

# PROPOSITIONAL ATTITUDES, INTENTIONALITY, AND LAWFUL BEHAVIORS

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## *Abstract*

*This paper aims to discuss Quine's last analysis of propositional attitudes as involving intentionality and as regards human action and the very subject matter of social sciences. As to this problem, Quine acquiesces in both Davidson's anomalous monism and Dennett's intentional stance. An alternative analysis is here presented, which is based on Howard Rachlin's teleological behaviorism. Some problems regarding this approach are also considered. Intentionality and rationality are still to be saved, but they are construed according to a lawful perspective to human behavior and social contexts of action.*

## **Introduction**

In his last books (*Pursuit of Truth*, and *From Stimulus to Science*) Quine gives up the view according to which scientific language is reducible to a purely extensional language. Propositional attitude verbs are typical examples given by Quine in this connection. In addition to this Quine argues that the very rationality of social sciences can't be saved without accepting an intensional language for science, including propositional attitude verbs, which stand for circumstances of human knowledge and language learning.

Quine's analysis focuses on episodes such as those ones where someone teaches someone else the meaning of a given expression, even a simple physical expression such as 'it rains'. For instance, Martha can't teach Tom the meaning of 'it rains' without knowing the meaning of mental expressions such as 'Tom sees that it rains'. So, Quine concludes that some mental, intensional – and *intentional* – expressions are required for us to learn even the meaning of purely

physical, extensional expressions, such as 'it rains'. In other words, scientific language is not a purely extensional language.

Since Quine acquiesces in Davidson's anomalous monism, he supposes also that mental terms do not refer to supposed mental states, but to the way one describes physical states. Davidson's interpretation of Quine's example would be as follows: the physical state *physically* described as Tom's utterance of 'it rains' can count as a *mental* state if it is also described (for instance) by Martha as the state occurring at the same time as Martha herself sees that Tom says that it rains. This analysis focuses on the speaker and on her propositional attitudes. Thus, just like an intensional language for science, human knowledge and speech are inescapably intentional.

However, from this point of view it is also difficult not to identify intentionality with a certain human property, which is supposed – but not explained – by such an approach. In this paper I shall criticize Quine's and Davidson's approaches and argue for an alternative view that is based on Howard Rachlin's teleological behaviorism. I acknowledge that episodes of human behavior related to propositional attitudes are clearly intentional. However, I see intentionality as a feature of certain socially shared patterns of behavior. Intentionality is not to be viewed as some mysterious human property, but as a feature of behavior in certain social contexts. According to my approach propositional attitude terms are still intentional, since they are clearly teleological terms; but such terms belong to a purely extensional language for social sciences and psychology.

This approach involves discussing the very possibility of an intentional, lawful approach in psychology. According to intentionalist views such as Davidson's and Dennett's, psychology deals with intentional human events that can't be described lawfully; and Quine, in his turn, assumes this same view of psychology. Contrary to this view, both cognitive psychologists and behaviorists hold that human behavior is to be explained as lawful.

Researches in cognitive psychology aim at explaining human behavior as the outcome of the functioning of mental mechanisms. On the other hand, neobehaviorist programs such as Rachlin's argue that human behavior is to be explained as governed by environmental vari-

ables, in terms of final causes. I shall argue here that a teleological approach in psychology can be both intentional and lawful. Lawful teleological statements connect patterns of behavior with social contexts in a given social system. According to both these latter views intentionality is a typical human phenomenon but not a human essential property.

My main point is not to argue either for behaviorism or for cognitive psychology, but to argue that such lawful approaches in philosophical psychology preserves an empiricist stance. By my lights this is not the case as to Quine's last intentional approach as regards human action, which seems to revert to a kind of empiricism *with* dogmas, to remember his own expression in "Two Dogmas."

## 1. Intentional Events

According to Quine, Davidson, and Dennett human behavior is inescapably intentional. Human action and affairs – the very subject matter of social sciences – are phenomena to be dealt with supposing that human individuals act intentionally. To act intentionally is to aim at something. Propositional attitude verbs are essentially intentional expressions – 'to know that...', 'to believe that...', 'to perceive that...', etc.

In other words, it is the human agent who gives sense to her actions and meaning to her utterances. Without supposing that human beings act intentionally, we can't make sense of human sciences. Quine, Davidson, and Dennett explain this point in different, complementary ways. The net result of their discussions is that human sciences are essentially different from natural sciences. I agree with them that human behavior is intentional, but I do not agree with them that it is not lawful.

As to the intentional character of human behavior, to begin with I will consider an example by Quine (1990, pp. 61ff). Suppose Martha is teaching Tom the meaning of 'it rains'. According to Quine Martha must reinforce Tom's utterances of 'it rains' in the presence of the related phenomenon. Otherwise, possible utterances by Tom of 'it

rains' are not to be reinforced. But Martha can't teach Tom the meaning of the observation sentence 'it rains' without believing that when it rains Tom perceives that it rains. Martha couldn't reinforce Tom to say 'it rains' if she wouldn't believe, in some circumstances, that Tom perceives that it rains. So the fact that Tom learns to use the physical sentence 'it rains' depends on the fact that Martha knows how to use the mental sentence 'Tom perceives that it rains' (which contains an intentional expression), says Quine.

This example is given in order to make clear that intentional terms are also *intensional*, i.e. terms irreducible to extensional ones. Quine concludes that science needs more than a merely extensional language containing only physical expressions. First, mental expressions are necessary for us even to learn physical expressions, as that example is supposed to show. This is why Quine says that human beings are forked animals as to their language. For him human language evolved as both physical and mental; so the references to both physical and mental phenomena are unavoidable. This is why Quine agrees with Davidson and Dennett that social sciences use a kind of language that is irreducible to a physical, extensional language. Such an irreducible intensional language is necessary if we want to save the rationality of human sciences and make sense of human action.

I agree with Quine that episodes of language learning, among so many others in human experience, are intentional episodes; they are clearly intentional events, i.e. they are directed to a goal. But Quine's analysis focuses on the characters' propositional attitudes, Martha's and Tom's. In order to describe a person's propositional attitude one must use mental expressions such as 'knows that' and 'perceives that', says Quine. However, propositional attitudes are also instances of human events that can be typically explained in terms of final causes. I will come back to this alternative analysis in section 3.

Davidson, in his turn, discusses lawfulness as regards mental events. According to him intentional human events can't be explained and described by means of lawful statements similar to the strictly causal laws to be found in physics. In addition to this, for him there are no psychophysical laws connecting the mental to the physical. Such fundamental points respecting Davidson's anomalous monism stem

from his view concerning what counts as a law and what counts as a mental event.

According to Davidson an event counts as a mental event only when it is described by means of a description that contains at least one essentially mental term, such as propositional attitude verbs – ‘to believe’, ‘to intend’, ‘to desire’, ‘to hope’, ‘to perceive’, ‘to note’, ‘to remember’ are some of the examples given by Davidson (1980, p. 210). Thus, for instance, even the collision of two stars (Davidson’s own example) can count as a mental event if that event is picked out by a mental description, i.e. if it is picked out as that event occurring at the same time as Jones *noted that* his pencil rolled on the table (Davidson 1980, p. 211).

For Davidson all events are physical events; so here anomalous monism agrees with materialism. But mental events can’t be described merely in physical terms, contrary to what materialists hold. An event is just movement or it is rather behavior or action depending on how it is described and explained. However, physical events are explained by means of physical, strictly causal laws; and there are no *psychological*, strictly causal laws, says Davidson. Psychological laws do not belong to the same kind of function relations to be found in physics. Physical laws are invariant as regards special conditions, while psychological laws would apply just where there are no other intervening variables. Where psychological laws can exist they are just empirical generalizations. Indeed, according to Davidson’s Principle of Anomalism of the Mental (1980, p. 208), mental descriptions are not lawful, i.e. there are no psychological laws at all.

Davidson’s conception of scientific laws seems to me to be too restricted. His view is supposed to be based on the role played by some causal statements in modern physical science, the very statements he calls *strictly causal laws*. Apparently, Davidson conceives of such statements as describing the connection between two physical events so that the occurrence of one of them brings about the occurrence of the other. In other words, there is an event pointed out as the efficient cause of another event. However, if a causal statement is seen as simply a statement that connects two events pointing out one of them as the cause of the other, and if a cause is seen as any salient event

pointed out as connected to another one, then Davidson's view seems really to be too austere. Invariance is another important feature referred to by Davidson as regards laws, and I will come back to this topic later in this paper. In order to finish this section, let me comment on Dennett's conception of intentional systems.

According to Dennett, just like the biologist couldn't do her job without supposing the doctrine of adaptation, the psychologist couldn't do hers without supposing that human beings are rational and behave intentionally (1987, p. 277). The adaptation of living beings by means of natural selection is what allows one to explain their physiological constitution (Dennett 1987, pp. 257–68 and 287–86; see also chap. 8). Similarly, to suppose that human agents act intentionally is what allows one to explain human actions, such as folk psychology itself always believed, Dennett says (1983, chap. 3). So Dennett is not arguing for intentional explanations of human actions as the only possible explanations, but as the best ones, in some circumstances.

Dennett construes intentional systems instrumentalistically, just like folk psychology itself does, he says (Dennett 1987, pp. 52–3 and 57). Differently from Davidson, however, he is not apt to discussing the constitution of intentional systems, such as machines, human beings, animals, etc. (Dennett 1996, p. 205). According to him we suppose that some systems are intentional in order to give the best explanation of their behaviors. As to human behavior, just like folk psychology does, we suppose that human beings are intentional systems in order to save the coherence and rationality of human action.

In order to explain the behavior of many other systems we do not think that it is necessary to give intentional explanations. Thus, such systems do not need to be seen as intentional systems. But given the complexity of some systems and the complexity of their behavior, sometimes the only way for us to give suitable explanations consists in adopting an intentional stance; for the physical and the design stances seem to be too limited to do the job (Dennett 1996a, pp. 192ss; 1996b, pp. 27ss). For instance, when we know the design of a certain machine we can adopt the design stance, since we can explain its behavior on the basis of what we know of its inner constitution. However, we do not know the design of many things, and many others have a very

complex behavior. Suppose a very sophisticated machine (whose design we might know) or a living being (whose *design* we do not know well enough). In such cases we adopt the physical stance, and we suppose the existence of physical laws. We explain the behavior of physical systems as governed by such laws. Finally, there are cases where we consider that it is necessary to adopt the intentional stance, like folk psychology itself does as regards human behavior.

According to Dennett an intentional system is that system whose behavior can – at least sometimes – be explained and predicted on the basis of attributing to such a system beliefs, desires, hopes, fears, intentions, etc. (Dennett 1996a, p. 191). So a system is intentional according to someone who explains its behavior and according to the point of view she adopts. In other words, anything can be viewed as an intentional system; it depends on how one explains its behavior – be it a machine, an animal, a human being, a corporation, or even a nation (Dennett 1987, p. 58).

I think that Dennett's ideas are not essentially incompatible with the kind of teleological approach to be discussed in the remainder of this paper. The essential point is that intentional systems are those ones whose behavior is connected with a goal, i.e. those systems whose behavior may be viewed as a series of events directed to a salient one, a final cause. However, according to the alternative approach to be discussed here it is not necessary to ascribe beliefs, desires, etc., to a system so as to construe it as an intentional system.

In order to present that alternative analysis I will construe teleological connection statements as lawful statements just like other causal connection statements. In all those cases lawful statements are seen as standing for merely empirical generalizations, including physical laws. So, psychological laws are not essentially different from physical laws. Contrary to Davidson's view, if a Humean approach to causation is adopted, even physical laws are not strictly causal statements in Davidson's sense. According to the view to be developed in section 3 any lawful statements stand simply for the connection we see between certain events in a given context. So invariance itself, which Davidson supposes to be essential to physical laws, is a matter of viewpoint. For modern physics physical laws are invariant as regards special condi-

tions, as Davidson says, because modern physicists do not believe that it is important to deal with them. The abstract context of a physical phenomenon is construed so as to rule out any special conditions, in order to save the essential features – according to modern physicists.

As to rationality, according to Quine, Davidson, and Dennett, it is saved if beliefs, desires, intentions, etc., are ascribed to human subjects, if their acts may be described not as the outcome of *natural causes* (for instance, neuro-physiological or psycho-pathological causes), but as movements directed to goals, which are *reasons to act*. Natural causes for someone to act in a certain way, such as psychological or physiological ones, are (efficient) causes of behavior. Reasons to act are intentional; they are directed to certain goals. Such goals are future, yet non-existent states of affairs. This is why reasons to act are immune to natural causation, since a future event (yet possible it might be) can't cause a previous one. If someone does not steal things because she believes in a better society, where people are all honest, and not because she is impelled by her cowardice, for instance, or by the education she received, then she is acting intentionally and rationally. Her behavior is explainable in terms of reasons to act. In other words, intentional, rational behavior is the behavior that can be connected to *ends*. Ends are final causes; but modern science from Galileo and Descartes on rules out final causes as real, effective causal factors. According to modern physics to think of natural phenomena in terms of final causes is to think of them animistically and anthropomorphically.

I agree with Quine, Davidson, and Dennett that intentional behavior is teleological behavior, i.e. behavior directed to an end, and so does Rachlin, whose kind of behaviorism is to be discussed in next section. But, following Rachlin, I do not agree with them that intentional, rational behavior can't be causally described. Attributing beliefs, desires, intentions, etc., to the human subjects is not the only way to save the rationality of human action. Another way consists in connecting a subject's behavior to an end to be found in a social context. According to this view human action is still intentional, but it is also a causal phenomenon. Now the question is whether final causes are to be allowed in scientific explanations. And even if final causes were



ruled out from physics altogether there is still the question whether they are to be ruled out from psychology as well.

## 2. Teleological Behaviorism

According to Rachlin teleological behaviorism aims at explaining, predicting and controlling overt behavior, including its complex patterns that form human mental life. As a study of mental life teleological behaviorism is opposed to cognitive (or physiological) psychology, which aims at the discovery of internal, mental mechanisms. Rachlin's teleological behaviorism is based on an Aristotelian view on causation, i.e. final causes are at least as important to scientific explanations as efficient causes. For Rachlin the distinction between cognitive psychology and teleological behaviorism is the distinction between the search for efficient causes and the search for final causes of behavior. Teleological behaviorism is a science of final causes, says Rachlin.

As a science of efficient causes cognitive psychology desires to answer the question 'How does a given subject (human or nonhuman) behave, feel and think the way it does?' On the other hand, teleological behaviorism wants to answer the question 'Why does some behavior, thought, or feeling come about?' Rachlin emphasizes the term 'why' (in the place of the cognitive psychologist's 'how') just to make clear that teleological behaviorism focuses on final causes, instead of efficient causes. According to Rachlin an efficient-cause explanation of a certain process points out an underlying mechanism; and a final-cause explanation of a process "takes the form of a goal or purpose – the place of this particular process in its more abstract, more general, more molar or wider context" (Rachlin 1994, p. 7n).

Rachlin's idea that a particular mental process is to be understood according to its place in a larger context is what marks the difference between teleological behaviorism and other sorts of behaviorist doctrines, such as Skinner's radical behaviorism. According to behaviorists the problem is that specific actions of a given subject are plainly observable, while the larger context of those actions are often unobservable, or it is observable only by introspection, which is rejected by

behaviorists as a reliable method of inquiry for psychology. The human subject can't provide the context of her action by reporting her state of mind, which refers to past episodes or to her beliefs and aims or purposes.

Rachlin's behaviorism blends different aspects of different previous behaviorist doctrines, such as Tolman's and Skinner's (Rachlin 1994, pp. 14s). Differently from Skinner's more molecular view, for instance, Rachlin holds a molar view that is similar to Tolman's. For Tolman both an event and its context are equally important. Molar behavior is behavior extended in time, says Rachlin. But for Tolman the context of an action is an internal state, a mental representation. So here Rachlin resorts to Skinner's externalism: both action and context are external events. Consider again the example by Quine of Tom's utterances of 'it rains'. (The following analysis is not Rachlin's, but mine.)

According to Quine's analysis the context of Tom's verbal behavior (saying 'it rains') is given by Martha's behavior; she is trying to teach him to say 'it rains' in the right circumstances. In this context, Quine says, it is especially relevant the fact that Martha knows how to use the sentence 'Tom perceives that it rains', which is a mental sentence. So Quine construes both Martha's knowledge and Tom's perception mentalistically, since the related sentences can't be reduced to extensional sentences that refer to episodes of (past) behavior. Both sentences 'Martha *knows that* Tom perceives that it rains' and 'Tom *perceives that* it rains' refer to intentional events.

However, since Quine acquiesces in Davidson's anomalous monism, he can't identify such intentional events with internal states (representations), such as in Tolman's analysis. But, according to Rachlin's molar analysis the relevant context of Tom's words ('it rains') in the presence of rain is given by his previous similar utterances of 'it rains' in similar circumstances. Thus, for teleological behaviorism a context of a certain action or behavior is composed always of external events. As to this point it is worth quoting Rachlin's own words as a brief statement of his doctrine.

*Teleological behaviorism:* The belief that mental terms refer to overt behavior of intact animals. Mental events are not supposed to occur

inside the animal at all. Overt behavior does not just *reveal* the mind; it *is* the mind. Each mental term stands for a pattern of overt behavior. This includes such mental terms as 'sensation', 'pain', 'love', 'hunger', and 'fear' (terms considered by the mentalist to be "raw feels"), as well as terms such as 'belief' and 'intelligence' that are sometimes said to refer to "complex mental states," sometimes to "propositional attitudes" and sometimes to "intentional acts." (Rachlin 1994, pp. 15–6.)

According to my view, however, such *patterns of overt behavior* are still intentional events, in Dennett's sense. Behavior is intentional when it takes place in a context where a certain final cause is pointed out as the most salient factor, as I will discuss later in this paper. Rachlin's molar analysis is concerned with long-term, complex patterns of behavior, to which terms such as 'love', 'belief', etc., refer. Now many of those patterns of behavior call for social organization, as Rachlin himself acknowledges. Love, for instance, he says,

like all other aspects of the human soul, is a complex pattern of behavior. Love is more complex than most patterns because it takes not just one person plus a social system but at least two people plus a social system. [...] Love is performance. The idea that love and all mental life is performance, a behavioral pattern, is the essence of teleological behaviorism. (Rachlin 1994, pp. 17–8).

I suppose that Quine's example about Martha and Tom does not necessarily involve love – at least Quine does not say so. Anyway, it seems to me that *teaching* is a complex pattern of behavior that is comparable to love. Teaching is also performance in Rachlin's sense, and in addition to (at least) two people a social system is required as well. Now the problem is how a certain act fits into a social context and how, in its turn, such social context *embeds* into other, larger ones. Before commenting on this point that is essential to my approach let me comment on Rachlin's Aristotelianism.

In order to propound his Aristotelian approach to psychology Rachlin resorts to some commentators of Aristotle's philosophy, such as M. Hocutt (1974), J. H. Randall, Jr. (1960), T. N. Irwin (1980), and

J. L. Ackrill (1980), as well as to R. McKeon's (1941) edition of Aristotle's works.<sup>1</sup> My purpose here is not to discuss whether such interpretations are accurate, nor whether Rachlin's use of them is acceptable, but to explain how Rachlin's approach of final causes in psychology is a valuable one to understanding human behavior both intentionally and externalistically, even though according to me an important methodological problem still remains as to his approach.

As regards natural phenomena the problem with final causes is time, or the arrow of time, say. According to modern physics the arrow of time is non-reversible. (Some contemporary discussions in quantum mechanics and in relativity theory are not considered here.) And a final cause seems to be an efficient cause *in reverse*, i.e. a cause placed in time *after* its effect. It is supposed that a cause always precedes in time its effects, or that any event *A*, supposed to act upon or to bring about another one, *B*, is previous to *B*. This is why teleological explanations in physics, such as Aristotle's, have been seen by modern physicists as a kind of anthropomorphism that misses the point as to what is essential to physical phenomena. For this same reason, Aristotle's material and formal causes have been regarded as irrelevant to physical explanations. Modern analyses of causation, such as Hume's, make clear that a typical example of physical causation is a billiard ball that hits another one. The movement of the first ball (*A*) is a previous event that we see as the (efficient) cause of the movement of the second ball (*B*). Event *B* is not to be construed as a cause of *A*, since *B* is subsequent to *A*, and so it would be a *final* cause of event *A*.

Rachlin tries to cope with this problem and to make clear in what reasonable sense he holds that a final cause *follows* its effects; he writes:

Analysis of inclusive final causes yields ends that consist of abstract patterns of the movements that constitute them, ends that embrace those patterns. Inclusive final causes are not simply efficient causes in reverse. An effect of an efficient cause follows its cause but an effect of an inclusive final cause does not *precede* its cause; it *fits into* its cause. True, a particular movement must occur first in order for a pattern of movements to emerge just as the movements of a symphony must be played before the symphony can be said to have been

played. In that sense and in that sense only an inclusive final cause follows its effects. (Rachlin 1994, p. 22.)

First, it is worth remembering that Rachlin's approach resorts not merely to final causes but to *inclusive* final causes, i.e. the idea that a mental process is to be understood according to its place in a broader context. This is why a symphony is a final cause into which a certain movement fits. In the context of playing symphony *X* we can say that the act of playing movement *Y* is performed in order to play symphony *X*, or that *X* is the final cause of *Y*. In this case time seems to be also essential, for we can say that movement *Y* is part of symphony *X* (its final cause) *after* symphony *X* has been played. But our analysis of human behavior focuses often on performances that are not yet finished. So Rachlin's idea of behavior as performance does not seem to provide a sufficient basis for understanding an action teleologically when it is yet in progress. To my mind this is a methodological problem for teleological behaviorism, which can suitably be coped with in my approach, to be discussed in next section.

The recalcitrant cases I referred to above are also cases of social behavior, such as love and teaching. So, in the second place, is worth remembering also Rachlin's idea of a molar analysis of behavior. True, Rachlin himself emphasizes the temporal character of his molar analysis of behavior. The more extended patterns of behavior he talks about are *temporally* more extended patterns of behavior. Molar behavior is behavior extended *in time*. For instance, eating an appetizer fits into eating a meal, which fits into a good diet, which fits into a healthy life, etc. But, in this case, is it necessary to wait until someone dies or has lived longer enough to know whether she lived a healthy life, whether she was always in a good diet, etc.? If not, how can we explain her more molecular acts of eating a certain appetizer and of eating a certain meal? One of Rachlin's other example concerning love is Dolly II, a very improved mechanical doll that behaves exactly like a real human being. Dolly II marries me and dies after our fiftieth wedding anniversary. An autopsy reveals that Dolly II was a mechanical doll. Now the question is whether Dolly II really loved me or not. And Rachlin's answer is in the affirmative. After fifty years of marriage I can say that

Dolly II loves me (Rachlin 1994, p. 17).

To my mind, obviously the social contexts where a person lives in may provide other elements (non-temporal ones) that are also essential to understanding her acts teleologically, as they fit into more inclusive contexts. It is not necessary to wait until Dolly II is dead or to wait for our fiftieth wedding anniversary to say that she loves me. Love is a complex pattern of behavior, and it includes smaller patterns, such as kissing, making love, marrying eventually, helping each other, etc., provided that all such behaviors take place in a given social system. A healthy life is another example of a wide context that includes smaller ones such as being in a good diet, not smoking, walking regularly, etc. If I know that Lucy does not smoke, walks regularly, etc., I can say also that Lucy eats a certain meal *because* she lives a healthy life. Living a healthy life is the final cause of Lucy's behavior of eating a certain meal.

Thus, even though Rachlin's analysis focuses on time in order to explain his teleological behaviorism, I do not think we must restrict ourselves to his particular view on molar behavior in order to make room for teleological explanations in psychology. As I will argue in next section, a teleological approach in psychology is also suitable if we consider as final causes for an act not only behaviors extended in time but also – and notably – behaviors in connection with a given social context and related patterns of behavior to be found in it. In other words, the larger social context into which a certain behavior fits may be seen also as final, more inclusive causes of that behavior.

As to rationality I think that Rachlin's approach can provide already suitable explanations of human behavior. The problem that is raised by intentionalists such as Quine, Davidson, and Dennett is that if human action is rational it is not to be seen as *caused* by natural causes, but as directed to goals and connected to reasons to act. The contexts described by teleological behaviorism, since they include molar behaviors (i.e. behaviors extended in time), show that a certain act or behavior is understandable as an element of a coherent, extended state of affairs. If Lucy eats carrots as appetizers, instead of potato chips, her behavior is coherent with the goal of living a healthy life, provided that she does not eat carrots because of some irresistible

impulse, physiologically or psychologically produced. In this last case we couldn't say that Lucy acts rationally. On the other hand, if Lucy says she wants to live a healthy life and eats potato chips all the time, we can say that she behaves irrationally. Her verbal behavior is incompatible with other parts of her total behavior. (Her irrational behavior is maybe the outcome of physiological or psychological efficient causes.) In other words, in this case Lucy's speech and her behavior of eating some foods are not part of a coherent – and so an understandable – extended state of affairs. So rationality is first and foremost a question of coherence between the elements of a context of action into which a certain behavior fits.

### 3. Social Contexts

Teleological explanations of human behavior that depict it as intentional and rational are possible not only provided that we use Rachlin's concept of behavior as performance and show that a certain behavior *fits into* its final cause, which is a social context, but also provided that we can show that such social context *embeds* into larger ones. In order to do this we must resort to the notion of *embedding* of some social contexts into wider ones. I present the following alternative analysis not as a behaviorist one, but as an empiricist analysis, based on observable social events. It is a kind of empiricist analysis without mentalist dogmas.

When a certain context embeds into another one, at least one element of the latter is seen as a final cause of the former. If the connection between the elements of a social context is a reproducible pattern of social life in a given social system, then lawful statements can refer to this connection. Such statements stand for empirical generalizations about such social system. Since the salient factor in that abstract social context referred to by such lawful statements is a final cause, such lawful statements are also teleological laws. If it is possible to connect a certain behavior to those teleological laws – and hence to a given social context – then such behavior is explained both lawfully and intentionally. Such a behavior is intentional because it is directed

to that social context into which it fits. And that explanation resorts to (psychological) laws because such social context embeds into larger ones and into a social system, which is described by means of lawful statements.

In order to explain my view, let me revert to Quine's example. Suppose someone asks what does it mean to say that Martha *aims at* teaching Tom the meaning of 'it rains'. Here the following teleological explanation is forthcoming: she behaves like that *in order to* teach Tom to say 'it rains' in the right circumstances. Quine's argument aims at showing that propositional attitude expressions are irreducible to extensional, physical expressions. To say that Tom perceives that it rains is different from saying that (i) Tom's head is turned to the rain, and (ii) Tom's eyes are open, and (iii) Tom's eyes converge to a point where it rains, etc., such as in that kind of analysis by Carnap (1959, 1967). So, to say that Martha *aims at* teaching Tom the meaning of 'it rains' is different from saying that (i) Martha says 'it rains' in the presence of Tom when it is raining, and (ii) Martha says 'it rains' when Tom is looking at the rain, and (iii) Martha does not say 'it rains' when it is not raining, etc.

The teleological explanation given above connects two events. The first one is Martha's attitude; she aims at teaching Tom the meaning of 'it rains'. The second one is Tom's learning of the meaning of 'it rains'. The first event is directed to the second one, which according to this explanation is a final cause, the end at which the first event is aimed. According to Quine, propositional attitude expressions are irreducible to extensional sentences referring to episodes of behavior, as seen above. But, in their turn, propositional attitudes can be explained in teleological terms. We can say that Martha *aims at* teaching something to someone because there is Tom and because there is Tom's learning of so and so. It is not obligatory to connect Martha's behavior to her beliefs and intentions in order to say that she *aims at* something. If we connect Martha's behavior with someone else's behavior, such as Tom's learning, we are also describing her behavior intentionally, but not mentalistically. In other words, propositional attitudes are patterns of behavior in some social contexts. And since such social contexts can be described by means of a purely extensional



language, propositional attitude expressions are reducible to an extensional language, even though such a language contains teleological expressions, i.e. expressions referring to final causes. Hence propositional attitude expressions belong to an intentional but *non-intensional* language for science.

The two events connected by the teleological explanation given above are patterns of behavior that fit into a social context. In its turn, such social context (someone is teaching something to someone else) embeds into a social system, into which related social contexts and related patterns of behavior are also embedded teleologically. For instance, teaching is a pattern of behavior connected with other ones, such as speaking a certain language, belonging to institutions such as families, clubs and schools, playing social roles and having jobs, improving and repairing things, doing scientific research, etc. Any of those activities can be teleologically connected to a larger social context into which the other ones also fit. And if such connections can be described as reproducible patterns of social life, in a given social system, then that explanation is also lawful. In other words, a certain behavior is lawfully and teleologically explained if we say that such behavior fits into a certain social context and that such context embeds into a larger social context, where similar reproducible patterns of behavior take place.

Now, if that approach is forthcoming, the question is how can we distinguish between *social* and *psychological* explanations and laws. That is to say, how does we distinguish psychology from sociology? According to this view sociological explanations and laws connect social contexts to a social system, while psychological explanations and laws connect patterns of behavior to social contexts. I am aware that this is not a clear-cut criterion that allows one to draw rigid boundaries between sociology and psychology and other human sciences. However, this criterion is clear enough as to allow psychologists to explain human behavior in connection with social contexts. The sociologist's job is to show how a certain social context is lawfully embedded into a certain social system. The psychologist's job is to show how a certain pattern of behavior (teaching, for instance) lawfully and teleologically fits into a social context that, in its turn, embeds into a larger social

context.

I can say that Martha is trying to teach Tom the meaning of 'it rains', and that Lucy eats carrots in order to have good health, and that Dolly II loves me because I can connect such patterns of behavior (such as teaching, having a good diet, and loving) to social contexts in which a certain feature is seen as a final cause of the corresponding behavior. Such social contexts, in their turn, embed into larger social contexts, where other final causes can be singled out. Teleological explanations like that save the coherence between those patterns of behavior and the connected social contexts and between such contexts and a certain social system. Hence this approach is also a kind of intentional approach that saves the rationality of human action. And differently from Rachlin's approach, we can do that for behaviors in progress.

In order to finish let me revert to the problem of the distinction between psychology and sociology and to the phenomenon of embedding. When we say that a certain social context (such as teaching) embeds into a social system (ours, for instance), we are describing a social phenomenon. But it is also a psychological phenomenon, i.e. a social context is embedded into a social system because of the behaviors of human individuals. The connection between some social contexts found in a larger one and in a social system is obviously the outcome of human action. Thus embedding can also be explained as a pattern of behavior. Embedding may be seen as a kind of second-order pattern of behavior, say, but it is still behavior and human action. A certain activity embeds into a social system thanks to the action of a multitude of individuals. And such individuals behave like that because their action fits into a social context where similar activities are also embedded into a given social system. Just like teleological behaviorism my approach resorts to a molar account of human behavior. But according to my view molar behavior is not only behavior extended in time, in a certain social context, as Rachlin puts it, but first and foremost behavior extended to connected behaviors in a certain social context.

## Conclusion

In this paper I tried to develop an intentional, lawful approach to behavior, according to which human action is teleologically explained. My point of departure is to acknowledge that human behavior is intentional, such as it is argued for by philosophers such as Quine, Davidson, and Dennett. In order to show that human action is not only intentional but also lawful, I resort to Rachlin's teleological behaviorism. According to his molar view on behavior human action is to be understood as extended in time and connected to final causes. The final cause of a certain behavior is identified in the social context into which such behavior fits.

However, according to me Rachlin's analysis is methodologically defective as regards behaviors in progress. Some patterns of behavior can be explained only in the long run. In order to cope with this problem I introduced the idea that a certain behavior can be explained not only in connection with a social context but also in connection with other related contexts that embed into a given social system.

According to my approach the rationality of human action is saved because behaviors are explained in connection with goals to be found in social contexts. Rationality is here depicted as the coherence between a given behavior and other elements belonging to a social context in which such behavior fits. This kind of explanation is lawful if such context is a reproducible one in a given social system. The patterns of behavior found in such context can be found also in other contexts belonging to that social system. Thus a psychological lawful statement is here depicted as referring to empirical generalizations about patterns of behavior in social contexts.

As to intentionality, it is here depicted as a feature of social contexts of action, rather than a property of human beings. According to this view there are intentional human events, but there are no intentional human properties. Intentional behaviors are behaviors explained as directed to goals to be found in social contexts belonging to a social system.<sup>2</sup>

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### **Keywords**

Propositional attitudes, intentionality, teleological behaviorism, action, rationality.

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### *Resumo*

*Este artigo visa discutir a última análise de Quine das atitudes proposicionais como algo que envolve a intencionalidade e no que diz respeito à ação humana e ao próprio assunto das ciências sociais. Sobre esse problema, Quine aceita tanto o monismo anômalo de Davidson quanto a abordagem intencional de Dennett. É apresentada aqui uma análise alternativa baseada no behaviorismo teleológico de Howard Rachlin. Alguns problemas a respeito dessa abordagem também são considerados. A intencionalidade e a racionalidade ainda podem ser salvas, mas elas são interpretadas de acordo com uma perspectiva nomológica do comportamento humano e dos contextos sociais de ação.*

### **Palavras-chave**

*Atitudes proposicionais, intencionalidade, behaviorismo teleológico, ação, racionalidade.*

## Notes

<sup>1</sup> Rowland Stout's teleological approach in philosophical psychology is also based on Aristotle's ideas (see Stout 1996). Stout himself also refers to his position as *teleological behaviorism*. However, his doctrine will not be discussed here.

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