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BEHAVIOR IS ABSTRACTION, NOT OSTENSION: CONCEPTUAL AND HISTORICAL REMARKS ON THE NATURE OF PSYCHOLOGY

Emilio Ribes-Iñesta
University of Guadalajara

ABSTRACT: In this paper I discuss (1) the nontechnical nature of the term "behavior"; (2) the need to revisit the Aristotelian concept of soul as the *prime* naturalistic subject matter of psychology; (3) the incompleteness of meaning when behavior is identified with movements or actions; (4) the implication of behavior in episodic and dispositional words and statements including mental terms; (5) that mental concepts are not learned by inner or outer ostension to physical properties of the speaker or of others; and (6) the concept of behavior involves a two-fold abstraction, involving speaking with terms about doing and saying, on the one hand, and speaking about those terms with which we speak, on the other.
Key words: soul, behavior, dispositional categories, episodic categories, abstraction, ostension

The present status of psychology as a scientific discipline was described, quite acutely, by Wittgenstein's assertion that

> The confusion and barrenness of psychology is not explained by calling it a "young science"; its state is not comparable with that of physics, for instance, in its beginnings. (Rather with that of certain branches of mathematics, e.g. Set theory.) For in psychology there are experimental methods and *conceptual confusion*. (As in the other case conceptual confusion and methods of proof.) (1953, Part II, xvi)

Where does this conceptual confusion come from and of what does it consist?

Aristotle and the Soul as Behavior

Psychology is not a young science. In fact, it is a discipline with a long and tortuous history. Psychology as a natural science can be traced back to the foundational writings of Aristotle in *De Anima* (1908-1952, English translation). Aristotle included psychology in his biological treatises. Biology and psychology dealt with the study of the soul. The soul, according to Aristotle, was not a distinctive substance. It was always the soul of a particular body and could not be separated from it. There was no soul without body. The soul was a predicate of a special kind of body—living bodies, capable of self-nutrition, growth, and

AUTHOR'S NOTE: Please address all correspondence to Emilio Ribes-Iñesta, Centro de Estudios e Investigaciones en Comportamiento, Universidad de Guadalajara, 12 de Diciembre 204, Chapalita, Guadalajara, Jalisco 45030 (A.P. 5-374), México. Email: ribes@cencar.udg.mx. CEIC's website: http://udgserv.cencar.udg.mx/~ceip/

corruption. The faculties of the soul were conceived as the potencies of a living organism, given its organization or form, and the soul was nothing other than these potencies becoming act, given certain objects affecting the organism. The soul consisted of the acting functions of a living body in relation to another body. Because of this the soul was said to be the entelechy (or definition and essence) of such a body. In Aristotelian thinking, the relation between matter and form defined any particular body. The form of the candle could not be separated from the wax, as the form of the body could not be separated from its functions. Nutrition was a faculty exclusively related to the domain of what we call today biology, but sensibility, desire, want and need, and the intellect of discourse were obviously psychological functions. Aristotle thought of these functions as being progressively inclusive, so the intellective soul always included the "simpler" desiring, sensitive, and nutritive functions or faculties of the soul.

Although the domain of psychology seems to be defined clearly in Aristotle's writings as potencies becoming act, the term "soul" suffered from a variety of changes due to the pervasive and strong influence of the Judeo-Christian tradition (see, e.g., Kantor, 1963). Contrary to Aristotle's claim that the soul was not a body but something of the body, the soul became a separate substance. In the Aristotelian conception the soul could not be given without a body, but the soul was not in itself a body. It was always given in a particular type of body. In the Judeo-Christian tradition the soul became an entity separate from any body. The soul became the subject instead of the predicate and was attributed functions similar to those of bodies: to be a substance, to move by itself, and to be affected by other bodies. St. Augustine and St. Anselm were decisive in the final formulation of a theory of the soul that converted it into an entity governing and suffering at the same time the doings of only a restricted universe of bodies: human bodies. In his 1637 *Discourse of the Method* (1912, English translation), Descartes provided the rational arguments that formalized the division of man into two substances, the soul (reason) and the matter (body). This division separated man's doings from his reasonings. Behavior became pure mechanical action and the soul became a cognitive mind. Man became the privileged product of creation in which soul and matter, the physical and the spiritual, interacted in cohabitation. Man simultaneously became a reflexive observer and a protagonist of his own doings.

It seems evident that behaviorism emerged as an attempt to overcome the dualistic conceptions of humanity inherited from the Judeo-Christian tradition and the Renaissance's transaction, in which ontology was ceded to the Church and epistemology was claimed to be the dominion of "natural philosophy" or science (Cassirer, 1953). Behaviorists argued that conscious experience, as a result of the working mind, could not be the subject matter of psychology, and that, ultimately, consciousness itself could be considered as a form of language behavior (Skinner, 1953, 1957; Watson, 1919). Behavior was proposed as the subject matter specific to psychology, and it was conceived of or defined in varied ways (Kitchener, 1977).

All of the proposed definitions of behavior seemed to be related in some way to two fundamental conceptions. One was suggested by Watson (1913), who

identified behavior with doings and sayings of individual organisms (i.e., with some form of organized activity). Another was stated by Skinner (1938), who identified behavior with a part of the total activity of the organism,

> which is engaged in acting upon or having commerce with the outside world . . .the movement of an organism or of its parts in a frame of reference provided by the organism itself or various external objects or fields of force. (p. 6)

Both Watson and Skinner distinguished behavior from biology's subject matter to the extent that behavior, as a psychological concept, dealt with the workings of the organism as a whole, not with the functioning of its separate or isolated parts. Skinner thought it was desirable to deal with an effect more than with movement itself. These conceptions, nonetheless, thought of behavior as *the* specific, or exclusive subject matter of psychology.

Contrary to common assumptions, however, behavior is not a term that belongs exclusively to psychology. It shares its meaning with other terms such as comport, conduct, acquittal, and deportment to refer to the manner of doing something, but it is also applied to the response of groups or species to its environment, to the way in which a machine or something operates, or to the way in which different bodies, molecules, or particles react or displace themselves. If behavior is to be used as a technical term defining the subject matter of psychology, it is necessary to establish the boundaries of its application. Otherwise, the term behavior is as ambiguous as any other term that psychologists use.

Behavior as Action or Movement

Behaviorists have developed a complex and unsolved relationship with the concept of behavior. Kitchener (1977) concluded that "the nature of '*behavior*' in *behaviorism* is a complex issue. If we are to avoid misunderstanding we must appreciate this complexity and not remove it by a desire to simplify for the sake of convenience" (p. 68). This relation has varied from the identification of behavior with movements and physical descriptions to considering behavior as patterns of performance directed by goals and intentions. It is not surprising, however, that these apparently extreme conceptions were implicated by Aristotle's treatment of the soul without contradiction or opposition. "Movement" and "act" were fundamental concepts in Aristotle's analysis of biological and psychological functions, but they did not necessarily have different meanings, as they do in contemporary language.

Movement was the specific subject matter of Aristotelian physics. Physics studied nonimmutable realities having separate existence. Biological and psychological functions were part of physics, or what today we might call "natural science." Movement was conceived of as change or mutation. Aristotle's theory of change was grounded in the identification of change with form, the beginning of change in the deprivation or absence of form, and in the occurrence of change in something that is permanent, the subject, entity, or being that changes accidentally.

Deprivation, the origin of change, equals not-being, but according to Aristotle there are two forms of not-being. In one case change is impossible (e.g., a stone is not a tree and cannot become a tree). In the second case change is possible (e.g., a seed is not a tree but it can become a tree). That which is not but can be or become is called "to-be-in-potency." That which actually and effectively is is called "to-be-in-act." Movement is passing from potency to act; however, nothing passes from potency to act if it is not under the influence or action of an entity being already in actuality. Potency is preceded by the act and the entity under which action the act takes place.

Movement as change could be substantial or accidental. Substantial movement involved the generation or destruction of a substance or entity. The soul was related to accidental change. Accidental change involved three kinds of modification of a substance or entity: (1) change in quantity or size, (2) change in quality or alteration, and (3) change of place or translocation. The third meaning of "movement" as a change of place, posture, or position became the only accepted one during the Renaissance. Since the Renaissance, movement has become the subject matter of mechanics, and actions have acquired a double meaning: (1) mechanical movement as an alteration produced by force or through natural agency, and (2) movement in or of a body produced as an act of will, or the intention of an agent residing in that body. The first meaning was mechanical action and the second was psychological or paramechanical action.

The identification of movement with change of location had two significant consequences. First, changes in magnitude and in quality, as forms of movement, were eliminated, reducing changes and their causality to mechanical movement and efficient causes. Second, change was cancelled as an actualization or function. The Aristotelian conception of movement as passing from potency to act implied that the possibility of doing became actual function: doing something in relation to another being in action. An act was always doing something in a situation and in accordance to the possibilities of doing so. Actualization of potency meant fulfilling a function in such a way that any act included an inherent sort of "intentionality." Actualization as function implied a final cause, but final cause was not teleological or "external" to the doings involved. Final cause was related to the accomplishment of potential functions through acting in a situation. Intention and efficient cause were not in conflict in the Aristotelian conception of the soul—they were aspects of a unique event.

Because the Aristotelian conception of movement did not separate produced changes from function, purposiveness and goal-directedness were inherent predicates of actions. Actions were not produced by physical or mechanical agents, nor were they governed by intentions or the will of a nonphysical agent. The opposition between action and purpose comes from the post-Aristotelian reduction of movement to change of location and from the isolation of action from potency and function. If we take the Aristotelian sensitive and intellective soul as a paradigm of psychological functions, behavior consists of the actualization of the organism's functions. Individual behavior would occur as movement (alterations and displacements, because growth is a biological movement) taking place in

relation to other entities (concepts, organisms, or physical bodies), but behavior would not be identical to those movements and changes. Behavior would be the accomplishment of possible functions given a situation. Thus, behavior could not be separate from the structural characteristics of the behaving organism, the situation, the entity in relation to which it was acting, and the degree to which the action adjusted to the completion of a possible function. Behavior would consist of movements as alterations of those organisms without self-originated displacements. In organisms that have motor faculty, behavior would additionally consist of desire and change of location. In Aristotle's thinking, movement as self-displacement was always related to the desired object. Purpose and goal-directedness were consubstantial to behavior in the form of self-translocation. Nevertheless, final causes, which were involved in the actualization of potency, were far apart from teleological explanations, which assume that acts are determined by the anticipation of their outcomes. Potency and function as purpose are denoted explicitly by the Latin roots of comportment and conduct: *comportare* ("what is brought with") and *conducere* ("directed towards"), respectively.

The equation of movement with mechanic translation and efficient causality undoubtedly contributed to identify behavior with physical descriptions of movements of the organism and their effects. This conception blurred the boundaries between biological and psychological behavior and disconnected the body's alterations and changes of location from its structural organization and the diverse functions completed (or achieved) in its relations with other bodies. Potency, function, alteration, displacement, and action became isolated, independent terms regarding the description and explanation of behavior.

As a consequence of this, some behaviorists identified behavior with movement (e.g., Watson, Hull, Guthrie, Skinner), whereas other behaviorists identified behavior with purposive and goal-directed actions (e.g., Holt, Tolman). In both cases movements and actions consisted of effects of previous entities such as stimuli, drives, reinforcement history, intentions, cognitions, or expectations. Although behavior was ultimately equated with doings and sayings in regard to something or someone, the description of behavior ended with the occurrence of movements or activities that were caused, motivated, or facilitated by a previous entity that acted *on* the organism *from the outside or the inside*. The organism became the central referent in the description of behavior, leading to what Kantor (1969) called the organocentric conception of behavior. *Seen this way, behavior was either instigated by some entity or was emitted by the organism*. It was explained as movement caused by external stimuli or as action caused by an internal agency. In both cases the explanation of behavior was reduced to some type of efficient cause, and final causes were limited to some kind of anticipatory process or mechanism related to the outcomes or consequences of behavior.

Mind and Behavior

In ordinary language, reference to psychological episodes or phenomena is usually done in "mental" terms. These terms include expressions that use words

related to perception, memory, imagination, thinking, feeling, and many others that philosophers and most psychologists have claimed to refer to private entities, activities, or events. Because it is assumed that these events and activities take place within the individual, only the individual "experiencing" them has privileged access to their occurrence in the form of reflection, introspection, or self-knowledge. The use of these terms in ordinary language is taken as the primary evidence of the existence of mental phenomena and events by the defenders of this view.

However, there is no persuasive reason to assume that such use of mental terms in ordinary language has any relation to the description or identification of hidden activities or events. On the contrary, mental terms are always used in relation to the explicit circumstances in which they occur and to the behavior of the speaker and/or the listener. For instance, when someone says that he or she "has the word on the tip of the tongue," nobody tries to press the tongue to get the word out, nor does the speaker assume or believe that a word is actually on his/her tongue. The speaker and the listener understand, and behave accordingly, that for whatever reason the speaker is not able to utter the appropriate word in the context of a conversation despite the fact that he or she has used it in the past.

Mental terms or expressions are not ordinarily taken as narratives of hidden activities or events. How are we to understand, then, philosophers' and psychologists' claims that mental terms and expressions refer to activities and events occurring inside the speaker, to which only the speaker can react directly? Ryle (1949), among other philosophers of language, has provided an accurate analysis of the inappropriate uses of language involved in proposing the existence of mental workings different from the doings and sayings of individuals. Ryle has attributed the ensuing conceptual confusion to *category mistakes* that occur in ordinary uses of words and expressions.

A category mistake consists of treating words and expressions that belong to a category as if they belong to another category. Sometimes a category or conceptual mistake can be attributed to the speaker's failure to use words and expressions appropriately; however, psychologists' and philosophers' misunderstanding of mental terms arise from the fact that "people. . .are perfectly competent to apply concepts, at least in the situations with which they are familiar, but are still liable in their abstract thinking to allocate those concepts to logical types to which they do not belong" (Ryle, 1949, p. 17). Ryle has characterized what he has termed "the official doctrine" about mental life (i.e., the notion of "the ghost in the machine") as the major category mistake, representing "the facts of mental life as if they belonged to one logical type or category (or range of types of categories), when they actually belong to another. The dogma is therefore a philosopher's myth" (1949, p. 16).

The doctrine of "the ghost in the machine" assumes the existence of two kinds of substances and two kinds of activities. Matter is related to mechanical action and behavior, whereas mind is related to mental, nonmechanical actions. Ryle (1949) pictures the official doctrine of the double-life theory and the associated category mistake in this way:

> The representation of a person as a ghost mysteriously ensconced in a machine derives from this argument. Because, as is true, a person's thinking, feeling and purposive doing cannot be described solely in the idioms of physics, chemistry and physiology, therefore they must be described in counterpart idioms. As the human body is a complex organised unit, so the human mind must be another complex organised unit, though one made of a different sort of stuff and with a different sort of structure. Or, again, as the human body, like any other parcel of matter, is a field of causes and effects, so the mind must be another field of causes and effects, though not (Heaven be praised) mechanical causes and effects. . .so, while some movements of human tongues and limbs are the effects of mechanical causes, others must be the effects of non-mechanical causes, i.e., some issue from movements of particles of matter, others from workings of the mind. . . .The differences between the physical and the mental were thus represented as differences inside the common framework of the categories of "thing," "stuff," "attribute," "state," "process," "change," "cause" and "effect." Minds are things, but different sort of things from bodies; mental processes are causes and effects, but different sorts of causes and effects from bodily movements. . .the repudiators of mechanism represented minds as extra centres of causal processes, rather like machines but also considerably different from them. Their theory was a para-mechanical hypothesis. (pp. 18-19)

The claim that mental terms and expressions refer to things other than doings and sayings rests upon a double category mistake. First, it is assumed that because mental terms are phrased as verbs and nouns, they must correspond to entities, structures, actions, or activities; second, because mental terms cannot be ostensively reduced to particular actions, movements, or "behaviors," it follows that such terms and expressions do not refer to what is being directly observed. Bodily actions and movements can be pointed to, but mental activities and processes cannot be identified in this way. Both are described in some sense as activities and occurrences related to "organs," but they are assumed to be activities and occurrences of a different type depending on the structures whose workings are responsible of these happenings. An additional counterpart mistake is the one made by behaviorists by supposing that mental terms are reducible to particular forms of actions or their effects. It is believed that this conceptual problem is surmounted by using the mental terms as adjectives of behavior (i.e., "seeing behavior," "thinking behavior," etc.) or by assuming that some of these "behaviors" might occur inside the body as private but physical events that might be traceable in the future by sophisticated physiological instruments (Skinner, 1945; Homme, 1965).

The first type of category mistake is identifying nouns and verbs with objects and actions. Objects and actions can be ostensively identified and named. When a child asks "what is a chair?," the answer involves pointing to a chair and saying "that is a chair." Pictures or drawings of chairs can be also used as surrogates for the meaning of a chair. In the same way, when a child asks "what are you doing?" the answer consists of showing a special kind of activity like eating, running, laughing, writing, reading, etc. In these cases the nouns correspond to distinct objects that can be pointed to in a particular location. Verbs describing actions

correspond to specific, observable, distinct sets of movements, postures, and responses involving objects (e.g., "playing the piano," "eating a banana," or "hanging the frame"). However, some nouns and verbs do not refer to entities and actions in a direct, ostensive manner. These nouns and verbs involve entities that include objects and acts that include actions and movements, but these terms do not describe, name, or identify particular objects or actions. Ryle's examples of treating different nouns as the same kind of entity (e.g., "seeing the university" or "looking for connections between the Church of England, the Home Office and the British Constitution") are well known. Terms such as memory and intelligence are also nouns, but they do not share the same logical properties as nouns that have ostensive meanings such as planes, trains, and trousers. Similar examples of confusion can be shown in reference to always treating verbs as referents of actions (e.g., treating "thinking behavior" as an action of the same logical type as "eating behavior"). Most mental terms in the form of verbs do not describe actions per se, although they refer to acts in which actions, movements, and responses can be identified. With seeing, perceiving, imagining, remembering, thinking, and communicating, some activities and movements can be pointed to, but none of these activities or movements can be identified with the meaning of the those verbs. This characteristic of verbs is not exclusive of "technical" mental terms. Many ordinary verbs involve actions but do not describe specific actions (e.g., "loving," "convincing," "waiting," "preferring," "choosing," "deciding," etc.); such terms constitute a potential reservoir for naming new mental processes.

The second category of mistake under discussion consists of putting terms and expressions that describe different things into the same category. On the one hand, some terms describe occurrences and episodes. On the other hand, some terms deal with collections of occurrences or dispositions, namely propensities, inclinations, and tendencies. The category mistake consists in treating dispositional words as if they describe occurrences and episodes. Dispositional words are different from episodic words. Episodic words are about how people do, or should, act and react. Dispositional words are not used for particular matters of fact, although they are satisfied by the occurrence of particular matters of fact. Dispositional terms deal with capacities, abilities, and tendencies (e.g., terms such as "knowing," "aspiring," "clever," and "brave"). If it is said that Peter knows Turkish, Peter's knowledge is not an observable state of affairs. Nonetheless, if Peter translates a page written in Turkish into English, this fact satisfies what is asserted about Peter, although the translation by itself is not identical to the knowledge of Turkish.

Episodic words refer to the observable events, occurrences, and acts that satisfy the application of a dispositional word to a person or a thing. Dispositions refer to propensities, tendencies, or inclinations to act in one way or another, but they do not refer to the particular acts that prove or satisfy their application. Some philosophers and psychologists have interpreted dispositional words and statements as being categorical reports of particular matters of fact, but because these matters of fact are not observable as particular acts, they have been treated as unobservable acts taking place in the mind or in the head of the individual. These words do not, however, apply to any particular unobservable acts. Dispositions

involve the conditions under which observable acts may or may not occur, and because dispositions do not have episodic properties (i.e., a beginning and an ending), it is misleading and erroneous to predicate their observability or unobservability. Thus, dispositional statements describe generic happenings and their main job is prediction. Ryle (1949) asserted, "dispositional statements narrate no incidents. But their jobs are intimately connected with narratives of incidents, for, if they are true, they are satisfied by narrated incidents" (p. 125). Because of this intimate relationship between dispositional and episodic words it is tempting to construe dispositional words as if they were episodic, postulating that any verb that has a dispositional use must also have a corresponding episodic use, or that dispositional nouns can be transformed into episodic verbs.

These arguments lead to the conclusion that mental terms and expressions do not deal with happenings, episodes, or conditions that are opposed to or antagonistic to terms denoting acts or the circumstances in which certain kinds of behavior might or might not take place. On the other hand, mental terms and expressions always have episodic or dispositional properties. Mental terms involve episodic descriptions of achievements or manners of doings or dispositional accounts of collections of happenings in the form of tendencies or propensities, predicting or pointing to the conditions in which particular acts might or might not occur. Mental terms and expressions in ordinary language are about behavior and its circumstances. The improper use of such terms and expressions by psychologists and philosophers, who consider them to be technical names for unobserved occurrences or entities, has resulted in a mythical world of extra-episodic actions and entities. Behaviorism must recognize that mental expressions are nothing other than expressions about behavior, and that a conceptual analysis of how these terms and expressions are used in ordinary language will be helpful in avoiding misunderstanding and confusion about their meaning. These terms and expressions are not ambiguous expressions about behavior, so they do not require improvement through any translation into technical jargon about behavior or identification with private, physical inner behaviors. In short, they are mental terms and expressions of ordinary language and they are the fundamental raw material providing functional meaning to the subject matter of psychology: behavior.

Behavior is an Abstraction

From the above discussion about the relation of the term "behavior" to descriptions involving movements, actions, and mental terms and expressions, an issue arises that needs to be examined: the term "behavior" does not refer to particular occurrences or events to which anyone can directly point. Behavior cannot be ostensibly pointed to or seen directly. Behavior, as a psychological concept, is a term that has always referred to a person or another specific organism. We see, hear, smell, or feel somebody doing or saying something, but we do not see or hear behavior. Doings and sayings involve movements, actions, and different types of sensory and mechanical effects, but the description of none of these is sufficient, by itself, to accurately describe or "capture" a doing or saying as

an act. Behavior, as a concept, is an abstraction of the movements, actions, and effects of a person's doings and sayings in context. To assert that behavior is an abstraction is to say that behavior is a concept about doings and sayings, not a mere description or naive apprehension of the physical properties, qualities, or dimensions of such doings and sayings.

Following Carnap, many behaviorists, whether aware of the doctrine or not, assumed that descriptions containing mental terms could be reduced to physical descriptions and that behavior could be directly described in terms of movements. Malcolm (1971) criticized this doctrine for its implication that

> *every* description of human beings, containing mental terms, may be replaced by a *purely physical* description—that is, a description containing no mental terms. As Carnap put it, "*psychology is a branch of physics*." Physical descriptions are conceived of as the *basic* form of description. From descriptions of physical states and movements one can go, by means of logical constructions, or by means of inferences based on physical laws, to descriptions containing mental terms (mental descriptions). One can also go in the other direction, from mental descriptions to physical descriptions, since the relation of translatability is symmetrical. (pp. 93-94)

This doctrine was intended to account for descriptions of one's mental expressions or of a second and third person's psychological descriptions embodying mental terms in terms of the observation of his or her own behavior or in the direct perception of pure physical properties of others' behavior.

However, people do not base announcements of their intentions or states on their awareness of events in their bodies. A speaker's true statement about what he or she intends, thinks, feels, or wants is not based on a previous observation of something, a happening to him or her, or a change in his or her body or behavior. The statement is in some sense simultaneous with the identification or description of a "mental" condition. An example by Malcolm (1971) is illustrative:

> Suppose I say "I am putting on my coat, so plainly I intend to go home." This remark might be made in fun. But if I gave the impression of being serious, others would regard me strangely. If I intend to go home I should be able to announce this straight off, without recourse to observation of my behavior. Indeed, if my remark were truly based on such observation of myself, it would not be an expression of intention. . . .I can say of another person, "I know his stomach hurts from the way he is groaning and doubling ever." But I cannot speak this way of myself, without revealing a ludicrous misunderstanding of the concept of sensation. I can say of another person, "From the look on his face I can tell he is surprised"; but to say this of myself would show that there is some misunderstanding somewhere. (p. 85)

Mental concepts are learned as connections between what oneself or others say and what is said and done in a particular situation. This learning applies to our mental expressions in the first person or to the description and identification of mental expressions of others (second- and third-person descriptions). Although

mental concepts are applied to others on the basis of behavioral criteria (i.e., a change in appearance, utterance, or physical action or posture), mental concepts are not applied to ourselves on this basis. First-person utterances and their second- and third-person utterances in applying mental terms entail the same concept, not because of the verification procedures used to validate the meaning or correctness of the utterance but because both applications are learned in the same way: speaking in mental terms when something is being done and said. They are tied to the same behavioral criteria. In both cases it is not possible to make a distinction between being able to use a word correctly and knowing its meaning. Any attempt to make such a distinction by appealing to an inner ostensive definition or by analogy based on behavioral criteria correlated with "self-observed" mental states is a failure. The same can be said about the perception of people under mental descriptions. Perception is immediate because descriptions are not based on different kinds of descriptions. "I see serenity in his face" is an immediate description that is not based in inferences from a more basic description of geometrical or physical characteristics of the facial expression. In fact, for the most part we cannot give or even comprehend purely physical descriptions of human behavior. Mental concepts are learned when language is learned, and it is learned when words and expressions are used correctly in context (Wittgenstein, 1953). The physical description of objects, animals, and activities or states is a step further after learning to speak about what we perceive.

Malcolm (1971) claims:

> We must reject the doctrine, so powerful in modern philosophy, that we acquire concepts of mental occurrences by observing those occurrences taking place in ourselves. In rejecting it we remove the chief source of the temptation to think that a human mind could exist and be provided with concepts, in isolation from a human body and from a community of living human beings. (p. 59)

The notion that mental states can be observed in terms of the discrimination of physical properties is incorrect in two ways. First, all concepts, mental states, or intentions exist to the extent that the individual identifying or describing them speaks. All mental concepts appear with language, and it is only until a concept is learned that the corresponding mental state or intention is recognized or identified. Nobody learns the meaning of a mental concept by first discriminating inner physical events to which the concept is applied, even when this learning, based on inner ostension, is assumed to be controlled or regulated by a verbal community (Skinner, 1945). Mental concepts are learned as words and expressions used and applied correctly in specific circumstances and situations. Learning first-person descriptions or identification of mental states and intentions takes place in the same way as learning the identification of these states and intentions in second and third persons: by using or applying the concept correctly. We learn to recognize the circumstance in which a concept is meaningful by adjusting ourselves to the criteria, behavioral and situational, in which the concept is used appropriately. The concept is learned by speaking and behaving in a particular way, not through an elaborate process of discriminating inner or outer ostensive physical properties of

oneself or others and building the identification, naming, or description of the mental state or intention (or tacting private stimuli under the control of the verbal community) upon them. Mental concepts are deeply tied to language. As Wittgenstein (1953) remarked,

> Our criterion for someone's saying something to himself is what he tells us and the rest of his behaviour; and we only say that someone speaks to himself if, in the ordinary sense of the words, he can speak. And we do not say it of a parrot; nor of a gramophone. (p. 344)

> Well, one might say this: If one sees the behaviour of a living thing, one sees it soul. But do I also say in my own case that I am saying something to myself, because I am behaving in such-and-such a way? I do not say it from observation of my behaviour. But it only makes sense because I do behave in this way. (p. 357)

Following this argument it becomes clear that the concept of "behavior" can be understood in two levels of abstraction. The first level involves the proper use of mental terms in relation to the acts of others and to one's own acts. At this level behavior is referred to with the appropriate use of words and expressions regarding alterations and acts of persons. This first level of abstraction deals with ordinary language practices and the social criteria that ground them. Behavior is referred to through mental concepts or physical descriptions of movements, postures, and reactions. The second level of abstraction involves behavior as a concept operating upon the language practices that are used in relation to concrete acts in specific situations. When the term "behavior" is used in the first level of abstraction it applies to concrete situations in concrete descriptions consisting of verbs, adjectives, and adverbs. Behavior is described as occurring in certain situations, to show certain characteristics or not, to vary in form or speed, etc.; it is referred to as acts and mental intentions or states. However, when the term is used at the second level of abstraction it is used as an abstract noun, and the concept of behavior, as Ryle (1971) points out, becomes parasitic on concrete assertions in which the term is operated within the description of or reaction to acts and alterations. Behavior, in this second level, is not used to describe, assert, or account for any particular act or alteration; it is used to examine, follow through, and analyze the various neighborhoods or familiarity threads that link or contrast the application of the term in concrete assertions and descriptions. "Behavior" becomes a theoretical term with a different functional grammar. The basic question in this second level of abstraction is "what is behavior?" Depending on the way we answer this question and the arguments we use for doing so, the first-level descriptions of behavior will be thought of in different ways, and explanations, methods, and concepts about types of behavior will vary. Ryle (1971) characterized this second level of abstraction as follows:

> We have now to operate upon what we ordinarily operate readily and unquestioningly with. We now need the theory of our daily practice, the geography of our daily works. When two or twenty familiar threads seem to pull

> across and against one another, it is no longer enough to be able unperplexedly to follow along each one by itself. We need to be able to state their directions, their limits and their interlockings; to think systematically about what normally we merely think competently and even dexterously with. (p. 444)

Behaviorists have to face these issues, but to do so implies having to understand the ordinary expressions and terms including mental terms, which are the concrete linguistic material upon which the abstract concept of behavior has to develop. Behaviorists speak about behavior, describe behavioral episodes or kinds of behavior, and set up conditions for observing, measuring, and even changing behavior, but all these first-level abstractions using the term "behavior" do not share a common second level of abstraction about what behavior is, how it should be explained, and how one can appropriately look for different forms of occurrence of behavior. Sadly, "behavior" is still an elusive concept for behaviorists.

Conclusions

Some general conclusions can be derived from the arguments presented here: (1) "behavior" is not a technical term specifying a subject matter unique to psychology; (2) although behavior, like concrete acts, involves movements and actions, it is not identifiable through movements or actions; (3) the concept of behavior is not antagonistic to mental terms and expressions (on the contrary, it is always implied in episodic and dispositional words and statements); (4) behavior is identified and described by words and expressions that are not used or learned according to ostensive criteria regarding physical properties or dimensions of self or others' behavior; and (5) behavior is a theoretical concept, an abstraction about concrete assertions in which the term can also be used. Descriptions of behavior, including verbs, adjectives, and adverbs, need a further level of abstraction if the term is to be used as a general concept encompassing all those concrete assertions.

I would like to close this paper with a quote from Malcolm (1971) that accurately represents the intention of this work: "Philosophical work of the right sort merely unties knots in our understanding. The result is not a theory but simply no knots!" (p. xi).

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