

“IT IS NOT ELEMENTARY, MY DEAR WATSON”: THE STRANGE LEGACY OF THE BEHAVIORIST MANIFESTO

*“NO ES ELEMENTAL, MI QUERIDO WATSON”: EL EXTRAÑO
LEGADO DEL MANIFIESTO CONDUCTISTA*

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Abstract

J. B. Watson’s “Psychology as a Behaviorist Views It” marks its centennial in 2013. It is commonly recognized as the birth of behaviorism, a perspective in various forms to dominate theory and experiment in American psychology for the subsequent 50 years or so and still very much alive. What is not so clear in the light of both history and the substance of Watson’s behaviorism is why he is considered the founder of this movement. While a current assessment of Watson’s manifesto might be subject to a charge of whiggishness, in fact, well before and certainly during Watson’s career as a spokesman for behaviorism others had much more sophisticated behaviorist views, some of which are reflected in modern formulations. Watson’s naïve behaviorism however, was to be considered by many, especially those outside the experimental psychologist community, as *the* behaviorism, with decidedly negative impact that continues to the present day.

Keywords: J. B. Watson, behaviorist manifesto, behaviorism, B. F. Skinner, Bertrand Russell, introspection, consciousness, imagery, thinking, language.

Resumen

El artículo de Watson “La psicología desde el punto de vista del conductista” cumple cien años en el 2013. Es comúnmente reconocido como el nacimiento del conductismo, una perspectiva que dominó la teoría y la experimentación en la psicología

americana de varias formas por alrededor de los 50 años subsecuentes y que aún está viva. Lo que no es muy claro a la luz de ambas, la historia y la sustancia del conductismo de Watson, es por qué él es considerado el fundador de este movimiento. Mientras que una evaluación actual del manifiesto de Watson podría ser criticada de ser un juicio en retrospectiva, de hecho, mucho antes y ciertamente durante la carrera de Watson como portavoz del conductismo, otros tenían puntos de vista mucho más sofisticados sobre el conductismo, algunos de los cuales están reflejados en las formulaciones modernas. No obstante, el conductismo ingenuo de Watson fue considerado por muchos como *el* conductismo, especialmente por aquellos afuera de la comunidad de la psicología experimental, lo cual tuvo un impacto decididamente negativo que continúa hasta estos días.

Palabras clave: J. B. Watson, manifiesto conductista, conductismo, B. F. Skinner, Bertrand Russell, introspección, consciencia, imaginería, pensamiento, lenguaje

The period around 1913 appears to be a watershed in a number of creative enterprises. Stravinsky's *Rite of Spring* scandalized Parisian audiences and caused a near riot. Modernism in art came to America in the famous Armory Show. Futurism, cubism and other artistic movements were afoot. James Joyce's *Dubliners* was published after a long struggle with censorious editors. In 1913 a young physicist, Niels Bohr, published a long article in the *Philosophical Magazine* entitled "On the Constitution of Atoms and Molecules" that represented the most significant break from concepts of classical physics yet espoused and led ultimately to the formation of quantum mechanics — the most successful theory in the history of physics.

As is being recognized in this publication and elsewhere, this is the 100th anniversary of J. B. Watson's (1913/2009) so-called "behaviorist manifesto" — "Psychology as the Behaviorist Views It" — the first of a series of lectures he had given at Columbia University. With this polemic Watson is widely considered the founder of behaviorism—a position, so far as I can determine, he never claimed for himself, although he would likely not have rejected it. Although most historians grant the significance of the manifesto in naming and crystallizing a movement, as well as vigorously proclaiming the goals of prediction and control for psychology as a natural science, the facts reveal a far more complex and interesting story. Lore has it that his manifesto represented a *revolution* in psychology, *established* the field as a natural science, and served as an *inspiration and guide* for all scientific psychology for at least the next half-century — witness this centenary celebration. All these commonly claimed accomplishments are, at best, half-truths; at worst, profoundly wrong. Although there is much hype (by behaviorists) marking this year as the 100th anniversary of behaviorism, all modern scientific behaviorisms — methodological, radical, teleological — whatever, in fact, owe little, methodologically, empirically, or conceptually, to Watson and would likely be much of what they are — and maybe better thought of — if Watson had never existed. In my view, there is little to celebrate and much to critically evaluate.

In defending these claims, this paper is in no way original. I draw freely from such historical and biographic sources as Buckley (1989), Leahey (2000, 2001), Malone (2009), O'Donnell (1985), Samelson (1981), Bertrand Russell, an early Watson apologist (1921/1971; 1927/2009), Skinner (1974; 1979), and, of course, Watson himself (1913/2009; 1914/2012; 1930/1970).

I should admit at the outset that until this year and the attendant hoopla over Watson (mostly confined to those calling themselves “behaviorists”) I knew little of Watson other than, perhaps, what Skinner (e.g., 1974) had said about him (see also, Bjork, 1993; O'Donohue & Ferguson, 2001) and Skinner's views (see below) did not encourage further study. As an undergraduate I had also learned of Watson's early work with the sensory contributions in rats of maze learning — beyond that, I knew very little. I had not yet read the behaviorist manifesto and when I did recently, my first whiggish thought was: “What would lead someone to write such a strange document?” Much additional reading has provided some needed historical perspective, but many of Watson's assertions in the manifesto, as well as in his later works still seem so bizarre that I find it difficult to understand how anyone ever took them seriously. Indeed, he admitted that some of his wilder notions were put forth just to get people's attention — as I will document later.

Two Roads Diverged

Psychology as an independent field began to emerge from philosophy in the last third of the 19th century and largely by the early 20th century it was an established discipline in many parts of Western Europe and the United States, if not elsewhere. Descartes' dualism had set one path, the mind, for the embedding of psychology into philosophy. Even when it began to assert its independence, psychology was still a “science of the mind,” as it is still defined today by some introductory psychology texts. The nature of “mind” however, was a shifting issue after Descartes, but by the 19th century two aspects were prominent — one having to do with process, namely associationism — the second with structure, in particular, the structure of “consciousness.” By consciousness, the primary interest was immediate experience and the primary method was introspection, focused on sensation and perception. Psychology, then, was the study of consciousness, and thus the mind, through introspection and this effort defined the field for many into the early 20th century. Watson, though by no means alone, sought to toss introspection, consciousness, and all elements of mind into the trash bin.

The other path established by Descartes' dualism, was through the body, in particular, the body as a machine. Rapid advances were made in anatomy and physiology in the centuries after Descartes including the development of careful and effective experimental methods, all of which seemed to affirm the materialistic *l'homme machine*, in La Mettrie's words. Of particular relevance was the analysis of reflex action; the reflex coupled with association procedures was to become the model for the behaviorism to come — especially Watson's.

For many scholars, the two paths of dualism ran in parallel, but Darwin's theory of evolution was to raise special issues of intersection — or elimination of dualism altogether. Here, again, there were two directions: If man had descended from animals and man possessed a mind, then why not animals? On the other hand, if, as Descartes had asserted, animals were machines devoid of mind, then perhaps man was too. In either case, the study of animals might inform the study of man, and vice versa, opening the door to a comparative psychology — ultimately to play a key role in Watson's manifesto (see Dewsbury, this issue, for an assessment of Watson's impact on comparative psychology).

The Myth and the Manifesto

While the lore has it that Watson's manifesto was a revolutionary document defining psychology for decades to come as the science of behavior, this is a myth serving neither the defenders nor the critics of behaviorism (see below). At the least, the history, as always, is far more complicated than many psychology texts present. Certainly, it was not the case that all in psychology was dark, then Watson said "behaviorism," and there was light. The relevant evidence is reflected in at least three facets: (1) the call for psychology to focus on behavior as its subject matter was not new; as a result, (2) the initial reactions by the psychological community to Watson's manifesto hardly reflected its to-be legendary influence; and (3) Watson's particular brand of behaviorism gained few advocates — with good reason. I'll discuss these in turn.

Well before Watson's polemic, numerous sources document the shift away from psychologists' obsession with introspection and the structure of consciousness toward defining the proper subject matter of psychology as behavior. I'll be more specific shortly, but one should keep in mind throughout this discussion the diverse lines of influence, explicit and implicit, directing the struggle to eschew the mysteries of a transcendental mentalism and nestle psychology into the bosom of the *natural sciences*. Whatever else any proper scientific behaviorism is about, it surely has that goal. Beginning at least from Descartes (one could begin with Aristotle!), various conceptual positions as well as experimental efforts lead inevitably toward this goal.

Descartes and La Mettrie's organism-as-machine (Watson would later call the human a "biological machine"), Comte's positivism, Hume and Hobbes, Laplace's determinism, the demise of vitalism, Claude Bernard's experimental medicine, Darwin's organic evolution, Sechenov's Russian reflexology, Pavlov's and Bechterev's conditional reflexes, Munsterberg's "motor theory of consciousness," Thorndike's law of effect, and numerous other sources helped to establish at least the possibility of a natural science of behavior—all before 1913. There were, of course, tensions regarding just how to place behavior as a subject matter within the natural sciences. While most were to agree that behavior is a biological function, was a behavior science a branch of physiology (Watson asked himself, "Am I a physiologist?" He answered

“yes.”) and even reducible to physiology, as the Russian reflexologists maintained, or was it to be an independent science? These issues remain very much alive today.

Paths leading to a behavioristic formulation were worn through several critical movements. Keep in mind the primary foci and character of much of late 19th and early 20th century psychology, especially in America: (1) mind-body dualism was a given; (2) understanding the structure of consciousness as immediate experience was a goal; (3) exploration of (2) through introspection was the sole method; (4) given (2) and (3), only human minds were of interest; and (5) psychology was a “pure” science to be unsullied by applications, a view especially championed by Titchener (e.g., 1914/2009, p. 69). Each one of these aspects was to receive sharp critiques from a number of sources all before 1913 — some well before.

Here are just a few examples: Nearly a century and a half before Watson, in contrasting introspection with the methods of “natural philosophy” (i.e., natural science), Hume, in his *Treatise of Human Nature* observed: “...should I endeavor to clear up... any doubts in moral philosophy by placing myself in the same case with that which I consider, ‘tis evident this reflection and premeditation would so disturb the operation of my rational principles as must render it impossible to form any just conclusion from the phenomenon. We must, therefore, glean up our experiments in this science from a cautious observation of *human life* and take them as they appear in the common course of the world, by *men’s behavior* in company, in affairs, and in their pleasures” (cited in O’Donnell, 1985, p. 71).

A century before Watson, Gall, an early positivist, had said of introspection: “... the most sublime intelligence will never be able to find in a closet, what exists only in the vast field of nature” (cited in O’Donnell, p. 70). During this same period, others like Comte and Caldwell expressed similar views.

Malone (2009, p. 338) reminds us that the great Wundt himself had special contempt for what he deemed a *verfehltte Methode* — a false method — as he called Titchener’s introspective procedures in 1900. A decade before Watson’s manifesto, James McKeen Cattell quipped: “It is usually no more necessary for the subject to be a psychologist than it is for the vivisected frog to be a physiologist” (cited in O’Donnell, 1985, p. 71).

In 1905, none other than William James could say the following: “I believe that ‘consciousness,’ when once it has evaporated to this state of pure diaphaneity, is on the point of disappearing altogether. It is the name of a nonentity, and has no right to a place among first principles. Those who still cling to it are clinging to a mere echo, the faint rumor left behind by the disappearing “soul” upon the air of philosophy...It seems to me that the hour is ripe for it to be openly and universally discarded” (cited in Leahey, 2001, p. 219).

Samelson (1981, p. 404), in a paper of considerable significance to my arguments, asserted: “Criticism of introspection was not new; neither was the use of objective methods in the advocacy of the studies of behavior, as reference to other authors like Meyer, Parmalee, and Thorndike indicate. As Wells had expressed it, Watson had

produced "an unusually concrete statement of a central idea that had always claimed certain adherents among us" (citing F. L. Wells (1913) "Dynamic Psychology" paper in the *Psychological Bulletin*, 10, 1913, 434-440.)

Aside from these largely philosophical positions, the demand from many within the field that psychology shuffle off the coils of Titchenerian academic purity was met with the beginnings of significant applications. As early as 1892 William James would assert: "Psychological events are of such tremendous practical moment that the control of these conditions on a large scale would be an achievement compared with which the control of the rest of physical nature would appear comparatively insignificant" (cited in O'Donnell, p. 136). O'Donnell then remarks, "...James pleaded for a psychology of 'practical *prediction and control*'" (p. 136, italics mine). And, "In 1904 Cattell proclaimed that, if he did not believe that psychology could be applied in useful ways, he would regard his occupation 'as nearer to that of a professional chess-player or sword swallower than that of an engineer or scientific physician'" (pp. 139-140). Cattell, Dewey, and many others were to make substantial contributions to applied psychology during the first decade of the 20th century and beyond in testing, selection, education, child study, and work, along with other areas. The principal point here is that such efforts demand an *analysis of behavior*; introspection and consciousness could play no role whatever in these efforts.

No Paradigm Shift

Given the already common critiques of the method of introspection and its aims to reveal to structure of consciousness, psychology was well on its way to becoming the natural science of behavior and did not need Watson to make it so. Even Watson in his manifesto (1913/2009) admitted, "Perhaps I have put up a straw man and have been fighting that" (p. 29). Moreover, O'Donnell argues persuasively (and a careful reading of the manifesto seems to bear him out) that the primary goal of the manifesto was to justify his (Watson's) own field of comparative psychology. To quote O'Donnell:

...in the winter of 1912 Watson announced that psychology should become an objective experimental science of the prediction and control of behavior. His subsequent career as polemicist and extravagant popularizer, coupled with seven decades of whiggish textbook history, have served to invest Watson's manifesto with an importance overlooked by his immediate contemporaries and have obscured Watson's original purpose, which was to make his own field of investigation more secure as a branch of academic psychology (p. 203).

A number of sources point out that the reception to Watson's manifesto was mild, even by its advocates (see, e.g., Leahey, 2000, pp. 399-400; Samelson, 1981). There are at least three possibilities for the reception to such a document: (1) It is enthusias-

tically received, (2) It is soundly rejected, or (3) It is virtually ignored. In addressing these possibilities with respect to Watson's manifesto, one has to consider the common lore (and apparently worth celebrating!) that it was enthusiastically received with the outcome that psychology was henceforth transformed into a behaviorist enterprise. This is surely false. Perhaps the definitive paper on the early reception of Watson's manifesto is Samelson (1981). He introduces the theme of his paper (p. 399) by saying, "...an extensive search of published and unpublished source material from 1913 to 1920 shows only limited support and a good deal of resistance; documentary evidence for the conversion of psychologists to radical¹ behaviorism during these years is hard to find." Shortly after this assertion Samelson observes, "...no reminiscence has described memories of a drastic encounter with the manifesto; we have not found any contemporary evidence for the conversion of a single individual to Watson's position...the only contemporary references came from Watson himself" (p.404).

More recently, Leahey (2000) remarked: "Watson was not an original thinker, but, as he proved in his later career in advertising, he was an effective spokesman. When we separate Watson's rhetoric from his substantive proposals he said little that was new, but said it powerfully. The behavioral approach had overcome psychology slowly and almost unnoticed in the years after 1892...So no one was either outraged or inspired by Watson's manifesto of psychological modernism...[The manifesto] simply marks the moment when behaviorism [Leahey's term] became ascendant and self-conscious, creating for later behaviorists a 'myth of origin'" (p. 400).

Samelson (1981), while substantiating this myth, does credit Watson with the *explicit* call for prediction and control as the goals of a natural science of psychology: "I still believe that Watson's treatment of the issue [control] constituted a quantum jump. Only with him did control become a fundamental idea. I think the notion was radically new [for psychology]..." (p. 418). Watson was indeed explicit about this, but as I've already indicated, the originality is questionable. Outside of natural sciences like geology, meteorology, and astronomy, wherein careful observation and theoretical formulation trump experimentation, control, at the least, would seem to be a common, if not essential goal. And even in those sciences where control is difficult if not impossible to achieve, prediction, however challenging, is surely a goal. Samelson places special emphasis on Watson's explicit call for prediction and control with the notion that, these goals were formerly only implicit. This seems a minor point given the already significant achievements in both basic and applied psychology as exemplified by the work of Thorndike and Cattell. Even Samelson implicitly admits to the emptiness of Watson's proclamation by his saying: "By 1920, not one concrete experimental problem of human psychology had been solved convincingly by Watson" (1981, p. 416). Moreover, as Samelson also notes, with all the emphasis Watson

¹ Samelson's adjective "radical" as applied to Watson's behaviorism has an utterly different meaning than in Skinner's "radical" behaviorism; indeed, they may be considered as *opposite* in meaning. Watson sought to eliminate private events; Skinner's behaviorism embraced them. Thus, Skinner's behaviorism was radical in comparison to Watson's!

placed on Pavlovian conditioning, there was a lack of replicable Pavlovian studies in the USA until after 1927 — so much for prediction and control.

In any case, as O'Donnell (1985) argues, while many would have agreed that behavior — its prediction and control — was the proper subject matter of a science of psychology, they had problems with Watson's particular brand of behaviorism: "By the 1920s Watson maintained only a handful of followers... Obviously, contemporaries perceived a distinction between Watsonianism and behaviorism" (p. 207).

Regarding the reception to Watson's behaviorism, of special significance is the role of Bertrand Russell. A careful study of the Watson-Russell intellectual relationship is worth a paper on its own, but here I'll only make a few observations. Russell was a major figure in 20th century philosophy and mathematics, and much of his work can still be read with considerable profit. Why should such an eminent figure give so much attention to Watson? He undoubtedly had great respect for Watson based upon his study of Watson's papers and, in particular, his two books *Behavior: An introduction to comparative psychology* (1914/2009) and *Behaviorism* (1930/1970). They also maintained a substantial correspondence. Russell was certainly an anti-dualist and appreciated behaviorism's attempt to bring a positivistic psychology into the natural sciences and especially psychology's relation to physics and biology, as well as a scientifically oriented philosophy. In two major overlapping works, *The analysis of mind* (1921/1971) and *An outline of philosophy* (1927/2009), Russell addressed many fundamental psychological issues that are still current: Introspection and private events, learning and memory, sensation and perception, language and thinking, along with others. Among his aims was to explore to what extent a behavioristic psychology could inform philosophical issues and, essentially, his method included how a positivist Watsonian behaviorism (as opposed to some mentalistic stance) might provide a plausible account of a psychological phenomenon — language, learning, memory, etc. Although, for the most part, broadly expressed, Watson fares well in this effort, Russell takes Watson severely to task on a number of significant issues. Here's a sample in response to Watson's denial of imagery and utter dismissal of introspection: "It seems to me in this matter he has been betrayed into denying plain facts, namely, in the supposed impossibility of introspection" (1921/1971, p.152). "Professor Watson says: 'I should throw out imagery altogether and attempt to show that all natural thought goes on in terms of sensory-motor processes in the larynx.' This view seems to flatly contradict experience. If you try to persuade any uneducated person that she cannot call up a visual picture of a friend sitting in a chair, but can only use words describing what such an occurrence would be like, she would conclude that you are mad" (p. 158).

In particular, Russell (1921/1971) provides a treatment of private events that portends what Skinner would say more than 20 years hence: "... even the most private sensations have correlations with things we can observe. The dentist does not observe your ache, but he can see the cavity which causes it, and could guess that you are suffering even if you don't tell him. This fact, however, cannot be used, as Watson would

apparently wish, to extrude from science observations which are private to one observer, since it is by means of many such observations that correlations are established...Privacy, therefore does not by itself make datum unamenable to scientific treatment. On this point, the argument against introspection must be rejected" (p. 119).

As Skinner (1979) was to remark much later on Russell's views on reading *Outline of philosophy*: "...it begins with a careful treatment of several epistemological issues raised by behaviorism considerably more sophisticated than anything of Watson's" (p. 10).²

Other than some acknowledgement of Watson's experimental accomplishments, Skinner had little respect for Watson's behaviorism, indeed, thought it probably had irreparably damaged the movement. In the first chapter of *About behaviorism* (1974) Skinner compiled a list of 20 common statements about behaviorism — virtually every cliché extant — almost all of which are, or could be tenets of Watsonian behaviorism. Every one of them Skinner considered wrong. Skinner adds:

These contentions represent, I believe, an extraordinary misunderstanding of the achievements and significance of a scientific enterprise. How can they be explained? The first explicit behaviorist was John B. Watson, who in 1913 issued a kind of manifesto called *Psychology as the behaviorist views it*. As the title shows, he was not proposing a new science but arguing that psychology should be redefined as the study of behavior. This may have been a strategic mistake...Early behaviorists wasted a good deal of time and confused an important central issue, by attacking the introspective study of mental life (p. 5).

O'Donohue and Ferguson (2001, p. 43) list a number of mistakes Skinner saw in Watson: (1) exaggerated claims of learning over nature (which Watson admitted), (2) explained too much with too few principles, (3) overemphasized reflexes as fundamental mechanisms, (4) claimed humans and animals were essentially the same, (5) Watson's positivist position was what we now call *methodological behaviorism*, which Skinner was to repudiate. About the only positive thing Skinner had to say about Watson's work was praising his early ethological studies of sooty terns in the Dry Tortugas.

Watson's Bizarre Barnum & Bailey Behaviorism

As has been pointed out many times, the manifesto set the agenda of psychology as the prediction and control of behavior, but said nothing about *how* this was to be achieved. Watson, because of his extensive training in physiology and work in comparative psychology, had earlier proposed that a science of behavior be a part of biology. Not surprisingly then, the framework of his entire behaviorist edifice was the

² One is left to wonder what Russell might have said about Skinner's radical behaviorism had he taken the opportunity to read Skinner as closely as he had read Watson.

reflex. Interestingly, William James had declared in 1892 "...that all our activity belongs at bottom to the type of reflex action..." (Cited in O'Donnell, p 205). And, of course, the Russian reflexologists had earlier proposed a similar view. Pavlovian/Bechterevian conditioning became essentially the only mechanism accounting for the acquired behavior of organisms. Thus, the prediction and control task of psychology for Watson was: Given the stimulus, find the response; or given the response, find the stimulus — an S-R psychology of the crudest sort. No wonder a substantial proportion of his book *Behaviorism* (1930/1970) is devoted to the chapters "The Human Body" and "Emotions." As for "Manual Habits," acquired motor behaviors of even the most complex sort are the outcome of concatenations of acquired reflexes, as units, defining an integrated pattern. After first recognizing the apparent (even "insoluble") difficulty of accounting for complex habits, he asserted:

The relationship, theoretically, between the simplest cases of the conditioned responses...and the more complicated, integrated, spaced and timed habit responses we are considering, *seems to me to be quite simple* (my italics). It is the relationship apparently of part to whole — that is, the conditioned reflex is the unit out of which the whole habit is formed. In other words, when a complicated habit is completely analyzed, each unit of the habit is a conditioned reflex." (Watson, 1930/1970, pp. 206-207).

In all the cases of "manual" habit formation he discusses (including what is clearly an example of avoidance conditioning), there is no recognition whatever of the significance of behavior-consequence relations even though such was known even before his manifesto was published — including Watson's own extensive work with maze learning. Here is what Watson had to say about Thorndike's studies, for example: "They believe habit formation is implanted by kind fairies. For example, Thorndike speaks of pleasure stamping the successful movement and displeasure stamping out unsuccessful movements" (p. 206).

In describing a Thorndikian "problem box" task, Watson assumes there are numerous behaviors that will initially be applied — say 50, where #50 is the successful solution. On each successful trial, this 50th response will always occur — it's the most frequent, affirming the significance of *frequency*. As it also always occurs last, this affirms the significance of *recency*. No other responses can claim these two aspects and thus they drop out. Bertrand Russell recognized a difficulty with this analysis in pointing out that performance can show significant improvement on the 2nd trial! (1921/1971, pp. 52-53).

If a positive contribution (for the time) can be attributed to Watson's theories, it would be in his treatment of language and its acquisition. Bertrand Russell had this to say:

The failure to consider language explicitly has been the cause of much that was bad in traditional philosophy. I think myself that 'meaning' can only be understood

if we treat language as a bodily habit, which is learnt just as we learn football or bicycling. The only satisfactory way to treat language, to my mind, is to treat it in this way, as Dr. Watson does. Indeed, I should regard the theory of language as one of the strongest points in favor of behaviorism" (1927/2009, pp. 48-49).

As described in *Behaviorism* (1930/1970), Watson and his wife Rosalie Rayner studied an infant ("B") both attempting to bring about an appropriate verbal response as well as recording sounds and then words spoken by the child as its verbal skills developed. I can't be sure, but this may have been among the first, if not the first such study. Again, curiously, what they demonstrate by their attempts to engender a specific verbal response is more illustrative of response-consequence contingencies than any Pavlovian procedure. Indeed, Watson commented: "I think it is quite probable that if we had been willing to break up the infant's strict feeding habits and had watched for the verbal occasions on which he himself made the sound 'dada' and had given him the bottle immediately, on each such occasion, then he would have formed this habit much earlier and much more quickly." (pp. 227-228). Russell, while recognizing that acquiring a verbal repertoire was essentially no different than acquiring any other complex skill, took Watson's formulation to task on a number of details, including the possible role of Thorndike's law of effect (for details, see Russell [1927/2009], Chapter 4).

But it was Watson's treatment of imageless thinking that seemed to many, including Russell, to stretch plausibility beyond any elastic limit (see Russell's earlier comment regarding imaging). For Watson, thinking was simply talking to one's self. While, no doubt, at least some thinking is such, it was the *mechanism* proposed by Watson, namely that this "silent" talking resulted from imperceptible movements of the larynx or other bodily actions — "behind the lips" — to use Watson's expression. One can still find this proposed "mechanism" in some texts as representative of the vacuity of behaviorism. Such a proposal by Watson was consistent with his rigid peripheralism and the absolute denial of any "central" processes. In responding to Watson's theory, Russell (1927/2009) observes: "It should be realised that behaviourism loses much of its attractiveness if it is compelled to postulate movements that no one can observe and that there is no other reason to assume... when the behaviourist assumes small occurrences for which there is no ground in physics, and which are needed solely in order to safeguard his theory, he is in a less strong position" (p. 84). So much for Watson's devotion to positivism. I should also point out that while initially Watson clearly invoked tiny laryngeal movements as the source of silent speech, he later denied this in his book *Behaviorism* (1930/1970). He had to address those cases where, for example, the larynx had been removed and the unfortunate person could still "think." Here is a Watson quote which says much about the man: "I wish here expressly to affirm...that I have never believed that the *laryngeal movement* as such played the predominant role in thought. I admit that in my former presentations I have, in order to gain pedagogical simplicity, expressed myself in ways which can be so interpreted" (p. 238).

How many other examples of outrageous Watsonian assertions were made in the

service of "pedagogical simplicity"? As Buckley (1989) commented: "Admitting the propagandistic and evangelistic aspects of his writing, with its aims of making 'converts' to behaviorism, he explained his strong emphasis on thinking as subvocal speech was calculated to make an impression on students" (p. 118). This isn't science; it's cynical showmanship, and any subsequent carefully formulated, thoughtful, and empirically-based behaviorism has suffered from Watson's overblown version for a century, and likely for all time.

Watson's behaviorism, as was recognized from the beginning, is a narrow and rigid doctrine. It is a behaviorism with a blindfold and with its hands tied behind its back. Moreover, it seemed never to advance much beyond its beginnings — either through careful reevaluation and acknowledgement, or in response to the work or critiques of others. Watson's biographer, Buckley comments on Watson's dealings with some criticisms of Max Meyer:

"Meyer had urged Watson to modify his position before publishing the results of his experiments. He had hoped to persuade Watson by the force of reason, but he underestimated Watson's driving ambition — which precluded any compromise with competing ideas. Watson was not concerned with the data or work of other investigators unless he found them useful for consolidating his own position...he was concerned with providing evidence that would support his presuppositions." (1989, p. 91)

Even when he acknowledged problems with his account, these difficulties did not seem to find their way into his published work. I've already mentioned Russell's concerns on a number of issues. Here, again, is a telling example from Buckley:

In 1922, Watson reviewed Russell's *Analysis of Mind* [1921/ 1971] for *The Dial*... Watson sent Russell a page proof of his review and confessed to Russell that 'there is no question but you have forced me to make an admission about the image which...I have known for some time that I would have to make.' Russell had argued that images of an object that persist after an object is perceived or when the perceived object is no longer present contradicted Watson's claim that there were no centrally aroused mental processes. Watson admitted to Russell that he had deliberately concealed these inconsistencies in the initial presentation of his theory of behaviorism; the force of his argument was intended to be more rhetorical than scientific. He wanted, he explained, to avoid dealing with problems like the 'image' 'until [he] had forced psychologists away from their old point of view.' (1989, p. 149)

He apparently never was able to deal with "problems like the image." In his book *Behaviorism*, the 1930 edition, the word "image" hardly occurs. On p. 4, he refers to them as "ghosts." Later, in the chapter "Do we always think in words," he comments

parenthetically, “I assume of course that ‘images,’ those ghost-like ‘memory’ pictures of objects not present to the senses, have been given up in psychology” (p. 266). Given such “rhetoric” I don’t understand why Russell would have paid any subsequent attention to Watson.

What’s in a Name?

This very brief review of historical and other scholarly sources, including Watson himself provides, in my view, little reason to celebrate. Perhaps Watson may be credited with coining the term “behaviorism”; but, as I have attempted to argue, what was of value in his behaviorism was not new and what was new was of little value. Indeed, as, for example, Skinner relates in *About behaviorism* (1974) and elsewhere, Watson’s behaviorism engendered an unfortunate and apparently persistent legacy with its rigid S-R framework, its narrow formulation of how behavior is acquired and maintained, its empirical emptiness, its naïve peripheralism, its absurd (and apparently insincere) rejection of central and private events, its blatant disregard of the cogent critiques of others along with dismissal of significant work that contradicted his formulation, and its stance of showmanship over science.

By all accounts, Watson was a brilliant, productive, and creative man, but also a man of ruthless ambition and messianic self-promotion — his was a behaviorism as boosterism. As Buckley (1989) discussed in detail, Watson was to fit well and, indeed, contribute to the social dynamics of the times — the championing of capitalism values, social conformity, consumerism, hucksterism — the Babbit era of middle-class vacuity satirized so vividly by Sinclair Lewis (1922/1989). In 1921 Watson found his proper niche — advertising — and gained great success as well as great wealth from it. He was then truly in a position to control the behavior of millions and, according to Buckley, many techniques we now take for granted in the ploys and deceptions of advertising can be traced to his creative marketing skills. In this largely nefarious enterprise he was an effective behaviorist — but is this an achievement we would wish to celebrate?

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