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A HUNDRED YEARS AWAY (1913-2013) FROM THE BEGINNING OF WATSONIAN BEHAVIORISM

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RESUMEN
Se describen algunos aspectos de la vida personal, familiar y académica de uno de los más importantes psicólogos de la historia de la psicología con el doble propósito tanto de humanizar su perfil así como desmitificar su figura para estar en mejor posición para entender el carácter original y contestatario de sus aportes. Se reseñan además las características más importantes de sus contribuciones para la evolución científica de la psicología (Kantor, 2005). Finalmente, se retoma la crítica del objeto de estudio propuesto por Watson, a la luz de la metateoría de Kantor (1959), Kantor (2005), Kantor y Smith (1975) y Kantor (1971a, 1971b), proporcionando dos ejemplos reconceptualizados con la teoría de campo: el experimento de Watson y Rayner (1920b) sobre el pequeño Alberto y uno del posmoderno mundo de la comunicación electrónica.

Palabras clave:
John B. Watson; conductismo; psicología interconductual; historia de la psicología

ABSTRACT
It is described some aspects of the personal, familial and academic life of one of the most important psychologists in the history of psychology trying to get a double purpose: humanize and demythologize his profile to be in better position to understand the original and rebellious character of his contribution. It is outlined also the most important characteristics of his contribution to the scientific development of psychology (Kantor, 2005). Finally, adopting the meta-theory offered by Kantor (1959), Kantor (2005), Kantor & Smith (1975) and Kantor (1971a, 1971b) the authors do a critical examination of Watson's object of study using two examples conceptualized in terms of field theory: the experiment of little Albert (Watson y Rayner, 1920b) and one from the posmodern world of electronic communication.

Keywords:
John B. Watson; behaviorism; interbehavioral psychology; history of psychology

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CIEN AÑOS DE DISTANCIA (1913-2013) DESDE EL PRINCIPIO DEL CONDUCTISMO DE WATSON

For many reasons, to write in a significant way about behaviorism of John Broadus Watson is very hard. Being a very outstanding movement in psychology scientific development, it is understandable that many people had already taken care of him and of his extraordinary role, leaving apparently very little to say. In any typical text of psychology history (Boring, 1979; Brett, 1972; Hothersall, 2005; Kantor, 2005; Marx and Hillis, 1974; Wolman, 1968 and Yaroshevsky, 1979), of books about introduction to psychology or of general psychology (Buss, 1973; Diaz and Diaz, 1991), there is a minimum reference to the enormous contribution of Watson; there are as well, articles, chapters of specialized books and texts dealing with him since different approaches (Ardila, 1989; Ardila, 2013; Bergmann, 1956; Birnbaum, 1955; Brewer, 1991; Buckley, 1982a, 1982b; Ribes, 1993, 1995; Schoenfeld, 1993; Skinner, 1959; Todd and Morris, 1986, 1994; Watson, 1978; Woodworth, 1959; and some biographies about him (Buckley, 1989 and Cohen, 1979). Moreover, as the discipline have assimilated some of his valuable recommendations and warnings, then, his contributions are already an indefectible part of the normal professional assumptions and scientific forms to work of psychologists, without having necessarily a consensus about his propositions. Nonetheless, it could be said that after Watson behaviorism, psychology and its image in view of the general audience, became a very different one, mainly on Anglo-Saxon countries.

The most probable is that in this work had had important omissions, exaggerated emphasis over certain other aspects, erroneous interpretations, some statements without a strong support and the appropriation of information and ideas without giving the respective credit. In a work of this type, it is very common this happens. However, the author wanted a final work that even if Watson movement and figure is demystified, it does constitute a kind of tribute from Spanish-speaking world because of the magnificent legacy we have inherited.

Next, it will be presented a description, first of all, of some important aspects of his personal, familial, professional and scientific life, and in second place, his theses, description of the most important studies and his more valuable contributions to psychology, including, finally, his limitations and a criticism from Kantor interbehavioral psychology (1959), Kantor (2005), Kantor & Smith (1975) and Kantor (1971a, 1971b).

John Broadus Watson's life

Early personal and familial life

John Broadus Watson was born in Travelers Rest, South Caroline (United States of America), on January 9, 1878, and died in New York City (United States of America), on September 25, 1958, at the age of 80 years old, caused by hepatic cirrhosis, may be due to excessive and chronic alcohol ingestion. His parents procreated six children, John was their fourth one, having lived under precarious economical conditions, and with temporary but constant absences from the familial core from his father Pickens Butler Watson, who finally left them alone, in 1891, when John was only 13 years old, going to live with two women Cherokee ethnic Indians. It is known that he never forgave his father since Watson, already famous and rich did not receive him when his 80 years old father looked for him. His mother, Emma Kesiah (Roe) Watson, was very religious, she belonged to Baptist church and she wanted Watson were part of it as Minister of Religion. On the other hand, his father liked to drink alcohol and he took advantage of the attraction he exerted over women. When Watson was 12 years old, his family moved out to Greenville, where it seemed his development was favorably affected.

Academic and scientific life

He entered Furman University in 1894, when he was 16 years old, pursuing one more year since he did not pass a course taught by Professor G. B. Moore because he did not obey one order from him. He achieved his master degree when he was 21 years old; he performed a varied kind of

jobs: waiters, lab animal keeper and even chemical lab manager. It can be said Watson represents very well the spirit of North American effort culture. He obtained his Doctor's degree in Philosophy, at the age of 25 years old, in 1903, at the University of Chicago (United States of America).

J. B. Watson received the influence of some academic people, such as John Dewey (1859-1952), J. R. Angell (1869-1949), Jacques Loeb (1859-1924) and H. H. Donaldson (1857-1938). Both in the University of Chicago and, from 1908, in the Johns Hopkins University (United States of America) to 1920, he carried out experimental psychology with animal subjects because he said he felt more comfortable with them, without necessarily unknowing the work made from other scientists with human participants (Watson, 1936).

In 1915, at the age of just 36 years old, Watson became President of the American Psychological Association (APA). During his stay at Johns Hopkins University, he edited the *Psychological Review* journal, and he was founder editor of the *Journal of Experimental Psychology*.

Married and divorced life; remarried

In 1904, he married for the first time to Maria Ickes, a student of his. They had two children: Maria Ickes Watson, born in 1905 and John Ickes Watson, in 1906.

At that time, he started to boldly work with human participants, helped by his assistant, Rosalia Rayner, Master's student, when both met and felt attracted. It seems that in the interim, he had many sexual adventures until he met Rosalia. She fell in love with her married professor when she was 20 years old and he was 42. Indeed, Rosalia did an extraordinary academic role working with Watson in a period when women were not acknowledged in the field. Both his wife and Rosalia belonged to very economic and political power families, which even visited themselves. Maria, suspecting Watson was being unfaithful to her with Rosalia, visited her; Maria pretended to be sick and she wanted to lie down, but in Rosalia's bedroom. Maria Ickes stole from there several love letters that Watson had written to Rosalia, in which, among other things, he professed her his enormous love, by saying her that each one of his individual and collective cells were hers. Maria wanted Watson leave Rosalia. However, by advice from his consultants, F. J. Goodnow, Chancellor of Johns Hopkins University, asked him his resignation. Watson gave up in a succinct letter, and got divorced from Maria was formalized on December 24, 1920, being married few days later with Rosalia. Maria, as well, get married again one year and a half later, dying at the age of 88 years old. Rosalia, on the other hand, had a short life, dying of fever contracted in a trip made in 1935, at the age of 35 years old. Watson and Rosalia had two children: William Rayner Watson and James Broadus Watson.

His compulsory withdrawal from psychology to advertising

His leaving from Johns Hopkins University meant the sudden and definitive withdrawal of academic life and the loss for the discipline of one of the most extraordinary founders of its scientific character. During the hardest days, his friend E. B. Titchener, was the one who recommended him with Stanley Resor, from J. Walter Thompson Advertising Company. There, he started from scratch, in a department, as shoes seller, but he reached Vice-President Position of that company, at the end of 1924 (Buckley, 1982a). Watson sent a letter to Titchener, telling him he (Watson) was enormously in debt with him more than with all his colleagues.

Watson left in 1946 and built with his own hands, a ten- rooms house (Skinner, 1959) in Woodbury, Connecticut. One year before his death, in 1957, the American Psychological Association (APA) awarded him with a gold medal because of his great contributions to psychology. At last minute, he retracted to attend it personally and sent his son William, on his

behalf. Shortly before he died, he burned many personal documents, thus depriving historians, unfortunately, of a very valuable material.

John Broadus Watson's work

John Broadus Watson's important participation in the psychology scientific evolution, according to Kantor (2005), or even in the same scientific foundation of our discipline, according to Ribes (1995), in the first two decades of XX century, it is maybe better understood in the light of his particular life history. He was a rebel, absolute iconoclast and confessed atheist, who challenged social, cultural and moral rules systematically, during most of his life. In his adolescence he was arrested several times, failed a school year since he infringed an order from Professor Moore, and he was forced to give up his position as University Professor because of public infidelity to his wife. Here, it can be clearly seen his polemical personality style that allows us understanding better his challenge and nonconformism with traditional functionalist psychology of his national contemporary peers. Why data of observed behavior must be interpreted by using unobservable terms such as images, sensations and feelings? Why psychology would have to use as object of study, the immediate conscious experience of adults trained by a method called introspection? Why animal behavior would have to be interpreted in analogical terms with human consciousness, supposing non human organisms also had it, even though its consciousness contents could not be reported because of lack of language?

So as to describe and evaluate J. B. Watson academic work, in this paper, there will be a two stages division, according to different moments in the evolution of his academic work: 1913 pre-manifesto period, and phase from manifesto in 1913 up to date of his compulsory withdrawal from scientific world, in 1920.

1913 pre-manifesto period

The *Zeitgeist* definitely influenced his scientific works in psychology so they adopted observational and experimental natural methods. Animal behavior study was encouraged by Darwin evolution theory (1859), from which he refuted the abrupt division that had been made until then between the man and animals, supporting the continuity between species by many evidences.

At the beginning of his scientific career, Watson carried out studies mainly with animals, but inside academic tradition of functionalist psychology. North American society has been impregnated by search pragmatism of the advantage or of finding what could be used to get better what it is desired, and in case of psychology, to reveal what is favorable to individuals' adaptation to the environment. In this sense, evolution theory also influenced a lot the origin of functional psychology in the United States of America, as a relatively different version to that of structuralism that Wundt and his followers professed. For Wundt's elementalist school, the object of study of psychology was the immediate consciousness, and it was about to identify the atomic components of its composition, such as sensations, images and feeling, in a kind of anatomy and mental chemistry. In order to achieve such purpose, it was used as research basic method, the introspection, reports of own mental life of trained subjects.

In this context, Watson did his studies in animal psychology labs, having to submit the data obtained from his researches to an interpretation in terms of consciousness, assuming that animals had it as man.

In some of his first experimental lab studies, Watson tried to discover the differential importance of white rat senses about maze run learning (Watson, 1907). In this way, one by one of the senses was systematically removed and the rat continued showing, basically, the same learning, and even it continued at the end only with the kinesthetic stimulation, the rat itself allowed also the organism learning to run the maze successfully.

Moreover, Watson effectuated studies in the State of Florida (United States of America) with a variety of birds and other species, trying to find behaviors bond to the specie (for example, nest building) independently from learning (Todd and Morris, 1986; Watson, 1908). These researches are relatively unknown and belong to a period in which Watson did not privilege yet environment

role over organisms' behavior. Even, he reported, without getting too deep, what was discovered and conceptualized later as *impronta* behavior in certain type of newborn birds.
From 1913 manifesto period up to 1920

However, little by little, he was released from the task of obligatory mentalist interpretation, since he emphasized behavioral data could have by themselves, the enough importance as to substitute consciousness by organisms' observable behavior, as object of legitimate study. There had no need of translating behavior to mentalist language to consciousness contents. That instead of introspection, it could be used observation and experimentation of all natural sciences, but about behavior, observed behavior of organisms. This position was formalized basically in his famous article in 1913, *Psychology as the Behaviorist views it,* and in his book from 1919, *Psychology from the Standpoint of a Behaviorist*. This constituted a complete conceptual revolution in psychology, and of course, there was opposition of structuralists and functionalists themselves, since Watson proposed a new approach to the discipline, by leaving the two unfruitful previous ones. Even Samelson (1981) clears up that reception to his proposals in 1913 was rather cold and hostile. Additionally, many years later from his manifesto, some historians have underestimated and even discredited (Harzem, 1993) Watson's role in the proposal and implementation of this new perspective in psychology, which really constituted the adoption of a new paradigm (Kuhn, 1971). For example, Boring (1979) came to consider him only as an agent of mature times for the change; Yaroshevsky (1979) called it zoopsychologist, reducing obviously his stature as psychologist. Even at the moment of the heated clamor of discussions, Thorndike and Herrick (1915) said it was not necessary to be covered with a messianic cloak to defend animal psychology, by referring the apologetic and incendiary Watson's attitude. Likewise, in this sense, for Burnham (1968), Watson was not the founder of behaviorism, but its charismatic and effective leader, affirming as well that changes given in the discipline were not only because of its internal dynamics but to the type of transformation North American society was suffering.
Regarding the new theoretical goal proposed by Watson to psychology in his behaviorist manifesto, that of predicting and controlling behavior, Samelson (1981) postulates the possibility that would come from the influence of physiologist Jackes Loeb and in contrast to a dominating ideology in traditional psychology that what has been looking for was to understand or to explain mental experience, but applications to change or predict they were of technological nature, very ambitious for a still very incipient science.
Watson's extreme environmentalism which he is accused of (Bergmann, 1956; Diaz and Diaz, 1991) has any justification because it emphasized the strong influence of learning experiences; even he was also famous because of his daring phrase that if he studied some children, regardless their genetic equipment and social class, only if they were normal children, and if he had the possibility to design the necessary environments to their formation, he would give what society wanted from each of them: a doctor, a lawyer, even a thief or a beggar, if it really wanted. However, this message was full of hope and optimism, that man depended on certain extent on his upbringing conditions and education to become a socially useful human being, without any type of discrimination.
When studying newborn babies, he discovered there were only three innate emotions in humans (Watson and Morgan, 1917). The fear, produced when support was deprived temporarily, was felt for a moment; anger or annoyance, produced by body movement restriction, and love, generated by soft touch over their genitals.
It was in this period in which the most famous experiment was effectuated: that of the child Albert (Watson and Rayner, 1920b). Probably it was not the first one, but it was the most systematic in psychology at that moment, as an experiment to demonstrate fear acquisition from an 11 months baby to a white rat, who had not showed any fear in front of this type of animal. In seven different occasions, at the moment of touching the rat, a strong metal noise was made at its back, in a way that fear presented naturally in view of metal noise, now occurred also in view of the presence of

white rat. Such fear was partially extended to a rabbit, Santa Clause mask, glove and other objects. Regardless how rudimentary seems to us this study and the not very objective description of its authors (Harris, 1979), what it is really valuable is what it represents to psychology scientific history. Possibly, it may be said that little Albert study inaugurated lab experimental research about human emotions, from a naturalist and learning perspective.

Discussion

Psycho-physical parallelism was the underlying philosophy of Wundtian structuralism, meanwhile interactionism constituted functionalism philosophy, direct heirs, both psychological approaches about human nature to anti-behaviorist transcendental tradition started in II century, B.C., and continued strongly up to 15 Century, B.C. (Kantor, 1971b; Garcia Cadena, 2009; Rachlin, 1977; Ribes, 1995). Regarding behaviorism founded by Watson (1913, 1919, 1924), according to Boring (1979), when rejecting as scientific object of psychology the consciousness dualistic pole, without denying its existence, and at the same time when accepting and proposing the only study of the other extreme, the observable one and conspicuous behavior, Watson continued being dualistic. To this respect, Kantor (1971a, 1971b) assumes this construe as well.

In any case, it may be stated that Watson extreme physicalism led him to an ontological reductionism because he thought that at the end underlying physical-chemical laws would be discovered, explaining stimulus-response functional relations, identified by psychologists (Watson, 1913, p. 177).

His theoretical goal, prediction and control of behavior (Watson, 1913, p.158) was so extraordinarily original and so radically different from what was expected from psychology at that time, that necessarily attracted immediately to the attention of the means and public. Moreover, Watson emphasized and boldly embellished his pretensions in psychology, going beyond the facts, as he recognized, advising about children upbringing and about how to eliminate fears and phobias. At the end of 1920, when he was almost obligated to abandon his scientific career, a worthy heir and excellent successor of this new psychology hallmark emerged, which took up again the same theoretical goal proposed by Watson, the prediction and control of behavior: B. F. Skinner (1938, 1953).

It was in his speech as President of American Psychological Association (APA), in 1915, that Watson made the apology of the conditioned reflex, specially of the motor, that Bechterew (1913) had discovered and Watson adopted it without any doubt as an explanatory unit of all kind of behavior, no matter how complex were.

Although it may be partially agreed with Bergmann (1956), regarding Watson was, basically, a man of action, his relatively original ideas cannot be underestimated in many aspects about human behavior. For example, his concept of the thought as subvocal speech, by emphasizing larynx movements, acquired because of family social pressure (Watson, 1920a). Thinking was mainly to talk to oneself silently, even though he did not commit the organocentric sin to rank a sole organ or body system when occurring, since, Watson stated, we thought with all the body.

As the intention of this work is to make critics of behavioral psychology proposed by Watson (1913, 1919 and 1924), by metatheory from Kantor (1959), Kantor and Smith (1975), Kantor (1971a, 1971b) and Ribes (2007), first of all a summary of the most important concepts of interbehavioral psychology will be done.

The psychological event implies the simultaneous occurrence of a group of participants, all equally important when creating it. There are multiple interactions of the organism and circumstances in which he is developing, so the adjustments or adaptations every time, in terms of ontogenetic development, normally become more effective. Not all the aspects surrounding the subject are psychologically important to the organism, but only those that, together with a particular responding from the individual, are linked in what can be called, respectively, stimulus function and response function. For example, alphabetical letters that are in my cell phone front board have now

a stimulus function linked to response function carried out by my left hand index finger, by keying them orderly to produce legible texts in Spanish. Stimulus functions and response functions only exist coordinately between them, but never in an independent or separate manner one from the other. Moreover, the interactive history is formed by all those reciprocal stimulus and response functions that we have had in the past, ratified by those we currently include in our personal baggage. But, in a certain moment, so as to activate a stimulus function and a response function, it is also required, at the same time, at least a means of contact facilitating such link. It may be physical, chemical, biological, social or cultural means. In order to link stimulus and response functions from the cell phone example, it is needed at least physical, biological and socio-cultural contact means. Without light to see, neither finger-key contact, nor socio-cultural context, it would be difficult to think about generating legible texts in Spanish.

Let's see, as an example, the concepts of field theory and critics to Watsonian behaviorism, Watson and Rayner (1920b) experiment about little Albert. Bechterew conditioned motor reflex was used as conceptual and operational structure, and Watson and Rayner did a logical action, by researching a reality led by psychology seen by a behaviorist. It had to intervene in little Albert's life to predict the acquisition of a fear created in him due to the new environmental structure artificially established. By controlling the conditions to which he was exposed, there would have as well control about behavior existence. All of this is consistent with the proposals of how scientifically psychology must be. Now, we could say with Harris (1979) that identification and change of respondent behavior was evaded since conceptual and empirical difference with operant behavior had not been done yet (Skinner, 1938). Results were construed by the most current advanced conceptual structure, that of conditioned reflex, but impoverishing the psychological event, by reducing it to a physical level and at the most biological one since psychological one was practically absent. Watsonian approach ranked the outstanding analysis of two participants in the psychological event, bringing discredit on all the other ones: the organic obvious conspicuous behavior of the subject and physical stimulus that "produced" changes. This emphasis is better understood about what to study at that time in psychology, if we think about vague and unobservable conscious contents of traditional psychology that made Watson get sick. But now the results of this study can be interpreted differently. There was a story or reactive biography in which a white rat did not have stimulus function according to response functions of crying and moving from it. On the other hand, it did have stimulus function according to response functions of seeing her, being close to her and touching her. When creating a new story of multiple contacts between sudden and strident noise, which possessed already stimulus function lined to response functions of crying and moving and the white rat, she vicariously acquired stimulus function according to the same functions of response in view of the previous noise. In interbehavioral field psychology perspective, psychological matter is in a higher complexity level than physical and biological matter, and even that psychological behavior needs a performing organism, it is not his organic behavior which symbolizes the psychological aspect. Likewise, even stimulus function is based on environment physical characteristics, they are not the ones determining mechanically the psychological behavior but its interaction with some historically and currently traceable response functions. Finally, there are dispositional factors inhibiting or promoting the interaction occurrence between stimulus and response functions. In the study we are taking up, when the researchers ignored how the child behaved in view of the white rat after establishing the historical link of the rat and the sudden, strong noise, that was a dispositional factor facilitating the occurrence between stimulus functions and response ones.

Finally, although all what has been written about Watson work, the implication of his enormous contribution have not been sufficiently understood and a lot less well valued between psychology scientists, maybe because it is lacking more time to pass - and more serious historical studies to carry out-so that current and future psychology academic people recognize his pioneers, indelible,

important and original contributions. Fortunately, the new psychologists who, like Watson, will revolutionize and shake psychology from its grounds, were already born or are still to be born.

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