

**DISSEMINATING BEHAVIORISM: THE IMPACT OF J. B.
WATSON'S IDEAS ON BRAZILIAN EDUCATORS**

*DISEMINANDO EL CONDUCTISMO: EL IMPACTO DE LAS IDEAS
DE J. B. WATSON EN LOS EDUCADORES BRASILEÑOS*

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Abstract

The reception of John Broadus Watson's writings in Brazil during the early part of the 20th century is analyzed by exploring how his ideas were manifest in the works of two Brazilian intellectuals, Lúcio José dos Santos (1875-1944) and Manoel Bergström Lourenço Filho (1897-1970). These authors were important in Brazilian educational and psychological debates during the first decades of the 20th century. During this period, psychology and education were pivotal to discussions of the modernization of Brazil. This paper reviews the aforementioned authors' personal histories and divergent perspectives on Watson's behaviorism. In this context, we trace the reception and dissemination of Watson's ideas in the Brazilian intellectual milieu, underscoring the local idiosyncrasies of the development of psychology in Brazil.

Keywords: history of behaviorism, history of psychology in Brazil, dissemination of psychology, J. B. Watson

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Resumen

Se analiza la recepción de los escritos de John Broadus Watson en Brasil durante la primera parte del siglo XX mediante la exploración de cómo sus ideas se manifestaron en los trabajos de dos intelectuales Brasileños, Lúcio José dos Santos (1875-1944) y Manoel Bergström Lourenço Filho (1897-1970). Estos autores fueron importantes en los debates educacionales y psicológicos de Brasil durante las primeras décadas del siglo 20. Durante este periodo, la psicología y la educación fueron centrales en las discusiones de la modernización de Brasil. En el presente trabajo se hace una revisión de las historias personales de los autores mencionados y de sus perspectivas divergentes sobre el conductismo de Watson. En este contexto, trazamos la recepción y la diseminación de las ideas de Watson en el entorno intelectual brasileño, subrayando las idiosincrasias locales en el desarrollo de la psicología en Brasil.

Palabras clave: historia del conductismo, historia de la psicología en Brasil, diseminación de la psicología, J. B. Watson

The “Behaviorist Manifesto” of John Broadus Watson (1878-1958) is a landmark in the history of psychology in the United States of America (USA). Watson’s work and personal life are the subjects of debate and controversy (e.g., O’Donnell, 1985; Leahy, 1992; Samelson, 1981). The impact of Watson’s ideas in the USA have been scrutinized; however, they had more than a national impact.

The historiography of science has undergone many changes in the last decades, propagating new values and perspectives among scholars. This development has led to a broadening of the goals of historical analysis. Gavroglu et al. (2008), for example, presents a new historical perspective for understanding the processes of dissemination and appropriation of scientific ideas. They use the “center and periphery” concept to explain specific local cultural processes and the active role played by intellectual, professional, and political milieus during the establishment of scientific knowledge. Their “context is that of the *active receiver*, which entails a shift from the point of view of *what has been transmitted* to the view of *how, what was received has been appropriated*” (p. 154; original italics). These recent theoretical and methodological changes are present in the historiography of psychology as well (e.g., Danziger, 2006; Mülberger, 2008; Vaughn-Blount, Rutherford, Baker, & Johnson, 2009). Some authors understand the reception and dissemination of psychological knowledge as a process tied to the specific contingencies of each locality.

Here we investigate the reception and appropriation of behaviorism in Brazil. More specifically, we analyze references to Watson in the works of two Brazilian intellectuals, Lúcio José dos Santos (1875-1944) and Manoel Bergström Lourenço Filho (1897-1970), important figures in the Brazilian educational and psychological debates of the first decades of the 20th century. We focus on the educational context because psychology and education were pivotal aspects of the modernization discussion in

Brazil during the first half of the 20th century. To accomplish this review, we discuss (1) the Brazilian context, (2) the backgrounds and work of Santos and Lourenço Filho, and (3) their quite different reactions to behaviorism, especially in relation to Watson. The reception of Watson's ideas into the Brazilian intellectual milieu illustrates some particularities of the development of psychology in the country, which has been greatly influenced by behaviorism. Thus, our investigation conforms to contemporary proposals in the historiography of psychology, such that of Pickren (2012), who observed that "knowledge has to become local to function as knowledge" (p.7).

Brazilian Psychology, Education, and Politics during the First Decades of the 20th Century

With the proclamation of the Republic in 1889, discussions of Brazil's modernization intensified. They contributed to the restructuring of cities and to the ideal of a national identity (Sousa, Catani, Nóvoa, & Simon, 2005). This intense engagement with national development, which was especially strong between 1900 and 1930, focused on increasing industrial production, developing science, and renewing education in the country. In fact, urbanization and industrialization helped to change the Brazilian socioeconomic structure. As a result, social classes, such as the urban middle class, the working class, and industrial bourgeoisie began to share social space with the agricultural elite. This social space gradually became the urban centers, driven by industrial development (Fausto, 1990/2003).

Scientific development was viewed as favorable to the progress of the country. Its main supporters and promoters were Brazilian intellectuals and scientists who regarded education as the key to the establishment of the nation's modernity and as a remedy for its social and economic backwardness. They considered public primary schooling imperative for the development of the country and for the establishment of a national culture (Carvalho, 2005). The creation of more state elementary schools and the enrollment of more students in them was one of the focal points of early 20th century educational policies. Several educational reforms were instituted that influenced primary schools and teacher training. Teacher training was considered essential for the success of elementary schooling; it led to the normal school,¹ an important educational institution in Brazil's modernization and progress (Carvalho, 2000).

During the first decades of the 20th century, many fields of knowledge contributed to the scientific understanding of school dynamics and teacher training (Carvalho, 2000; 2005). When writing about educational issues, Brazilian intellectuals of this period pointed to the seminal role played by psychology in education. For example,

¹ A normal school was an institution for teacher training. Its purpose was to establish teaching standards or *norms*, hence its name. Most Brazilian normal schools, nowadays, are teacher colleges.

Thompson² observed that “Pedagogical *processes* are subordinated to the psychological *method* and the *principles* of the first are the *corollaries statements* of the principles of the second³” (Thompson, 1914, p. 12). Brazilian intellectuals and scientists considered psychology an aid to the study of human behavior, the analysis of individual differences, and the description of personal interests (e.g., Thompson, 1914; Pimentel, 1930/1932). In this context, the educational appropriation of psychology permitted more rigorous training of teachers, who then were better prepared to understand the personal characteristics of their students. Moreover, psychology was considered relevant to teacher training because it legitimized pedagogical knowledge as scientific.

It is within this context that references to behaviorism emerged in this period. For example, Pimentel⁴ (1930/1932), a Brazilian intellectual tied to psychology and education wrote:

According to a more recent definition, formulated by the so-called American *behaviorists* (from English: *behaviour*), psychology is the *science of human behavior*, i.e., the set of reactions of man to the environment where he/she lives, without asking if these reactions are accompanied by consciousness or not (p. 4).

Later, he concluded that “among them, those who define psychology as a science of behavior regard it as nothing but the study of functions performed by animals, and, therefore, they turn psychology into a chapter of *biology*, the science that deals with all phenomena of living beings” (p. 5).

These passages show that a form of behaviorism closely paralleling Watson’s (1913) ideas was circulating in Brazil at the beginning of the 1930s. In his book, Pimentel not only offered an introduction to the broad concepts of behaviorism, but he also referred to conditioned and unconditioned reflexes, quoting such authors as E. L. Thorndike and I. P. Pavlov. When discussing the learning process as a way to control “instinctive acts,” he cited J. B. Watson: “Invertebrates, the instinctive acts are initially imperfectly executed, and only with time and exercise they develop and perfect themselves, as revealed by the observations of [R. M.] Yerkes and [D.] Blommfield, [K. S.] Lashley and [J. B.] Watson, among others” (p.174) [Italics added].

² Oscar Thompson (1872-1935) had a degree in social sciences and law. From 1901 to 1920, he was Director of the São Paulo Normal School (*Escola Normal de São Paulo*). During this period, he serviced twice as the Director of Public Instruction of the São Paulo State (1909-1911; 1917-1920). He advocated the seminal role of psychology in teacher training and had a huge influence on public education in Brazil (Gonçalves & Warde, 2002).

³ The authors of this article did all the translations of the quotes by the Brazilian scholars presented in the text.

⁴ Iago Victoriano Pimentel (1890-1962) was a physician. In the late 1920s, he assumed the chair of Educational Psychology at the Belo Horizonte Normal School (*Escola Normal Modelo de Belo Horizonte*). Afterwards, from 1945 to 1946, he became Secretary of Education in Minas Gerais and played an important role in Brazilian educational politics (Lourenço & Tinoco, 2001).

Olinto, another author whose works illuminates the early 20th-century reception of behaviorism in Brazil,⁵ indicated that “[p]sychology studies the acts that are defined in behavior; it interprets the adaptation of the individual to the environment, the environmental changes produced by the individual, in an adjustment that leads to socialization” (1936/2004, p.7). Olinto analyzed the appearance of behaviorism in terms of the social, political, and economic changes of Western countries, especially the USA and Brazil. Describing further the field of psychology, he noted that “[m]odern life, less contemplative, more practical, led psychology to forget its past, and everything was reduced to the study of behavior. *Behaviorism* arose, then, practical, immediate, and above all convenient and easy” (p.9). Although he did not mention Watson specifically, he spoke of conditioned and unconditioned reflexes several times.

The Brazilian Authors and Their Works

Two intellectuals of the 1930s who were tied to the educational renewal process, Lúcio José dos Santos (1875-1944) and Manoel Bergström Lourenço Filho (1897-1970), serve as paradigmatic examples of the Brazilian reception, acceptance, and dissemination of “American behaviorism.” Both were interested in education, were trained in different fields (engineering and law), and worked in several institutions (schools, departments of state, and educational services). In their psychological writings, they discussed behaviorism and Watson.

Lourenço Filho

Lourenço Filho graduated from the Normal School of Pirassununga (São Paulo, Brazil) and later obtained a degree in law (see Figure 1). He was professor of psychology in several normal schools, such as the Complementary School of Piracicaba (*Escola Complementar de Piracicaba* — São Paulo, Brazil); the São Paulo Normal School (*Escola Normal de São Paulo*); and the Fortaleza Normal School (*Escola Normal de Fortaleza* — Ceará, Brazil). From 1922 to 1923, he was Director of Public Instruction of the Brazilian state of Ceará, an agency responsible for the educational affairs of that state. In this position, he undertook the educational reform of Ceará. In 1930, he became the General Director of Education of the state of São Paulo. In this role, he implemented many changes in the organization of primary public schooling that were based on psychology (Monarcha, 2010). Moreover, he occupied several political positions from the 1930s to the 1950s.

In *Introdução ao estudo da Escola Nova: bases, sistemas e diretrizes da pedagogia contemporânea* (Introduction to the study of progressive education: bases, systems

⁵ Plínio Olinto (1886-1956) was a physician. He developed experimental research in different laboratories of psychology in Rio de Janeiro and was associated to many psychiatric institutions. He played an important role in the application of psychology to education in Brazil (Penna, 1992).



Figure 1. Helena Antipoff⁶ (1892-1974) and Manoel Bergström Lourenço Filho (1897-1970) in the Laboratory of Psychology at the Belo Horizonte Teachers College [circa 1930]. Source: Campos, 2002, p. 355.

and guidelines of contemporary pedagogy), published in 1930, Lourenço Filho organized a set of ideas and proposals for innovation in education based on scientific models. One of his major works, this book brought together his lectures of 1929 at the Experimental Psychology Laboratory of the São Paulo Normal School, of which he was chairperson (Monarcha, 2010). According to Pessotti (1988), Lourenço Filho incorporated aspects of behaviorism into his classes at the São Paulo Normal School. He “taught gestalt theory and discussed [W.] James and [H. C.] Warren until 1931, when he began to adopt behaviorist ideas and to discuss Pavlov’s experiments and Watson’s principles” (p. 25).

Apparently, however, Lourenço Filho spoke of “American behaviorism” starting even earlier, in the mid-1920s (Campos, Assis, & Lourenço, 2002). Monarcha (2010) emphatically asserts, “Lourenço Filho was, in Brazil, a pioneer of behaviorism” (p.105). Thus, Lourenço Filho thought about behaviorism before the publication of *Introdução ao estudo da Escola Nova* in 1930.

⁶ Helena Antipoff (1892-1974) was a Russian educator and psychologist who studied with Theodore Simon (France) and Edouard Claparède (Switzerland). She came to Belo Horizonte to run the Laboratory of Psychology at the Belo Horizonte Teacher’s College (*Escola de Aperfeiçoamento de Professores*). She lived in Brazil from 1929 until her death in 1974 (Campos, 2001).

Two texts suggest Lourenço Filho's interest in behaviorism. The first is an essay published in 1927, "*Contribuição ao Estudo Experimental do Hábito*" (Contribution to the Experimental Study of Habit). According to Campos, Assis, and Lourenço (2002), this essay reflects Lourenço Filho's longstanding attentiveness to behaviorism. This paper discusses "habit," its importance, along with referring to contemporary research on this topic. As Campos, Assis, and Lourenço indicate, "The standpoint of the experiment published in 1927 is clearly that of a behaviorist, whose goal was to verify how a new habit is acquired. The purpose of the experiment was to establish a learning curve specific for human beings" (p.33). He mentioned conditioned and unconditioned reflexes and quoted several authors who were related to different forms of behaviorism, for example, Thorndike and Pavlov. He also referred to Watson in this paper. He wrote, "contemporary psychology tends to organize itself as a genetic science of animal and human behavior" (Lourenço Filho, 1927/1971, p. 23). Subsequently, he argued, "Not only *behaviorists*, but also eclectics everywhere, are engaged in the understanding of this major scheme [habit]" (p. 23). The second text is a letter from the 1920s to a friend and concerns education and teacher's training. The letter reads:

Do not fool yourself! Having educational programs [centered in the children's interests], doing excursions and developing practices more or less active - without changing the teacher's mentality and without the proper comprehension of the new behavioral psychology (the American behaviorism) - can degenerate into anarchy and reduced yields of teaching ... (cited in Cavalcante, 1998, p.200)

These quotations help us to understand Lourenço Filho's involvement in aspects of behaviorism.

Two chapters of *Introdução ao estudo da Escola Nova* were dedicated to psychology: "The technical basis for and the general contributions of psychology" and "Psychology and its contemporary major constructs." In them, we find references to behaviorism and Watson. The influence of "American behaviorism" on Lourenço Filho is manifest in his discussion of the methodological boundaries of education. Specifically, he mentioned, "the intention to educate presupposes the possibility to *change the student's behavior*, and the correlate idea that there is plasticity in it, whose conditions must be known to support didactical procedures" (Lourenço Filho, 1930/2002, p. 112).

Later, Lourenço Filho wrote an introduction to the subject matter and methods of psychology. While discussing these aspects, he raised the problem of introspection:

Hypotheses similar to those that had advanced biology, such as adaptation and evolution, demonstrated the insufficiency of the introspective studies. This is the reason why is mandatory to appeal to other methods of investigation. In this expansion and change, influential ideas came from [a] the founders of *functionalism* (*William James, Harvey Carr, John Dewey*); [b] the Russian reflexological school

of Pavlov and *Bechterew*, of so much importance in physiology, as it is already perceived; [c] the researchers of *mental disorders* (*Charcot, Ribot, Pierre Janet, Freud*); and [d] *animal psychology* (*Lloyd, Morgan, Thorndike, Boutan, Yerkes*) (Lourenço Filho, 1930/2002, p. 117).

Lourenço Filho assembled these different authors according to the definition of psychology “as the *science of behavior* in the broad sense of the responses of the subject to the environmental stimulus, or stimuli” (p.117). In this regard, Lourenço Filho referred to Watson:

In this change [of psychological method], the critical point was marked by *J. Watson*, who around 1913 launched the school of behaviorism or radical behaviorism. He proposed that psychology, be it about human beings or animals, should be studied based only on *explicit* reactions—the muscular and glandular behavior—the only one amenable to direct observation. Indications possibly related to consciousness, he thought, should be left aside, since nothing could be known through them about small children and mental patients” (p. 117).

This mention of 1913 suggests that Lourenço Filho knew Watson’s “Psychology as a Behaviorist Views It.” Second, he regarded Watson as the main critic of introspection. Finally, he spoke of Watson in a paragraph separate from his discussion of other authors, a choice that highlights the importance of the American psychologist in his thinking. Thus, Lourenço Filho considered education as an arrangement of variables that can change student behavior. Consequently, teachers must be trained to see and recognize behavior and to change it according to the pedagogical goals they have previously established.

In a specific section on learning, Lourenço Filho affirmed, “learning can be characterized as *variation of behavior produced by experience*” (1930/2002, p.154). A few lines later, he added, “From a strictly operational standpoint, only those two above mentioned elements in the characterization of learning are needed: *behavior modification* and the *effect of practice* or *exercise*” (p.154). In a discussion of experimental studies on learning, he again quoted Watson, along with Thorndike and Pavlov, when describing studies with non-humans and their implications for the understanding of learning. More specifically, he claimed that learning only takes place if we pay attention to the behavior modifications that occur in experience. He thus concluded that teachers should create the necessary conditions for learning to occur.

In the same section, Lourenço Filho discussed learning and classical conditioning (1930/2002, p.158). He referred to Watson, Thorndike, and Pavlov, indicating his acceptance of behaviorism’s insights into the conditioning process. According to him, “The simplest ways of learning are observed in behavior modifications, in which a certain stimulus, previously indifferent or neutral, becomes effective after exercising or training ... Conditioning takes place in motor responses ... and in glandular ones”

(p.158-159). Once again, he demonstrated his esteem for Watson by indicating that the latter “verified the extension of conditioning on emotional reactions” (p.161)

Lúcio José dos Santos

Santos (see Figure 2) took an engineering degree in 1900 at the Ouro Preto Mining School (*Escola de Minas de Ouro Preto*). He was professor at this school until moving to São Paulo, where he obtained a degree in Law in 1908. In 1922, he moved to Belo Horizonte, in the state of Minas Gerais, to become a professor in the Belo Horizonte School of Engineering (*Escola de Engenharia de Belo Horizonte*). In 1924, he was appointed Director of Public Instruction of the Minas Gerais State and, in 1929, Director



Figure 2. Lúcio José dos Santos (1875-1944). Source: Arquivo Público Mineiro [Public Archives of Minas Gerais], Notação TG 101-006, Coleção Tipografia Guimarães, sem data [Note TG 101-006, Tipografia Guimarães Collection, no date]. Retrieved from http://www.siaapm.cultura.mg.gov.br/modules/fotografico_docs/photo.php?lid=25.

of the Belo Horizonte Teacher's College (*Escola de Aperfeiçoamento de Professores de Belo Horizonte*), a key Brazilian institution in educational psychology (Campos, 2001). He was also president of the Universidade de Minas Gerais (UMG) from 1931 to 1933. Finally, Santos was an important person in Belo Horizonte's Catholic milieu, a context that deeply affected his thought. In the Introduction to *Filosofia, Pedagogia, Religião* (Philosophy, Pedagogy, Religion), published in 1936, he was described as an "intellectual and moral philosopher, sociologist and historian, *catholic teacher* and passionate Brazilian" (Taunay, 1936, p. 7). Santos' objective in this work was to articulate philosophy and religion for a modern pedagogy. In this context, one chapter of the book is devoted to psychology and contains many references to Watson and behaviorism.

Santos regarded Catholicism as the moral foundation of education and believed that knowledge had to be carefully disseminated. In an educational conference in 1929, he stated, "... there are just three [important] aspects—race, native language, and religion. We should strengthen the race, take care of the native language, and not leave religion; that is all" (p. 66). Thus, the central aspect of his proposal was the close relation between pedagogy, religion, and psychology. According to him, an effective Catholic and humanistic education could be achieved only through the simultaneous study of these three areas. Based on these assumptions, Santos received Watson's ideas. They help us to understand why his reception was less positive than that of Lourenço Filho.

Santos analyzed psychology as a science, while discussing its impact on education. More specifically, psychology and American behaviorism appeared in his discussions about the worth of scientific progress and its extension to moral issues. According to him, the contemporary notion of scientific progress applied to education in Brazil broke with the inherited Catholic and humanistic traditions of the nation (Santos, 1936). He also stated that the idea of scientific progress produced the illusion that all matters related to the moral formation of man were outdated. Then, Santos contended that its extension to moral issues has obviously been limited and harmful. However, even with this criticism, he defended the application of scientific developments to education because the latter was chiefly responsible for the formation of man.

Despite this skepticism, Santos offered a positive assessment of psychology, stating that "the progress of psychology—especially child psychology—brought wonderful benefits to pedagogy, contributing to the adoption of more rational methods and to the achievement of better yields in the educational process" (Santos, 1936, p. 11). However, he viewed the expansion of psychology in the educational field with caution. He contended that to give psychology the main role in the definition of educational goals was to accept that only one science was capable of orienting a child's moral life, thus implying that education and its methods were solely responsible for determining what an individual would become. In this case, a person would be whatever education makes of her or him.

Santos also criticized the reception of foreign knowledge to Brazil. More specifically, he opposed the application of theories and proposals developed elsewhere to

Brazilian educational issues. According to him, this process of acclimation must be carefully pursued or education may be driven to an historical rupture with the Brazilian past. According to Santos (1936), the importation of behaviorism would result in the abandonment of the study of consciousness and contempt for the introspective method in some psychological fields. Attention would focus on present behavior, the product of current, identified stimuli. This mistake would lead to the false belief, "especially serious in new countries ... that it is possible to reach the same cultural level of a nation just by adopting its educational processes. It is quite probable, and maybe even certain, that such processes will be completely inefficient, if not counter-productive" (Santos, 1936, p. 23).

Based upon this observation, Santos criticized the Brazilian politicians who adhered to fashionable foreign ideas on education. According to Santos (1936), the politicians were committing the mistake of importing foreign theories to Brazil without a proper analysis of their impact on the country. Santos (1936) affirmed that this was a trend among Brazilian politicians. For these politicians, foreign educational ideas would be standardized in Brazil. When Brazilian politicians accepted Watson's psychological propositions, they engaged in "harmful excesses, because they want to reform everything ... without taking into account the context where they are, the resources they can afford and the professionals that they can rely" (p. 146).

In *Philosophia, Pedagogia, Religião* (Philosophy, Pedagogy, Religion, Santos, 1936), Santos reflected on behaviorism, mentioning it as a good example of what he was criticizing in the educational field. According to him, behaviorism is a theory without ties to the tradition of Western thought, since it focuses on the control of human behavior which is understood through a standpoint that is excessively derived from the natural sciences. According to Santos (1936), "Watson, the reflex-man," advocated a philosophical and pedagogical standpoint that studied human beings "with just one method and explain[ed] them based on a single theory" (p. 581). This criticism suggests that Santos had read Watson's "Psychology as a Behaviorist Views It." In the first sentences of this work, Watson stated, "Psychology as the behaviorist views it is a purely objective branch of natural science. *Its theoretical goal is the prediction and control of behavior*" (1913, p. 158 — italics added).

Santos described behaviorism as a psychological theory with several branches. Thus, he spoke of moderate and extreme behaviorists. He considered the first group more respectable, that is, worthy of less severe criticism. In this group, he quoted authors such as H. C. Warren, H. Piéron, W. Pillsbury, and J. R. Kantor. In his words:

Valuable psychologists such as Warren, Piéron, Pillsbury, Kantor, and others, form another behaviorist group, a more reputable one, whose research program comes down to the following:

1 — In psychology one can use the introspective method; 2 - The study of behavior is the central issue of psychology; all the other issues deserve to be considered insofar as they help to explain behavior (p. 113).

Santos' mild criticism was motivated by this group's refusal to completely reject introspection. As for the second group, the extreme behaviorists, Santos labeled them reactionaries, and considered Watson their main spokesperson (see Santos, 1936, p. 110-113). According to Santos, the extreme behaviorists "assume that everybody outside their group is a fierce introspectionist, who despises external observation and deify consciousness" (Santos, 1936, p. 113). This criticism was tied to Santos' religious conceptions and introspectionist method. Watson had affirmed: "The behaviorist, in his efforts to get a unitary scheme of animal response, recognizes no dividing line between man and brute" (Watson, 1913, p. 158). According to Santos, a Catholic intellectual, there is a fundamental divide between animals and human beings, the "human soul." This "human soul" appeared during the conscious acts, for example, thinking and feeling. Such mental states could only be accessed by the introspectionist method. Thus, to receive Watson in a positive way would mean to deny the "human soul" and to abandon introspection as a psychological method. In other words, according to Santos, Watson's ideas could mean a rupture with Brazil's Catholic and humanistic cultural heritage.

Santos arrived at a rather nuanced treatment of behaviorism. First, unlike his contemporaries, who speak of the "American behaviorists," "he perceived several perspectives within this psychological school." Second, he included in behaviorism authors who were different from those mentioned by other intellectuals at that time (see e.g., Olinto, 1936). Indeed, some of the psychologists he mentions were tied to other models of behaviorism (Abib, 1997; Roediger, 2005). Third, he considered behaviorism as a noxious doctrine and Watson as its most extreme advocate:

In this sense, Bechterev and Watson defended that psychology is an autonomous natural science, which should completely abandon introspection and appeal to the same processes of the other natural sciences. Watson went further, arguing that psychology should eliminate consciousness and focus only on unconscious reactions: pupillary reflexes, changes in blood circulation and heart beating, salivary reflexes, variations in breathing, etc. (Santos, 1936, p. 110).

In *Philosophia, Pedagogia, Religião*, Santos still pointed to the mechanist philosophy that underlies Watson's study of psychology:

In North America, one began to practice an objective psychology — also called *stimulus-response* psychology, psychology of *behavior* or *behaviorist* psychology — whose purpose, as Watson states, is to investigate the laws governing external reactions, in such a manner that a psychologist can say, given a stimulus or excitation, what reaction will be produced and vice-versa. (Santos, 1936, p. 111)

According to Santos, the acceptance of such a perspective threatened the rich cultural heritage of humanity and the moral character of the human soul, which should be the focus of an educational system guided by Catholicism and humanism.

Final Considerations

Our review illustrates the reception of behaviorism and Watson's ideas by Brazilian intellectuals who were engaged in debates on education in the first decades of the 20th century. Many of these individuals emphasized the value of learning and of scientific teacher training. They considered psychology as a critical aspect of the country's modernization and the progress of its educational system.

It is interesting to note, however, that Watson's behaviorism never appears isolated, as a unique influence in the educational debates of this period. At first, it appears linked to a general conception of behaviorism, which includes the founders of reflexology in Russia (Sechenov, Bekhterev, and Pavlov). In another context, it stands out as a form of American behaviorism, represented also by other authors (e.g., Thorndike). Another aspect that deserves to be mentioned is the reference to the "Manifesto of 1913," even in light of the literary style of Brazilian intellectuals of this period, who were not accustomed to quoting the works of other authors. However, several passages examined in the text leave no doubt that this manifesto was part of the context.

We should also consider that, although the new psychology infiltrated the educational debates of the period, its reception was not homogeneous. The two Brazilian intellectuals highlighted in our analysis — Lourenço Filho and Santos — had opposite perspectives on behaviorism in general and on Watson's behaviorism in particular. On the one hand, Lourenço Filho took Watson's proposals as a set of guidelines for the modernization of Brazilian education. He positively received Watson's behaviorism, finding much to admire in the American's attack on introspection as a psychological method and views on modern psychology, that is, the science of behavior. Santos, on the other hand, considered Watson's ideas highly dangerous to the nation's cultural heritage and its moral character. According to him, Watson excessively emphasized the control of human behavior. Santos also criticized Watson's pragmatic standpoint. He regarded the penetration of Watson's ideas in the Brazilian educational context as a change that proffered too much authority to psychology and the school in guiding the moral development of children. Thus, the reception and the dissemination of Watson's behaviorism followed at least two different paths, one of acceptance and another of rejection. Two contextual factors framed this diverse response, modernization, on the one hand, and Catholicism, on the other.

Finally, we should also mention the methodological constraints of our study. Because it is based on writings of only two intellectuals, our analysis cannot be extrapolated to the entire historical period under discussion or to other Brazilian authors within it. To achieve a deeper understanding of the circulation of Watson's ideas in Brazil, including the important question of where behaviorism in Brazilian education went after the period analyzed in this review, new studies must be undertaken. However, we have identified a meaningful pattern associated with the introduction of behaviorism in Brazil and, hence, hopefully have contributed to a better understanding of the history of psychology in that country.

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