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**FROM RATS AND PIGEONS TO CULTURAL PRACTICES: A REVIEW OF
*BEYOND THE BOX: B. F. SKINNER'S TECHNOLOGY OF BEHAVIOR FROM
LABORATORY TO LIFE, 1950S TO 1970S* BY ALEXANDRA RUTHERFORD**

(2009). Toronto: University of Toronto Press. ISBN 978-0-8020-9774-3. 224 pp. \$55.00.

Alexandra Rutherford's major premise, she tells us, is that B.F. Skinner has had an enduring impact on American society and her book describes the how, when, where, and why of this impact. Furthermore, although the experimental analysis of behavior and the philosophy of radical behaviorism continue to be vibrant areas, Rutherford's thesis is that Skinner's lasting impact is due to his development of, and adoption by others, of his technology of behavior, "Skinner's most enduring achievement was to treat human behavior change like any other technological problem" (p. 10). At the same time, however, Rutherford reminds us that Skinner's system was and continues to be rejected by many on philosophical grounds and by others on ethical grounds. This book outlines the evolution of Skinner's behavioral technology by describing several projects undertaken during the 1950s through the 1970s.

The development of the experimental analysis of behavior relied heavily upon experiments with pigeons and rats in free operant chambers, the latter often referred to as Skinner Boxes, after their inventor. Chapter 2 describes the operant research extended to humans in human-sized Skinner Boxes. The focus is on the research of Charles Ferster with autistic children, Ogden Lindsley's with chronic schizophrenics, and Sidney Bijou's with children. All three had backgrounds of research with animals.

During the mid-to-late 1960s and early 1970s one of the most widespread applications of behavioral research was the token economy. Token economies were instituted in classrooms, psychiatric wards, reform schools, and prisons. The focus here is on the token economy developed and implemented by Teodoro Ayllon and Nathan Azrin at Anna State Hospital in Illinois between 1961 and 1967. The number of psychiatric ward token economies declined during the 1980s and 1990s and are seldom used today and Rutherford describes factors responsible for the decline. Token economies were difficult to implement because staff cooperation was often lacking and because they required extra money and resources. Also, in the 1970s several legal decisions prevented optimal use of token economies with the institutionalized mentally ill.

Behavior analysts such as Scott Geller also designed and implemented contingency management systems, including a token economy, in prisons. But

successful implementation was greatly hindered by various obstacles and this endeavor was greatly circumscribed by the mid-1970s. Among the problems encountered were the lack of cooperation of prison staff and administrators, high staff turnover, and negative prisoner attitudes towards behavior modification (the commonly used term in the 1970s). Concern emerged at the national level over the treatment of human research subjects in both behavioral and biomedical research and led to the establishment of the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research in 1974. In 1976 the Commission recommended strictly regulating the research in which prisoners were used as subjects. But by this time most contingency management programs in prisons had been closed. "Faced with a hostile public, nervous politicians, wary prison officials, and a withdrawal of funds, token economies as full-fledged rehabilitation schemes were stopped in their tracks" (p. 99).

Also, in the 1970s behavior analysts applied techniques of self-control to a range of personal problems. Self-control meant that individuals were their own behavior modifiers as they attempted, for example, to lose weight or be more self-assertive, no therapist required.

The counterculture and the intentional communities movement of the late 1960s and 1970s constituted the environment that resulted in communities inspired by Skinner's *Walden Two*. Rutherford focuses on two of the longest lasting of those communities: Twin Oaks in Virginia and *Los Horcones* in Sonora, Mexico. Twin Oaks has moved away from its early adherence to the principles embodied in *Walden Two*. *Los Horcones*, in contrast, has remained strongly committed to an experimental science of human behavior and has described itself as the only true Walden Two community in existence.

In the last chapter Rutherford briefly answers three questions: "What happened to the behavior modifiers? Where and in what forms does Skinner's technology of behavior persist now? Why have I characterized it as his enduring cultural legacy?" (p. 149). Here the fact of the marginalization and lack of impact of behavior analysis come to the fore. Not only does behavior analysis continue to be quite isolated from mainstream psychology, its influence on our society leaves much to be desired. And when behavioral concepts are applied in various contexts they are frequently described in non-behavior analytic terms. Also, the current emphasis on the importance of brain structure and function often fails to sufficiently, if at all, take into account the role of individuals' history and environment. It would be very interesting to have the results of a well-done study of the extent to which applied behavior analysis is today practiced in such domains as education and medicine in the U.S. Such a study would include

information regarding the extent to which behavior analysis is practiced, but by other names.

This book is written in a style that makes it accessible to those who are not behavior analysts while at the same time providing an interesting, informative, and needed account of this crucial period in the ongoing development of behavior analysis. By describing the work and professional lives of the early operant researchers Rutherford brings to life the foundations of behavior analysis. The importance of these individuals cannot be overestimated and is particularly informative for those, particularly later students of behavior analysis, who never experienced working with animals in real (not simulated) operant conditioning chambers. The author thus performs an important service for those who followed these groundbreakers.

Meanwhile, from the free operant rat or pigeon chamber behavior analysis has moved all the way to describing particular cultural practices (e.g., Lamal, 1991; Lamal, 1997). So even though behavior analysis as such does not appear to be widely recognized in our society the field continues to develop. Example: More than half of the 260 pages of the current issue of *The Behavior Analyst* (Vol. 32, Number 1, 2009) is devoted to clinical behavior analysis. The effectiveness of behavioral analysis in ameliorating autism is widely known, and as Rutherford notes organizational behavior management is a vibrant field. “In the world where results count, and are counted, the technologists of behavior have a proven track record” (p. 153). These advances are not technological in the sense of Rutherford’s description of basic and quasi-basic research. Rather they are the applications of principles of behavior that were discovered and developed as a result of a technological approach to the study of behavior.

Peter Lamal

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Peter Lamal is a Fellow of the Division of Behavior Analysis of the American Psychological Association. His book reviews have been published in academic journals, *The Charlotte Observer* newspaper and *Skeptical Inquirer* and *The Humanist* magazines.