Consequences of the functional interpretation of psychological terms[1]

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Abstract

The Behavior Analysis (BA) has benefited in the past and continues to benefit from a specific kind of operational interpretation of terms/expressions developed in other systems of Psychology and similar areas. The Skinnerian model of the operational interpretation of terms of other theories consists of the analysis of the context where theoreticians and researchers emit the analyzed terms/expressions. Therefore, these interpretations are analyses of the verbal behavior of psychologists. Several examples of this practice can be found in the work of Skinner and are recurrent in diverse periodics of the BA. In this article we argue the implications of these analyses in the survival of the BA as a cultural practice, for the conceptual, theoretical, and technological improvement of the BA and for teaching BA. Based on these analyses, it's suggested that the interpretation of terms of other theories should be considered an important research program and should receive greater attention from the behavior analyst.

Key words: Radical Behaviorism, Functional interpretation, Translation, Operational analysis.

A marked characteristic, which was indicated as the defining one, of the Skinner's Radical Behaviorism (the philosophy that is the base of the Behavior Analysis - BA) is the rejection of the so-called mental explanations of the behavior (Carvalho Neto, 2000, p. 108). According to Skinner, the term "mentalist" has a relatively wide sense, and it seems not only to show events that in the everyday language are called mental, or what psychology's theorists identify as belonging to a mental dimension (qualitatively different of the physical one), but it also refers to any attempt to explain the behavior that uses events in other levels of observation that are not behavioral (cf. Skinner, 1950/1999), be them mental, neurological, spiritual, etc (cf. Carvalho Neto, 2000). Among the main problems that come from mentalist explanations is the notion that when we infer events mediating behavior, and when we attribute the status of causal agent to those events, placed in different levels of analysis, we would delay the development of a science that has the behavior as a study subject (e.g., Skinner, 1938/1991, 1945/1984, 1950/1999, 1987). This would cause some difficulties to create useful technologies to solve human problems (e.g., Skinner, 1953/1965, 1957, 1987, 1990).

However, to avoid the mentalist explanations does not mean disregard of the psychological tradition reading that have been using some of these explanations. Skinner himself defended the idea that the knowledge acquired by other theories should not be ignored and the appeal of Marr (1984), Branch (1992, p.3), Staddon (1993, p. 491), Hawking and Forsyth (1997), De Rose (1999, p. 71-72)

and Green (2006, p. 1) follow in this idea. According to Marr (1984), "Others of different theoretical and empirical persuasion have and will continue to contribute much to challenge behavior analysts who, by accepting such challenges, may strengthen their own position or, if necessary, abandon it." (p. 361). The justification for giving more attention to the productions of other theories follows at least two lines of reason: a) Although they assume behavior initiator entities (usually internal to the organism) the mentalist theories can only infer such entities or states from behavioral events and, therefore, they evoke some data in which BA might be interested (De Rose, 1999, p. 72), and b) Krantz's (1971) diagnosis, which BA would be, since 1970's, isolated from the other areas of psychology, ignoring its productions instead of getting benefits from them in a heuristic way.

Although Krantz (1971) indicates a kind of isolation of the BA in the beginning of the 1970s, some change in this posture began to be pointed out not much later. Hineline (1984), in an editorial for the Journal of the Experimental Analysis of Behavior (JEAB), alerted for the themes approached by behavior analysts should involve the debate with other theoretical proposals: "I would like that variation [in JEAB] to include articles that develop and clarify relationships between behavior analysis and research from other scientific traditions." (p. 1). At least four other JEAB's editorials called the attention to the diversification of the approached themes by behavior analysts (Zelier, 1977, Nevin, 1980, Faustino, 1988, Green, 2006) and Skinner himself had been into this area during his academic career, from his doctor dissertation, in which he analyzed the use of the expression "reflex" in psychology and physiology academic texts (Skinner, 1931/1999), to the end of his career (e.g., Skinner, 1945/1984, 1954/1999, 1957, 1980, 1989).

The present article intends to expose, briefly, some of the common characteristics of functional interpretations of psychological terms, such as the ones developed by Skinner, and to defend that the exertion of those interpretations may constitute a research program in the BA.

Bases of a behavioral interpretation: operational analysis of psychological terms

In the beginning of his career, more precisely with the publication of the book *Behavior of Organisms* in 1938, Skinner kept an almost paradoxical posture when concerning the interpretation of terms of other theories or common sense. At the same time that he applied these interpretations, such as in his Phd dissertation (Skinner, 1391/1999) which suggests a reductionist interpretation of the reflex (he reduces the notion of reflex in behavioral terms), he defends an abandonment of apparently incompatible terms with his proposal (by adopting and eliminative posture), be them terms of other theories or common sense (folk psychology).

> In approaching a field thus defined for purposes of scientific description we meet at the start the need of a set of terms. Most languages are well equipped in this respect but not for our advantage... Most of these terms [the common sense' s and the other psychological theories'] must be avoided in a scientific description of behavior, but not for the reasons usually given. It is not true that they cannot be defined... The important objection to the vernacular in the description of behavior is that many of these terms imply conceptual schemes... This does not menan that we must entirely abandon ordinary speech in a science of behavior. The sole criterion for the rejection of a popular term is the implication of a system or of a formulation extending beyond the immediate observations. (Skinner, 1938/1991, pp.6-7)

Some years later, in 1945, during the symposium on operationism organized by Boring, Skinner formally exposes a different theory about the interpretation of psychological terms. In the realm of the Behavior Analysis development Skinner's proposition simultaneously highlighted, its opposition against some linguistic practices of treatment of terms usually present in different Psychology theoretical models, such as the Classi-

cal Operationism. As well as the defense of a strictly functional study of the verbal behavior, in which the analysis of the meaning of the psychological terms would end up in terms of contingencies identification; that is, the description of the conditions functionally related to the occurrence (emission) of that term (Day, 1969; Flanagan, 1980; Moore, 1981; Tourinho, 1995). By doing this, Skinner becomes farther away from the reductionism and the eliminativism. It is no longer necessary to refer to the systems that are subjacent to the concept and explain them (reduce them) in behavioral terms, or even abandon (eliminate) the concepts and substitute them with behavioral terms; what is assessed is not the concept itself, but the scientist's verbal behavior that proposed it. It follows that the behavioral interpretation of terms of other theories is limited in the way that every use of a term or expression is rarely analyzed. Every different use should result in different interpretation once it is determined by different behavioral relations. Hence, the behavioral interpretation of terms of other theories does not intend to create a behavioral equivalent to those terms, but it has a heuristic function to investigate behavioral relations possibly neglected, so far, by behavior analysts.

According to Flanagan (1980), the operational analysis advocated by Skinner was clearly against the dualism expressed in the methodological behaviorism thesis. This behaviorism version expressed a translation of the operationism thesis that:

> "Starts pretheoretically with the view that among the things people do some are public, overt, and conspicuos; the rest are private, mental, and inconspicuous. Since only terms referring to the first class of events can be operationally defined only they are acceptable explananda for psychology. Although private events beg scientific attention, the behavioral scientist, for epistemological reason, refuses to attend to them. The net result of this epistemologically motivated negligence, according to Skinner, is that the pseudo scientist gladly usurps the discarded remnants of the behavioral domain and continues to treat them in pre or antiscientific ways. Private events are viewed as spontaneous, as outside scientific law, as the creations of free will and as the exclusive objects of "private' knowledge. The behavioral scientist, on this view, can account for walking, knee jerks, salivation, and eye blinks but the most important things people do, e.g., feeling and thinking, can only be successfully understood (if at all) by the individual, or by the metaphysician". (Flanagan, 1980, p. 8)

The focus of the operational analysis advocated by Skinner concentrates on obstructing the perpetuation of myths that are derived from a dualistic interpretation of the world's action over an organism; interpretation which is based on the distinction between the physical world and the nonphysical world. Such modality of operational analysis shows the necessity of recognizing that singular physical events can stimulate an organism in many different ways, depending on its constitution and on its capacity to be stimulated by different energy and material sources. Hence, as linguistic traditions that accept distinction between sensorial data and perception, as well as the ones that differ thoughts from ideas, appear to be convinced that the things are not what they look like (Skinner, 1953/1965), and they should be sustained by dualist arguments and are opposite to Skinner's operational analysis, specifically the behavioral translation for psychological terms proposed by him.

> "Rain is something we see outside our window, or hear on the roof or we feel it against our face. Which form of stimulation *is* rain? It must have been difficult to suppose that any one discriminative response could identify a physical event. Hence, it may have been tempting to say that it identified a transient but unitary sensation or perceptin of the event. Eventually, the least equivocal form - stimulation through contact with the skin – became most closely identified with reality. A form vaguely seen in a darkened room was not "really there" until one could touch it. But this was not a wholly satisfactory solution. Stimulation arising visuably or audibly, and we may not be willing to identify one form, and we may not will to identify one form with reality to the exclusion of the others. There still are psychologists, however, who argue for the priority of one form of stimulation and, hence, insist upon a distinction between experience and reality." (Skinner, 1953/1965, p. 276).

In addition, Skinner highlights that the diversity of the modes of action of the physical events on an organism is equally registered in the contingent actions to such stimulation:

> "Rain is something you may run to escape from, catch in your hands to drink, prepare crops to receive, or call "rain". Which response is made to "rain in itself"? The solution was to construct a passive comprehension of rain, which was supposed to have nothing to do with practical responses. So far as we are concerned here, the problem is disposed of by recognizing that many verbal and nonverbal responses may come under the control of a given form of stimulation". (Skinner, 1953/1965; p. 277).

According to the Radical Behaviorism, the defense of functional interpretations of psychological terms present in different theoretical models of Psychology is kept, even with the limitations in basing such interpretations wholly in the private (not the public one) part of complex events: "A differential reinforcement cannot be made contingent upon the property of privacy. This fact is of extraordinary importance in evaluating psychological terms" (Skinner, 1945/1984, p. 550) which has implications to analysis of the verbal behavior. However, these implications have been already discussed in other texts (Skinner, 1945/1984, 1957), and won't be approached in this article. By now, it is enough proof that even the terms that seem to refer themselves to purely private events are interests of the behavior analyst.

Just to exemplify, we could mention the main characteristics of a behavioral interpretation of terms usually present in distinct models of psychology, making some reference to an article published in 1961, in which Skinner argued in favor of the principles that oriented the teaching machines' proposition:

> "We can define terms like "information", "knowledge", and "verbal ability" by reference to the behavior from which we infer their presence. We may then teach the behavior directly. Instead of "transmitting information to the student" we may simply set up the behavior which is taken as sign that he possesses information. Instead of teaching a "knowledge of French" we may teach the behavior from which we infer such knowledge. Instead of teaching "an ability to read" we may set up the behavioral repertoire which distinguishes the child who knows how to read from one who does not". (Skinner, 1961/1999; p. 223)

That is, then, our responsibility to specify the advantages and the range of an operational analysis of psychological terms based on Skinner's models. Ultimately, such attributes (the advantages and the range) should be judged in terms of the consistency with which the behavioral interpretation of those expressions would make feasible an analysis of the notion of meaning. This analysis must be consistent with the building of a human behavior science engaged with prediction and control of its study subject. Skinner, emphatically and repeatedly, supports that:

> "A considerable advantage is gained from dealing with terms, concepts, constructs, and so on, quite frankly in the form in which they are observed – namely, as verbal responses. There is no danger of including in the concept that aspect or part of nature which it singles out ... Meanings, contents, and references are to be found among the determiners, not among the properties, of response. The question "What is length?" would appear to be satisfactorily answered by listing the circumstances under which the response "length" is emitted (or, better, by giving some general description of such circunstances).
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> What we want to know in the case of many traditional psychological terms is, first, the specific stimulating conditions under which they are emitted (this corresponds to "finding the referents") and, second (this is a much more important systematic question), why each response is controlled by its corresponding condition. The latter is not necessarily a genetic question. The individual acquires language from society, but the reinforcing action of the verbal community continues to play an important role in maintaining the specific relations between responses and stimuli which are essential to the proper functioning of verbal behavior. How language is acquired is, therefore, only part of a much broader problem". (Skinner, 1945/1984, p. 548-549).

The behavioral interpretation constitutes, therefore, as the product of a functional

interpretation of the verbal behavior that proposes terms and concepts in the context of a determined community, such as a psychology's theoretical model.

Analysis of mental terms as a verbal behavior analysis

When we state that to analyze concepts from other theories is the same as to analyze the verbal behavior of the proponents of these concepts, we avoid some difficulties that could be easily attributed to a research program as this one.

Firstly, we differenciate the translation of terms of other theories from mixing and union of theories. When we analyze concepts from other theories we don't intend, as exposed previously, to adhere to the implications of these concepts or even to force BA adaptations in the way of setting up the concept as it is exposed in the original theory. The translation of such terms is defined by identification and analysis of the contingencies that leads to concepts proposition[5]. Such a project like this does not yield faithful translations of day-to-day or psychological language terms in behavioral terms. Skinner himself states that the translation of a mental term modifies the sense of the original term, and he also defends that it would not be a wise thing to propose exhausting definitions of the senses that were originally attributed to the mental terms (1974, p. 17-18). A behaviorist person is interested in the use of mental terms by other professionals, and not in what is commonly conceived as the referent of such terms. This task is fully compatible to the radical behaviorist science's proposal.

However, many of the concepts that might become a "translation" subject, as proposed in this article, refer to what is called private events in the BA. A translation of those terms and concepts deserves a special consideration. One of the main BA differentials is that behavior analysts assert that the nature of the private events is the same as the nature of the public events; both are parts of contingencies and, therefore, are behaviors of organisms. The fact that certain events placed inside the skin of an organism or that only a person can have access to it, does not give any special nature to such events. Nevertheless, the common BA practice is to examine the behavior only if its prediction and control are feasible. In this way, even if it is possible to assert that behavior can be unattached into three links (public antecedent events, private events, and public responses of the organism) we should, for prediction and control goals, to analyze "the third link as a function of the first" (Skinner, 1953/1965, p. 35, 1984, p. 578). Such posture is useful for several purposes, but it makes harder the experimental study of the private events. How could, then, behavior analysts examine private events?[6] In this case, interpretation is the resource to be used; however, we cannot accept any interpretation; the interpretation must be based on the extrapolation of the experimental results for those situations in which we do not have any conditions to put under experimental control (Skinner, 1971/2002, p. 22-23; 1984, p. 578). Those several Skinner's incursions in the social phenomenon area, verbal behavior and self-knowledge are examples of such interpretations, and prove that this practice is compatible to the radical behaviorist philosophy.

Analysis of mental terms and possibilities of interface among disciplines

In order to suitably characterize the translation of mental terms, it is still necessary to differenciate this research agenda of the interface between BA and other scientific disciplines. Interface among scientific disciplines are proposals for using knowledge from other

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5 Once forming an opinion is potentially a verbal behavior, all kind of verbal contingency can be identified: tact (when the researcher refers to empirical data, or to verbal formulation that abridge them - tables, graphics, etc), mand (when a researcher for instance, acts under influence of a sponsor company), intraverbal (for instance, when a concept is created in order to qualify another), etc.

6 After all, once it is intended to translate other theories concepts to a radical behaviorist language an alternative interpretation in this theory must be available.

science areas, combined with BA, for a better comprehension of the behavior of organisms. Skinner used to identifying at least three scientific disciplines that could contribute for us to get into a more fully comprehension of behavior; they are: ethology, part of anthology-more specifically the cultural anthropology (Skinner, 1990) and physiology (Skinner, 1974, 1975, 1989). The role of ethology would be to identify the survival contingencies that acted upon the species, providing them with their respective specific behavioral repertoire of the specie; The cultural anthropology would be responsible for the identification of the cultural contingencies that used to select many of the cultural practices that influence human beings. Physiology would fill up two temporal gaps in the behavior explanation: the gap between the stimulus and the response, and the gap between the consequences to which is exposed the organism and the resulting change in its behavior (Skinner, 1974, p. 1975, p. 43, 1989, p. 18). Other authors also indicate how several scientific disciplines can contribute for the comprehension of the behavior of the organisms in a wider sense (ex. Kennedy, Caruso & Thompson, 2001, on genetics and neurology; Moore, 2002, Timberlake, Schaal & Steinmetz, 2005, on behavioral science; Brady, 1991, 1993 on pharmacology), or even for the development of BA as a scientific discipline (ex. Branch, 2006). However, it should be pointed out an important difference between disciplines cooperation and the translation of terms. Firstly, the collaboration of scientific disciplines to yield knowledge on behavior is only useful by the time it increases the possibilities of prediction and control; it is not, in any time, a necessity for BA's logical validation (Moore, 2002, p. 261). That is, this cooperation does not bring important implications to the radical behaviorism assumption while the adoption of mental concepts without needed care would bring huge philosophical and conceptual difficulties. The functional interpretation of mental concepts aims to interpret the emission of those terms only at the behavioral level, pre-

serving the BA's epistemological coherence. Both undertakings (functional interpretation and cooperation) are not mutually excluding (in many cases it is necessary to translate concepts for the collaboration among scientific disciplines) and, although they are desirable, none of them compromises BA as an independent behavioral science (in the sense that they are conditions for BA's continuity).

The collaboration among disciplines increases the possibilities of behavioral synthesis, what makes our knowledge about behavior more complete. However, translations of terms of other theories do not necessarily produce these consequences: for example, although it is important, analyze how to "pay attention" may be understood by behavior analysts do not make our knowledge about behavior necessarily more complete.

Consequences of the analysis of mental terms

It seems clear, so far, the possibility of translation of mental terms into the BA's language. However, the answer of the central question of this article is still missing: What are the consequences of the translation of such terms? We believe that there are at least three main consequences of those translations: 1) to increase BA's dissemination and its chances to survive as a cultural practice; 2) Review, defy and refine theoretical and methodological aspects of the radical behaviorist psychology, experimental analysis of behavior, and applied behavior analysis, implicating for technologies derived from these three areas and, finally, 3) to create resources for the BA teaching and kindred areas.

1- The study of concepts of other theories as strategies for BA dissemination.

Skinner had developed a very peculiar terminology in his science project. This terminology privileges the specification of environment-organism relations to the detriment of initiator mental entities, what char-

acterizes mentalism. However, the use of this terminology may have created some difficulty to acceptance the Radical Behaviorist proposal. Hineline (1980, 1984, see also Chiesa, 1994). Argues that, generally, the mentalist language is predominant in our daily life, also building a central element in the verbal community of psychology (with few exceptions, such as the BA case) and kindred areas. If this assertion is correct, and we believe it is, it would impede BA to be selected, among the other theoretical-methodological proposals, just under an effectivity criterion. Following the same train of thought, Marr (1984), Staddon, (1993), Hawkins and Forsyth (1997) and DeRose (1999, p. 71-72) hold the idea that behavior analysts must keep their eyes on other fields' research agendas such as development psychology and cognitive psychology, because they provide a large amount of questions about the human phenomenon that could help, if analyzed, to:

> "(a) demonstrate the behavioral character of the traditional problems and terms (b) provide an alternative and empirically-based formulation of the traditional problems which brings with it an effective analysis of psychological/behavioral phenomena more generally, and (c) provide an opportunity for the methodological development in the field of behavior analysis in general and the analysis of the verbal behavior in particular". (Leigland, 1996, p. 112)

Under this perspective, we can suppose that the behavior analysis of mental terms could also be seen as a political posture of this science, aiming to obtain the highest number of readers and followers. Regarding that "the evolution of behavior analysis depends on its surrounding cultural and technological context." (Shrimp, 1993, p. 483), the radical behaviorist exam of mental terms becomes a necessity for the acceptation of this science in verbal communities that do not share the same vocabulary (such as the case of common sense, of many psychology's theoretical-methodological proposals, and of professional groups related to it). In this way, when we deeply analyze such terms, behavior analysts could contribute to create condi-

tions for BA to survive as a cultural practice.

2- The study of concepts of other theoretical-methodological proposals as a conceptual, theoretical and technological improvement device.

According to Leigland (1996), the functional interpretation of a mental term has at least two main functions: (1) to put behavior analysts in effective and direct contact with the wide spectrum of themes and problems of fields like philosophy, psychology in general, and common sense, and (2) to expand BA's methodological possibilities in general and of the analysis of verbal behavior in particular. These two functions seem to be enough justifications to invest in a research program like this one (Leigland, 1996). However, at least other three consequences of the exercise of functional translation can be indicated. These translations seem to have implications on BA's specific aspects: on Radical Behaviorism, basic research and some technologies derived from BA.

Concerning philosophical aspects, the translation of a mental term to behavioral language must indicate and explore the consequences of this analysis in order to adequate or not the elements associated to the original term with radical behaviorism's philosophical proposals. Such indications may occur through discussion of several aspects, such the study pragmatic feasibility, manipulation and prediction of evolved behaviors, or even through evaluation whether the phenomenon is susceptible to be studied only by using currently used methods by behavior analyst. The latter possibility would have implications for other the independece of BA to other sciences, or even for the insufficiency of its methods when attempting to be a true science of the behavior. Perhaps it could indicate whether the analysis of such concept or term elucidates the BA's commitment to some of the philosophical categories that are traditionally linked to the radical behaviorism. In this sense, the translation of a mental expression like "the faculty to pay attention",

as a mechanism of stimuli selection, challenges behavior analysts to build alternatives that do not involve with arguments such as a limited capacity of an organism to respond to stimuli because, when doing this, it takes for granted that, at least when paying attention, BA would be dependent on physiology to offer a complete explanation. Fortunately, alternatives to this argument are available in the literature (Skinner, 1953/1965, p. 122-123, Sério, Andery, Gioia & Micheletto, 2002).

Concerning basic research, a the analysis of a mental term must indicate implications of the interpretation about this term in order to create new research agendas or reformulation of the previous ones, so that (a) the new experimental questions are raised, giving guidance to part of the experimental development, or (b) including new methodological strategies that explore a theme previously researched. An example of an experimental question influenced by another theoretical proposal is the research on correspondence say-do/do-say that was defied by A.R Luria's proposal on "self-regulation". (cf. Israel & O'Leary, 1973, Israel, 1978). When concerning the creation of new strategies, the analysis of terms of other theories itself, when approached under an experimental slant, is a good example, by improving the development of methodologies of the analysis of verbal behavior, in this case the scientists verbal behavior (Leigland, 1996; see also Leigland 2002a).

Concerning BA technologies, a behavioral translation may indicate what kinds of practical problems could be well comprehended by the adoption of some subjacent methodologies to the psychological term that was analyzed. Another possibility to be done is to assess the implications of the use of behavioral methodologies to comprehend certain practical phenomena that has been neglected by behavior analysts, but not by the currently analyzed mentalist theory. For example, the discussion about attention deficit and hyperactivity got under control of neurosciences and cognitive psychology for a long time, maybe because the attention concept itself, which would theoretically be in deficit in this disorder, was recognized as a cognitive concept which had behavioral evaluations only a few times. Strictly behavioral procedures have been considered to explain such phenomenon only recently (cf. Sagvolden, Johansen, Aase & Russell, 2005, and discussions that had followed the publishing of this article).

3- Interpretations of mental terms as an additional resource in the Behavior Analysis and co-related disciplines.

Another contribution that is resulted from the exercise of those interpretations is directly related to teaching and occurs in two ways: 1) by creating resources to explain mental terms at BA classes. For example, in the reason of a BA class (or even a class about characterization of different "behaviorisms" modalities), doubts on which interpretations of "paying attention" or other themes that are compatible with BA appear frequently and, under such circumstances, the access by the professor to the productions of researches addressed to the translation defended in this article would be incontestably relevant. Also concerning on teaching, 2) it would also be a relevant function to display interpretations based on BA in didactic resources for psychology students, that could be presented during classes of other disciplines. In this case, disciplines such as "elementary psychological processes", "emotion and cognition", or even the so-common "development" disciplines will possibly count on interpretations more systematized when concerning classic themes under BA's viewpoint.

The translation of mental terms as BA research programs

Once the translation of mental terms has been identified as a frequent custom in BA, and its main characteristics were outlined, and also its main consequences were

suggested, we can state, hereafter, that the practice of these translations becomes a true research program in a later BA's agenda.

The research agenda is characterized by the priorities to certain research themes thta this area focus on. The research agenda orientations necessarily follow each area of knwoledge's goals, and it is also influenced by several cultural factors, from public policies that instigate research to preoccupation with day-to-day practical problems. According to Skinner, the main goals of a science such as BA are to prediction and to control of the behavior. In order to get to this goal, many research programs were developed in the last decades. The attempt to explain verbal behavior through strictly behavioral relations is a good example of a research program like that. Without adequate behavioral interpretation, which is daily called "language" by us, behavior analysts would have a little knowledge about human behavior (Keller & Schoenfeld, 1950/1973; De Rose, 1994), and empirical researches, in the basic and applied areas, as well as interpretative analyses, are developed in order to get an effective prediction and control of the verbal behavior (Leigland, 2002b).

Although mental terms translation are not mandatory to validate BA as a science nowadays, the consequences shown in the previous section seem to be sufficiently justification to adopt those proposals as an important program to be done. After all, considering that translations practice can spread BA dissemination and increase its chances to survive as a cultural practice, behavior analysts should be applied to it[7].

However, if we accept that BA practice (the usage of BA methods research, in-tervention and formalization of interpretations based on radical behaviorism) can be interpreted as a cultural practice, and if behavior analysts intend to analyze and also to intervene in cultural practices, we should find means to assess the impact of the actions that were used to promote the survival of this practice. For this work purpose, we should develop means to assess the impact of the translation of mental terms for BA to survive and spread. How we can methodologically do it is still a question to be answered, but the adoption of the consequences of this research program as goals to be reached may be the firs step to develop such methodologies.

There is one last note to be done. Although the interpretation of mental terms can be considered as a BA research program, it is only a conceptual/theoretical exercise, which is not enough lonely to the BA growth and survival. The opportunities that similar analyses bring into those areas of basic and applied research should be put to use (i.e., researches instigated by those discussions should happen - see Leigland, 1996, for to discuss over the methodological difficulties to accomplish empirical researches on the use of mental terms to describe organism-environment interactions) to an effective amplification of BA as a scientifically relevant cultural practice takes lace. The experimental analysis of the behavior and the applied behavior analysis would profit a lot with the outcome of the functional analyses mentioned in this article that underpin a model of behavioral interpretation. In the case that those opportunities created by these programs been applied, we could explain the complex human behavior in a more complete way more easily.

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7 At least for Skinner this was an important task for the consolidation of his scientific project. In a letter dated from November 17th 1932 he points out the psychological terms translation as important to at least two of his projects in the construction of a behavior science: *Behaviorism vs. Psychology:* Support behaviorist methodology throgthout. Operational definition of all psychological concepts; not to be published much. *Theories of Knowledge (scientific only):* Definition of concept in terms of behavior. A descriptive science of what happens when people think. Relate to experimental work. Include a theory of meaning. Publish late. (Skinner, 1979, p.115)

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