

BEHAVIORISM FOR NEW PSYCHOLOGY: WHAT WAS WRONG WITH BEHAVIORISM AND WHAT IS WRONG WITH IT NOW

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ABSTRACT: The evolution of behaviorism from its explicit beginning with John B. Watson's declaration in 1913 to the behaviorisms of the present is considered briefly. Contributions of behaviorism to scientific psychology then and now are critically assessed, arriving at the conclusion that regardless of whether or not its opponents and proponents are aware, the essential points of behaviorism have now been absorbed into all of scientific psychology. It will assist the progress of the science of psychology if its focus now shifts away from incessant relivings of outdated argumentation to empirical discovery and theory construction based on those discoveries.

Key words: behaviorism, Watson, Titchener, introspection, cognitive psychology, consciousness, Wittgenstein, science of psychology

Reductive materialism in general and strict Behaviorism in particular. . . are instances of the numerous class of theories which are so preposterously silly that only very learned men could have thought of them. (Broad, 1923, p. 17)

Psychology has been in a state of perpetual flux throughout its history; more so, it would seem, than any other scholarly discipline. Neverending debates, verging on bickering and sometimes acrimonious, have been about fundamental issues that on any reasonable consideration would be expected to have been resolved by now but have not been. Issues such as what constitutes the proper subject matter of psychology, what kinds of questions should be posed in psychological inquiry, by what methods data should be obtained, how such data should be interpreted, and even the issue, if it is one, of the place and importance of theory in psychological science. Thus far, the condition of *contemporary* psychology broadly, and the causes of that condition in any detail, have remained unexamined.

Most textbooks on the history of psychology merely chronicle events, dates of emergence of theories, births and deaths of eminent persons, etc., and stop there. There is, however, room, indeed urgent need, for a comprehensive study that deals

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with such issues. If we do not know how we got here, we are liable to go astray in deciding where we go from here.

The dimensions of this paper are minuscule in the face of that daunting task, and no such attempt is made. Here only behaviorism, its emergence and growth, its contemporary state, and its future will be discussed—all too briefly, but with reference to the broad intellectual conditions that set the context for its development and decline.

Behaviorism arose from the coincidence of a number of significant events in psychology and related disciplines at a time when western culture had turned resolutely toward science. From the renaissance through the age of enlightenment, reasoned decision increasingly acquired primacy over decision by faith or edict in scholarly study and matters of human affairs. The natural corollary of this development was that the sciences, collectively, came to be regarded as the imperative undertaking if dependable solutions were to be found for the problems of human life. By the latter part of the nineteenth century, Victorians had placed their trust and hope for a better future fully on the sciences. If the human condition was to improve, diseases were to be cured and prevented, poverty was to be eliminated, and education and civilized values were to become universal, the sciences would show the way.

The idea was not novel; it had been expressed from time to time through many centuries of intellectual discourse. As early as in the seventeenth century Thomas Hobbes, deeply impressed with the tremendous advances that were taking place in the sciences of his time, arrived at the idea that the methods that had been so successful in the natural sciences might also be successful in the study of human nature (1650, 1909). This, apparently, is the earliest view suggesting the possibility of a science of psychology. However, the idea did not make any significant impact until the mid-nineteenth century, and it became explicit from the 1870s onwards, starting, notably, with the experimental investigations of Wilhelm Wundt.

Behaviorism emerged in this context of the by-then generally held belief that good knowledge (i.e., dependable, useful knowledge) comes from science and cannot be understood independently of it. By the time John B. Watson published his paper “Psychology as the Behaviorist Views It” (1913), which was sometimes daubed “the behaviorist manifesto,” neither he nor his critics questioned whether or not psychology should be a science. Having taken that as given, the paper opens with the explicit statement about what is, or more correctly, what will be, the science of psychology:

Psychology as the behaviorist views it is a purely objective experimental branch of natural science. Its theoretical goal is the prediction and control of behavior. Introspection forms no essential part of its methods, nor is the scientific value of its data dependent upon the readiness with which they lend themselves to interpretation in terms of consciousness. The behaviorist, in his efforts to get a unitary scheme of animal response, recognizes no dividing line between man and brute. The behavior of man, with all of its refinement and complexity, forms only a part of the behaviorist’s total scheme of investigation. (1913, p. 158)

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It was not necessary for Watson to extol, in that historic paper, the need for and the value of removing any such barrier and developing psychology as a “natural science.” Two significant consequences followed from Watson’s argument. On the one hand, as expected from the scientific zeitgeist of the times, behaviorism attracted a large number of young and enthusiastic followers, became the object of considerable national interest, made headlines in national newspapers, and was the subject of articles in popular periodicals. On the other hand, the implication of Watson’s assertions did not escape the academic establishment of psychology. That establishment was troubled because, according to Watson’s account, the experimental psychology that began with Wundt and became firmly established was not, after all, a science. Eminent personages of the time in psychology saw and did not like a principle that, even in our time, goes unrecognized in some circles: *all that is experimental is not scientific*.¹ That is to say, the mere fact that Wundt and others conducted experiments did not make psychology a science—just as, according to the old saying, all that glitters is not gold. A corollary of this statement is equally true: *all that is nonexperimental is not unscientific*. Watson’s behaviorism dismissed at one stroke the entire body of literature on experimental psychology that had been painstakingly built over many decades, and the academic reaction to this action was strong. Influential psychologists exchanged private letters (Angell, Watson’s doctoral mentor, wrote to Titchener that “Watson should be spanked.”²). Behaviorism was assailed with increasing vehemence, which spread to the popular press, where it had previously been the subject of interest and approval. The attacks extended to Watson’s person, and, as often happens in such circumstances, false rumors became established as fact through repetition about behaviorism and about Watson’s personal life. In the flurry of these exchanges, scholarly, balanced examinations of behaviorism, of its values and shortcomings, were few, and those that were published attracted little attention. Not only detractors of behaviorism but also those siding with it (including, unfortunately, Watson himself) simply failed to give due regard to any of the issues that were raised concerning the strengths and weaknesses of behaviorism. Had Watson seriously considered the thoughtful, balanced critiques of his paper, behaviorism might have taken a different course than it did. One well-informed critique, perhaps the best of the times, was by Titchener (1914), who examined Watson’s argument carefully and addressed its strengths and weaknesses.

Watson’s reasoning can be stated, in a simplified form, as follows: (i) psychology must be a science (an implicit assumption, unquestioned at the time by advocates and critics alike), (ii) a fundamental principle of science is that its data

¹ If the reader wonders about this statement, let me give an example. As I was writing this paper the light over my desk failed. The computer was still working, so the cause was not a power cut. I replaced the bulb, but the new bulb did not work. I checked the connection to the wall socket, jiggled the lead, and worked the on–off switch several times, all to no avail. Then I replaced the new bulb with another with success. What I did was, indeed, a reasonable, if not perfectly systematic, experiment—but surely it was not science.

² Letter from Angell to Titchener, 1913, in the Archives of Cornell University.

must come from publicly observable phenomena, (iii) what is taken to be the subject matter of psychology, namely consciousness, does not satisfy that principle because it cannot be observed publicly, (iv) the methods to which psychology must resort for studying consciousness, namely introspection, are not scientific methods, (v) therefore, the psychology of the time was not a science.

Watson's paper had taken the above as given and proceeded directly to propose what must be entailed in a "natural science" of psychology: (i) it must abandon consciousness as the object of its study, (ii) it must turn *only* to the study of publicly observable phenomena, namely behavior, and (iii) it must develop methods for publicly observing behavior.

This, in a nutshell, was the basic doctrine of behaviorism as advocated by Watson in 1913, and it remains so to the present day. When the argument is unpacked in this way, it is easy to see that some of its main components call for close scrutiny whether in support or rejection of behaviorism. The main issues open to critical examination are as follows: (i) is what counts as science only what Watson assumes—or is there more to science?, (ii) even if Watson's view of science is correct, *can* psychology exclusively be a science?, and (iii) even if the answers to the preceding questions are "yes," *should* psychology exclusively be a science?

Titchener wisely noted that the fundamental issue rested firstly on the idea of what counts as science, and only secondly on what counts as scientific method. He then considered and compared what would follow for psychology from Watson's implicit and explicit answers to those questions, and from his own answers. He wrote:

When we speak of a science, we have in mind a logically organized body of knowledge that has resulted from certain methods of attacking the problems presented by a particular subject-matter. The methods of science are all, in the last resort, observational; the problems of science are all, in the last resort, analytical. The subject-matter of a given science may be indicated in two different ways: by simple enumeration of objects, or by characterization of the point of view from which the science in question regards the common subject-matter of all science, namely human experience. Thus we may say that our psychology will deal with such things as perceptions, feelings, thoughts, or we may say that psychology, dealing "in some sort with the whole experience," is to be distinguished as "individualistic" from other sciences that are "universalistic." It is clear that a characterization of this kind, though it necessarily transcends the limits of the science in order to show how those limits are drawn, is far more satisfactory than a mere list of objects; and psychology, these many years past, has therefore had recourse to it. (1914, p. 1)

This comment raised two important points which, had Watson and the behaviorists considered them seriously, would have changed the ensuing course of psychology in general—and of behaviorism in particular—for the better. Titchener noted two major difficulties that stand in the way of behaviorism. First, he argued, there is more to science than Watson seemed to believe. Second, what would the

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“natural science of psychology,” as envisaged by Watson, make of concepts and phenomena of consciousness?

So much has been discussed concerning science that here the topic is discussed briefly by noting only two simple points. First, Watson’s view of science was too restrictive. On his account, several major scientific enterprises (e.g., theoretical physics) would have to be excommunicated from scientific discourse. Further, the behaviorist concept of what counts as “observation” and “observable” are too restrictive; note, for example, that no scientist has ever observed electricity in the behaviorist’s sense,³ but no one in physics had sought to outlaw the term or accused electricity companies and workers of leading false lives.

Titchener’s second argument is even more significant for psychology; it deserved attention at the time as it does in the present. If consciousness was merely to be used as in other sciences, without understanding “the modes of human experience” that come under the label *consciousness*, who, if not psychologists, would study such important phenomena? Titchener wrote:

This doctrine, as set by Watson, has two sides, positive and negative. On the positive side, psychology is required to exchange its individualistic standpoint for the universalistic; it is to be “a purely objective experimental branch of natural science” in the same way as physics and chemistry are natural sciences. . . . On the negative side, again, psychology is enjoined by the behaviorist to ignore, even if it does not deny, those modes of human experience with which ordinary psychology is concerned, and in particular to reject the psychological method of introspection. “Consciousness in a psychological sense” may be dispensed with; consciousness in the sense of a tool or instrument with which all men of science work, may be utilized by the new psychology without scruple and without examination. (1914, pp. 1-3)⁴

The question of what is to be made of the phenomena connected with consciousness was poorly treated by Watson. His blueprint for (behaviorist) psychology was merely to use those terms but to ignore questions about any phenomena that might be associated with them. This stance temporarily extricated behaviorism from facing a difficult challenge, but, as Titchener noted, it left the matter unresolved. This issue has haunted psychology ever since, and in recent decades its deliberate neglect has contributed significantly to the decline of the intellectual influence of behaviorism.

After Watson’s departure (for personal reasons) from the world of academia, behaviorism moved from the center stage of psychological debate for a time to be replaced by the grand theories of learning. These theories simply proceeded with the business of theorizing about and investigating behavior without much emphasis

³ We know electricity by its effects (e.g., generating light, movement, heat, etc.) and we know how the phenomenon of electricity comes about.

⁴ It is noteworthy that while Titchener and Watson were leading intellectual enemies, they remained friends and continued to respect each other throughout their lives. When Watson had to resign from Johns Hopkins with no other position in sight, Titchener was the only psychologist who wrote to him, offering to write references and provide assistance in finding him a position. The dignity of the relationship of these two great men serves as an example to us all.

on the doctrinaire debate about behaviorism. Then, in the late 1930s and 1940s, behaviorism was revived by Skinner, who took up Watson's descriptions of the principles of behaviorism⁵ and went a step further. The aspect of behaviorism involving the rejection of consciousness and related terms was hardened by Skinner, who labeled them "mentalistic terms" and advocated their elimination from the language. Skinner's proposition, it should be noted, was far more radical,⁶ calling for the elimination of a range of words from scientific language.

In the heat of feverish debate in defending his behaviorism, Watson had made—as he later acknowledged—claims that were unfounded or excessive. Notable amongst them were the assertions that he did not know what terms such as "mind," "thought," "sensation," etc. meant. He surely did know what they meant, because he was given to using them in ordinary conversation and writing them in personal correspondence and in scientific articles—just as any other person behaving naturally would do. The best interpretation of his claim is that such words were not to be taken as names of phenomena amenable to scientific study. In any case, it seems to have escaped notice that this is curious reasoning. Such phenomena should be included for study because we do not know what they are; if science rejects the study of what is not known, what should it study?

Skinner's recommendation for going even further than Watson by eliminating words related to consciousness had two irreparable flaws. First, all the evidence shows that language (a dynamic, ever-changing structure) cannot be legislated by proclamation. It is telling that Skinner himself did not succeed in avoiding such words in some of his writings, and certainly not in his speech. Second, Skinner's behaviorism found itself in an insoluble dilemma—denying a place to certain words but unable to avoid the need to consider what they mean (i.e., what phenomena they involve). When an inquiry faces a seemingly unsolvable problem, one common but unsatisfactory strategy is to give a different name to the troublesome problem. If the new name is also the name of a set of phenomena that have already been "explained," then through that name the explanations can be "smuggled"⁷ to the phenomena that were troublesome in the first place. In scholarly work this is not a device for deliberate misrepresentation but rather a case of conceptual confusion (see Harzem & Miles, 1978, for a detailed discussion of this topic). In behavior analysis this error has been magnified by claims that

⁵ Skinner reiterated Watson's principles of behaviorism almost—and in places wholly—verbatim, but, unfortunately, without due acknowledgement, which is a matter of some significance, especially for the history of psychology. However, it is important to note that Skinner's lasting contribution to psychology is in his empirical and methodological discoveries such as the development of the operant response (it is not often remembered that it was named the "free-operant" response, emphasizing the point that behavior of a freely moving organism was, for the first time in psychology, brought under experimental control), the schedules of reinforcement and the regular patterns of behavior that emerge under them, the Skinner box, the cumulative recording of responses, and more. On the other hand, the so-called "radical behaviorism" as a philosophy of science contains no *principles* or conceptual assertions that were not first stated by Watson.

⁶ Skinner's behaviorism is popularly named "radical behaviorism." However, the word radical is used here in its ordinary meaning, not as a reference to Skinner's term.

⁷ This term was used by Harzem & Miles (1978) to bring to attention the phenomenon exemplified here.

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mentalistic terms (*sic*) are the names of behaviors. Excesses such as simply tagging the word “behavior” to words that are supposedly difficult or impossible for behaviorism to accept (e.g., thinking-behavior, seeing-behavior, attachment-behavior, and so on *ad nauseam*) have now become commonplace. Thus, we seem to have arrived at a point when the quotation from Broad at the start of this paper is more justified than it ever was.

Against this background, the following observations concerning the fate of consciousness-related terms and phenomena in psychology are inescapable. Behaviorist psychology took a wrong turn first by ignoring such phenomena. It then made matters worse by simply renaming them with the claim that they are all simply behaviors—just like bar pressing, book writing, eating a meal, and any other commonly observable activity. Nonbehaviorist psychology, on the other hand, took those terms unexamined, on the implicit assumption that they were names of identifiable events, and proceeded to search for them. This practice was labeled “cognitive psychology,” which was regaled as a revolution by some of its advocates. This revolution seemed to absolve the psychologist from carefully examining how such terms function in language and what sorts of observations might have given rise to them (see Harzem, 1996, for a discussion of the same curious way of proceeding that occurred in philosophy).

On the face of it, psychology, whether behaviorist or not, had satisfied the age-old issue of how consciousness and the multitude of scientific questions arising from it were to be treated. Behaviorism was a proposal that could have given rise to a new, more complete psychology, but the occasion was lost in a great deal of doctrinaire argument. The failure to deal effectively with concepts that *seemed* to have no singular, identifiable, and observable counterparts was the basic conceptual error of original behaviorism, and it is what is wrong with behaviorism now.

Basic behaviorism faced a dilemma which, at the time Watson was writing, seemed unsolvable: what is to be done *scientifically* with terms that seem to be names of phenomena that no one except the individual experiencing them can observe? Philosophy had wrestled with that issue for centuries, and early behaviorism could not be blamed for not arriving at a conclusive answer—but then came Wittgenstein, Ryle, Austin, and others who almost wholly resolved the problem (see Harzem & Miles, 1978, for a detailed account of the relevance of these “linguistic” philosophers’ contributions to behaviorism in particular, and more generally to psychology). There remained no ground for contemporary behaviorism to stay with the unsatisfactory solution of early behaviorism and even less for going further down the path of exacerbated conceptual confusion of cognitivism.

The behaviorist manifesto was a sorely needed prescription for the wholly introspectionist psychology of its time. By now, however, apparently unnoticed by critics and advocates alike, all of the basic recommendations of Watson have become ubiquitous features of scientific psychology. Now behaviorism is like a cube of sugar dissolved in tea; it has no major, distinct existence but it is everywhere. It is an essential ingredient of scientific–psychological thought

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whether psychologists wish it to be or not. It would be well for the future of psychology if all came to see this simple fact and doctrinaire “ism”s became things of the past.

References

- Broad, C. D. (1923). *The mind and its place in nature*. New York: Harcourt Brace. (1929 printing)
- Harzem, P., & Miles, T.R. (1978). *Conceptual issues in operant psychology*. Chichester, England: Wiley.
- Harzem, P. (1996). The craft of understanding the mind: Why it cannot be a science. *Mexican Journal of Behavior Analysis*, 22, 5-17.
- Hobbes, T. (1650). *Human nature: Or the fundamental elements of policie*. (Reproduced on microfilm in the Union Theological Seminary Library, New York)
- Hobbes, T. (1909). *Leviathan* (reprinted with an essay by W. G. Pogson). Oxford: Clarendon Press. (Original work published 1651)
- Titchener, E. B. (1914). On “psychology as the behaviorist views it.” *Proceedings of the American Philosophical Society*, 53, 1-17.
- Watson, J. B. (1913). Psychology as the behaviorist views it. *Psychological Review*, 20, 158-177.