WE ARE ALL METHODOLOGICAL BEHAVIORISTS

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ABSTRACT: Methodological and radical behaviorisms have been contrasted not only with respect to their consideration, or lack thereof, of private psychological events, but also with respect to their criteria for scientificity. Skinner (1945), in particular, dismissed the criterion of scientific truth by agreement (an inherently social criterion) and argued for its replacement by a form of individualistic pragmatism. In this article I argue that truth by agreement remains as fundamental to science as it ever was. In this sense, and regardless of indirect validations of claims about private events, we are all methodological behaviorists.

Key words: methodological behaviorism, radical behaviorism, agreement, replicability, science

Behavior analysts are acquainted with a traditional and unqualified division between two types of behaviorism, the (merely) methodological and the radical one (Skinner, 1974/1976; for a detailed analysis of methodological behaviorism see Moore, 1981, 2001). A keystone of the methodological-vs.-radical distinction rests on the kind of data to be included in our scientific understanding of behavior. Methodological behaviorism, it is argued, adheres to a rigid and naive version of operationalism that was already present in the traditions of logical positivism and realism. As a consequence, methodological behaviorism deals exclusively with what can be publicly observed:

Observation thus became (...) fundamental to [methodological] Watsonian Behaviorism¹: Observation defines the category of behavior as a subject matter. Behavior is what is observable, but only observable by the other one (...). To qualify as subject matter for a behaviorist, behavior must affect the senses of other organisms; it must be available for measurement and recording by others. (Matos, 1997, p. 57, emphasis added).

In methodological behaviorism, the criterion for scientificity is anchored in the possibility of truth by public agreement (Matos, 1997; Skinner, 1945, 1974/1976; Tourinho, 1996). The construction and, especially, the validation of knowledge are inherently dialogical and social processes. They depend on actual verbal exchanges between different members of the group, and for scientific

¹ Classifying Watson as a methodological behaviorist is troublesome. See the analysis by Strapasson and Carrara (2008).
knowledge to be achieved its object must in principle be accessible to every one. By adopting this criterion of shared understanding, however, methodological behaviorism seems to restrict the universe of scientifically legitimate events to the “objective” ones (namely, publicly observable events) while excluding all of the terms and concepts related to the “subjective” or private sphere. Within this conceptual framework, most traditional psychological processes lie beyond the direct reach of the scientific enterprise, a state of affairs that in turn seems to promote an explicit or implicit dualism between behavioral events, which are public and scientifically validated, and mental events, which remain private and inaccessible to science. And indeed, scholars such as Moore (1989) and Matos (1997) have argued that methodological behaviorism results in a kind of mentalism.

Within this traditional characterization, radical behaviorism appears as an alternative to methodological behaviorism, an alternative that overcomes the restriction on truth by agreement and deals with public as well as private events without compromising on its scientificity:

The public-private distinction emphasizes the arid philosophy of "truth by agreement." The public, in fact, turns out to be simply that which can be agreed upon because it is common to two or more agreers. This is not an essential part of operationism; on the contrary, operationism permits us to dispense with this most unsatisfying solution of the problem of truth. (...) The ultimate criterion for the goodness of a concept is not whether two people are brought into agreement but whether the scientist who uses the concept can operate successfully upon his material—all by himself if need be. What matters to Robinson Crusoe is not whether he is agreeing with himself but whether he is getting anywhere with his control over nature. (Skinner, 1945, p.293, emphasis added).

Turning to his own, alternative approach to operationism, Skinner (1945) defined a criterion for the production and validation of scientific knowledge that was unfettered by the constraints of public observation. It is now widely accepted that Skinner’s radical behaviorism not only abjured the criterion of public observability, but also demonstrated the inadequacy of this criterion and of the “methodological” behaviorism that came with it. To be sure, Skinner's thought sometimes exemplifies incompatible positions, and classifying his philosophy accurately can be challenging (Abib, 2001a; Martin, 1978; Moxley, 1998). Nevertheless, the general pragmatic outlook of Skinner's work is now broadly accepted (Abib, 2001b; Martin, 1978; Moxley, 1998). Nevertheless, the general pragmatic outlook of Skinner's work is now broadly accepted (Abib, 2001a; Baum, 1994; Borba & Tourinho, 2009; Carrara, 1998; Delprato & Midgley, 1992; Lattal & Laippe, 2003; Lopes, 2007; Moxley, 2001; Tourinho, 1993; 1996; Tourinho & Neno, 2003), although not entirely uncontroversial (Abib, 2001b; Leigland, 2004; Malone, 2004; Micheletto, 1997, 1999).

In this essay I will challenge the traditional distinction between, on the one hand, a methodological form of behaviorism that adopts public consensus as its
truth criterion and, on the other hand, a radical form of behaviorism that dispenses with the former criterion, adopts a pragmatic approach, and assumes that science can incorporate private knowledge to the extent that the latter facilitates prediction and control.

**Two Ways of Producing Knowledge in Behavior Analysis**

Revisiting some of Skinner’s classic writings, Donahoe (1993) has suggested that behavioral science comprises two ways of producing and validating knowledge:

For Skinner, science consists of two interrelated enterprises. The first is the experimental analysis of the subject matter of the science. In order to meet fully the demands of experimental analysis, all of the efficacious antecedents of the events under study must be independently manipulated or controlled (or, such conditions may be approximated in nature, as in celestial mechanics) and the events themselves must be directly observed and measured. (…) The second aspect of the scientific enterprise is interpretation. In interpretation, principles induced from experimental analyses and constrained by formal (i.e., logical/mathematical) considerations are used to provide an account of events that occur under conditions that preclude experimental analysis. (p. 453, emphasis added).

The experimental method, as exemplified in the experimental analysis of behavior (EAB), requires public observation to attain replicability (Dinsmoor, 2003; Sidman, 1960; Skinner, 1938, 1966), and thus places the construction of scientific knowledge squarely within social checks. The basic principles of behavior analysis, such as those of respondent and operant behavior, reinforcement, extinction, and discrimination, for example, were actually built by following the philosophical requirement of public observation and replication in EAB (e.g., Skinner, 1938).

Aside from this, the public-observation criterion was and still is in force in the main empirical journals of the field such as the *Journal of the Experimental Analysis of Behavior* and the *Journal of Applied Behavior Analysis*. It seems, then, and in spite of Skinner’s (1945, 1974) own criticisms, that the criterion of scientific truth by public consensus, one the main tenets of methodological behaviorism, retains in full force in behavior analysis. Was there any real weakness in this criterion? Public observation is an imperative for natural science because it enables external tests and public checks over the scientific claims being made. Public control and validation are essential to the self-corrective nature of science and to the evaluation of our scientific description of phenomena (Borkowski & Anderson, 1981; Dawkins, 1998; Dennett, 1997; Marx, 1975; Popper, 1959; Skinner, 1953/1965; Russell, 1931; Sagan, 1995; Sokal & Bricmont, 1998).

Now, as suggested by Donahoe (1993, 2004), the experimental method may be only one way of producing knowledge about behavior in behavior analysis. *Interpretation* may be the other way:

Although experimental analysis does indeed restrict itself to observed events, scientific interpretation does not. Interpretation may have recourse to
unobserved events if (a) events of that type have previously been subjected to experimental analysis, (b) the antecedents of the interpreted behavior include conditions sufficient for the occurrence of the unobserved events when such events were observed, and (c) the characteristics of the unobserved events and their contributions to ongoing processes are confined to those that have already been demonstrated when such events were observed. (Donahoe, 1993, p. 454)

That interpretation does not usually involve public observation does not mean that any private description becomes scientifically valid through interpretation, however. As Donahoe’s statements imply, interpretation in behavior analysis remains intertwined with, and derives its legitimacy from, the knowledge previously established through experimental analysis. Knowledge through interpretation thus remains subordinate to the dual criterion of public observation and social checking that was prominent in methodological behaviorism. Matos (1997) describes the situation in the following terms:

Studying private events is a task that radical behaviorists consider essential to the understanding of human behavior. The analysis of these events needs not be placed under social criteria; for radical behaviorists, one observer (...) is enough. Nevertheless, the data that come from these observations should be replicable, and the concepts used to deal with these data must adjust to the same laws and principles used in the general analysis of behavior. (p. 64)

Assuming that behavior analysis comprises two modes of knowledge production (experimental analysis vs. interpretation), and supposing that each mode adopts its own philosophical criterion of truth (public consensus in the case of methodological behaviorism vs. a kind of pragmatism in the case of radical behaviorism), three questions need to be asked:

(1) Is radical behaviorism a general philosophy regulating behavior analysis as a whole? As a sub-area of behavior analysis that depends on public observability and social checking, could the EAB movement remain rooted in a philosophical foundation that is not only different from, but also incompatible with, the general orientation of radical behaviorism?

(2) Considering that the main concepts of the field were produced and validated by EAB with emphasis on public consensus, and considering that interpretation remains subordinated to the more basic level of EAB, does radical behaviorism become a second-class citizen with respect to methodological behaviorism?

(3) Can radical behaviorism afford repudiating (as Skinner did in 1945, p.293) its relation to the public scientific method from which it derives its very existence and interpretive validity?

When discussing the construction of behavioral science, Skinner (1974/1976) actually acknowledged the historical relevance of methodological behaviorism and of its strategy of dealing only with publicly observable events:

*With respect to its own goals, methodological behaviorism was successful.* It disposed of many of the problems raised by mentalism and freed itself to work
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on its own projects without philosophical digressions. By directing attention to genetic and environmental antecedents, it offset an unwarranted concentration on an inner life. It freed us to study the behavior of lower species, where introspection (then regarded as exclusively human) was not feasible, and to explore similarities and differences between man and other species. (p.16, emphasis added).

In this excerpt, not only is Skinner describing methodological behaviorism, he is also describing the beginning of his own career in psychology, when he chose to identify basic behavior relations through the experimental method. Characterizing Skinner’s early publication record (that of the “young Skinner”), Micheletto (1997) commented:

In 1931, Skinner was dedicated to a scientific analysis of behavior using the concept of reflex as a starting point; a concept that allowed the study of behavior from an observable, environmental determinant and that permitted prediction and control. (...) Starting from a historical review of the concept of reflex, Skinner established the concept of an observed correlation between stimulus and response. Working with directly observable events in intact organisms pushed him away not only from metaphysical perspectives, but also from the suppositions about behavior and the research methods related to the physiology of the reflex (...). In general, the criteria that Skinner adopted to develop the study of behavior from observed data were positivistic, moving away from metaphysical notions. (pp. 33-34, emphasis added).

Thus, in the initial stages of behavior analysis, the demand for public observation and social checks on knowledge claims was critical for the very existence of Skinner’s new behavioral science. At this time it seems that Skinner was doing what Watson (1913) had argued was necessary to assure the transition from mentalistic psychology to behaviorism: (a) suspend the use of traditional mentalistic terms; (b) apply the experimental method to publicly observable relations between organism and environment; (c) and on this basis, build a safer knowledge base about psychological phenomena (for a historical and critical analysis, see Politzer, 1975). Watson (1913) even predicted that at a later stage, once reliable behavioral concepts are available, it would be possible to return to the terms and methods of the traditional introspectionist psychology, and from there select what might be valid. So Watson reserved in his own science some room for a theoretical exercise similar to Skinnerian “interpretation”.

Remarks

The debate between “methodological” and “radical” behaviorism involves a complex set of issues, a social and public criterion for scientificity being only one of these. What motivated Skinner’s (1945) formulation of radical behaviorism in the first place seems to have been his position on the nature of internal psychological events. Radical behaviorism correctly reaffirms the behavioral nature of these psychological events, turning subjectivity into a natural
But this issue has been conflated with another one, which is how a behavioral science should produce and validate its knowledge base. Admittedly, some behaviorist assertions made in this context actually lead to an implicit dualism of public and private events, with the implication that whatever occurs under the skin would be of a "mental" nature and not liable to scientific investigation.

Adopting a criterion of public observability for building behavioral principles made sense in its historical context, however. When Watson and Skinner started their scientific endeavors, traditional psychology offered them little soundness either in its concepts or in its methods. Both Watson and Skinner therefore chose to start their research programs with the experimental manipulation of publicly accessible relations between environment and behavior, relations that could be recorded and the validity of which could be put under social checks. Not only the emphasis on truth by public agreement made historical sense, but the possibility of indirect or interpretive strategies about private psychological events was never rejected in principle (Watson, 1913, pp. 174-175).

It is important to remember that empiricism and the emphasis on public observation had previously arisen in a context in which knowledge could be produced by sheer revelation or inspiration and prevailed through royal or religious authorities. Comte, for example, saw himself as struggling against the mystical, individual, and unquestionable knowledge of popes, kings, and their ilk. He proposed criteria of scientificity that naturalized the production of knowledge and at the same time democratized its access; anyone, no matter its upbringing or social status, could in principle comprehend, test, and produce any scientific theory. Comte acknowledged human fallibility (thus the need for careful methods) and made the validation of knowledge a matter of public argument, a collective task guided by argumentative reasoning instead of the fear of revealed authorities. These advances are fundamental achievements of modernity. They are deeply and historically related to the idea of democracy itself.

The requirement of public observability should not be a predicament for behavior analysts, and there is no embarrassment in adopting it. I find it necessary to discuss the complex role that this criterion played in the history of behavior analysis; then we need reevaluate our traditional classifications and categorizations about behaviorism and what it entails. The main mistake in the debate between methodological and radical behaviorism may well involve an overextension of a psychological thesis about private events to a philosophical thesis about our criteria of scientificity. Public observation was and still is crucial for a science of behavior. It not only guides the research practices of experimental behavior analysts, but also the practice of applied behavior analysts concerned about the replicability of their findings. Alone on his island, Robinson Crusoe may well be getting somewhere in his dealing with nature (Skinner, 1945); but is this science?
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References


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