathematical problem solving, I think it is wise to concentrate on understanding these constraints first. Frankly, I have generally been bored reading psychological studies that develop methods for protocol analysis, sta-
Altshuller does develop some semi-precise concepts and principles for analyzing inventive problems in the physical science areas of engineering: S(sta.bles)-Field analysis, levels of difficulty of problems and inventions, macro versus micro levels of analysis in problems, and the development of any type of technology. He, of course, the collection of instructions to inventors that Altshuller calls the ASP (Algorithm for the Solution of Invented Problems). There is some scientific value in this theoretical analysis of creativity, but Altshuller’s greatest contribution is probably his how-to-do-it instructions. Altshuller’s focus is not on how the human mind works or on creative invention in general, but on how humans might make better inventions faster in the engineering areas covered by his database of patents.

I highly recommend this book to any would-be inventor. I also recommend it to cognitive psychologists studying creativity; it is a means of getting better acquainted with a vast domain of creative thinking. I cannot say I like the organization of the book, but there are many useful problems, inventions, and ideas in it.

A Catalogue of Power

Leonard W. Doob

Personality, Power, and Authority: A View From the Behavioral Sciences. Contributions in Psychology, No. 1 Westport, CT: Greenwood Press, 1983. 226 pp. $29.95

Review by

David G. Winter

Leonard W. Doob is the Sterling Professor Emeritus of Psychology and senior research scientist at Yale University. He is author of The Pursuit of Peace. David G. Winter is professor of psychology at Wesleyan University. He is author of The Power Motive.

In the author’s words, this book is “a fuga-like dissection of power and authority” (p. 131), the mature reflections of a psychologist who has tracked his topics in activities ranging from laboratory studies to Third World nation building. What Leonard Doob thinks about power and authority is valuable reading for those who share his interests. Doob’s power is laudably broad. He discusses social theory (including major German writers), reviews social psychology research articles (of value in nonpsychology), and injects a genuine reality through illustration from empirical cases from history. Indeed, this very strength sometimes creates a problem: discussion ranges so broadly, one might wonder whether Doob is the frontier of power or a broader domain of social organization in general.

No matter which perspective, or theoretical or practical, the scholar interested in power will find much that is bibliographically, perhaps, in the price of the book. My own annotations are heavily annotated with check marks and notes about topics and to be pursued.

At the outset, Doob introduces a useful conceptual framework: things having to do with power. Imagine two concentric circles around the outside, events, which, after a period of time, lead to actions of which are in fact the next cycle. The inner presents the parallel perspective of the individual actor: Personality, perception of events, leading to behavior, which in turn adds to the accumulation of events. The rest of the book elaborates these terms. About a quarter of the book is devoted to personality, by a fully developed area. Distinctions are drawn between motives involving beliefs about power, attitudes toward power, and skills of getting power. Overall, this model is sensible, and of great use in what often seems to be a vexing empirical quandary.

For all its usefulness, though, the book may disappoint in its substantive message. The