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Beyond the Box: B.F. Skinner's Technology of Behaviour from Laboratory to Life, 1950s-1970s. **By Alexandra Rutherford. (Toronto: University of Toronto Press, 2009. 224 p. ISBN 9780802096180)**

James H. Capshew

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***Beyond the Box: B.F. Skinner's Technology of Behaviour from Laboratory to Life, 1950s-1970s*. By Alexandra Rutherford.** (Toronto: University of Toronto Press, 2009. 224 p. ISBN 9780802096180).

This book is *not* a biographical study of B.F. Skinner, an intellectual history of his experimental science, or a philosophical exposition of his radical behaviorism, yet it contains traces of all three. Rather it is a careful examination of Skinner's vision of a technology of behavior as it was instantiated by professional psychologists and applied to real-world problems of social deviance, mental health, self-improvement, and communal living.

Beyond the Box is a brilliant exploration of the varied ways that Skinner's scientific work was picked up, reshaped, and extended to human life in both individual and institutional registers. The author, Alexandra Rutherford, a historian of psychology working at York University, claims that Skinner's vision of a technology of behavior is his most enduring legacy, even more significant that his scientific work or his behaviorist philosophy. After an introductory chapter that discusses the metaphors of the "box" in Skinner's system and locates her study in the scholarly historiography, Rutherford sketches Skinner as a public intellectual, deftly weaving together aspects of his bench science, behavioral engineering, and social philosophy. Quite inventive in the laboratory, he thought that environmental contingencies determined all behavior and so left no room for individual agency. This launched his career as a controversial thinker and led to extreme popular reaction.

Rutherford supports her main thesis through careful logic and historical documentation. Some readers might be disappointed at her necessarily brief sketch of Skinner, but her main protagonists are the behavior modifiers that Skinner and his work motivated. Chapter 2, "From Pigeons to People," is a fascinating account of the transit of operant experimental methodology to include other species as laboratory subjects, including humans. It was only a short leap to attempt to solve behavioral difficulties —one example was the regressive crawling of a three-year-old developmentally disabled child—through a schedule of positive reinforcement. Thus by the early 1960s, operant techniques started being applied, leading to "a veritable explosion of behavior modification in institutions" (p.62).

Set apart from the rest of society, the psychiatric hospital was one of the total environments conducive to behavior modification. Although the rise of community mental health centers and the widespread use of pharmacological interventions revolutionized the management of the mentally ill, there were fewer options for severe and chronic cases. The Skinnerians experimented with token economies to shape psychotic patients' behavior, rewarding acceptable functioning with tokens that could be used in exchange for desirable benefits. The worth of this behavioral technique was

supported by the findings at Anna State Hospital in Illinois by Theodoro Allyon and Nathan Azrin in the 1960s, and similar programs proliferated until the mid-1970s, when a variety of developments, including personnel training costs and legal restrictions on patient labor, caused a sharp decline.

Behavior modifiers also worked in the prison system, setting up token economies for juvenile and adult offenders. Rutherford weaves a dense tale of the advent of the CASE (Contingencies Applicable to Special Education) program at the National Training School for Boys in Washington, DC, where juvenile delinquents lived in an elaborately designed setting designed to reinforce positive learning and social behavior. Results were promising, and similar contingency-management programs were extended to adult prisons, with mixed results. The behavior modifiers came up against an entrenched culture of incarceration rather than rehabilitation, and their token economies were criticized as simply supporting compliance with prison rules. By the early 1970s, the dialog over behavior modification in prisons became the subject of legal suits mounted by the American Civil Liberties Union, and had morphed into a national debate over the ethics of human behavioral research. One important result was the further professiona-lization of behavior modifiers.

Moving from the realm of institutions that provided behavioral control, Rutherford examines the self-help literature that was influenced by behavior analysts. Overeating and the development of assertive behavior were two of the main areas ripe for such approaches. In *Slim Chance in a Fat World: Behavioral Control of Obesity* (1972), Richard Stuart and Barbara Davis outlined an approach using technical language from operant conditioning—discriminative stimuli and positive and negative reinforcers, for example—in fashioning a self-administered program. In contrast, *Your Perfect Right: A Guide to Assertive Behavior* (1970), Robert Alberti and Michael Emmons couch their coaching within a humanistic framework derived from Carl Rogers, but operationalize these goals with explicit behavioral expectations. A distinctive feature of this approach to self-help was that "the individual could in fact be his or her own behavior modifier—no therapist required" (p.113-114). As the behavioral worldview was promulgated in this arena, the language of the "self" and the "will" persisted as rhetorical strategies.

The last section of the book deals with the small but important strand of utopian communities directly influenced by Skinner's only published work of fiction, *Walden Two* (1948). Trying to imagine a better postwar world, Skinner applied behavioral principles to the design of a social system, describing how an inter-generational group would organize its work and household economies, childcare, recreation, and government. With the rise of a counter-culture in the 1960s, his work encouraged the

creation of two long-running experiments in communal living, Twin Oaks (in Virginia) and Los Horcones (Sonora, Mexico). Rutherford concluded that, in the case of Twin Oaks, the Skinner influence was "perhaps more catalytic than systematic" in the evolution of this intentional community (p.137). Los Horcones, in contrast, remained committed to an orthodoxy of applied behavior analysis, and used *Walden Two* not as a working model but as literary inspiration.

This book takes psychological knowledge "out of the box" of the discipline and explores its application in a variety of real-life settings. Ironically, Skinner himself spent his entire career in academic life, and when he ventured out into military contexts in World War II or tried to commercialize his "Heir Conditioner," he was notably unsuccessful. Yet his ideas engendered the formation of a professional group of behavior analysts and practitioners that has a complicated relationship with mainstream psychology. A gem of a book, *Beyond the Box* signals the emergence of a major scholarly talent.

JAMES H. CAPSHEW
Indiana University

A Total Science. Statistics in Liberal and Fascist Italy. By Jean-Guy Prévost. (Montreal & Kingston: McGill-Queen's University Press, 2009. ix + 335 p., ISBN 978-0-7735-35398 $95.00).

The 'total science' in the title of this finely-crafted and concisely-written study nicely captures its two main historical and analytic ambitions. First, Prévost offers a detailed account of the emergence, solidification and rise to dominance of the 'statistical field' in Italian (social) science and politics. Here, especially in the inter-war years, statisticians had some success in claiming that theirs was the only science able to deal with any and all social phenomena. In this regard, 'total' implies a science of everything. Second, in a particularly strong final chapter, Prévost details the elective affinities between what one might call the statistical *episteme* and 'left fascism' and Italian communism. In this vein, 'total' refers to the perspective on society as a whole implicit in totalizing social projects that are concerned with such things as population growth and distribution, or economic planning.

Before the First World War, Italian statistics remained largely a literary and topographic practice. The statistical field developed as a domain with an important degree of autonomy in a context characterized by the dramatic internal epistemological shifts associated with mathematization, by the drive to comprehensive social investigation and management