

THE HAUNTED CLOCKWORK: REFLECTIONS ON GILBERT RYLE'S THE CONCEPT OF MIND¹

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Within a few years on one side or the other of mid-century, three works emanated from the citadels of Anglo-American learning—Oxford, Cambridge, and Harvard—authored by three of the great thinkers of our times. Although each was developed independently of the others, they had much in common. Two of the works were written by philosophers, but all were both psychological and behavioristic. All stood opposed to some version of mentalism. Arguments and positions taken in these works were often remarkably similar. One is inclined to think that something was in the air, something was on the move, in those days.

It must be indisputable that the two greatest works of analytical philosophy at mid-century were Ryle's *The Concept of Mind* (1949) and Wittgenstein's *Philosophical Investigations* (1953). By comparison, Skinner's *Science and Human Behavior* (1953) was of lesser stature at the time of its publication. It came too late to introduce a "system" (as had Hull, 1943; Skinner, 1938; and Tolman, 1932), and it ran at cross-purposes to the more critical and evaluative mood of the 50s reflected in such works as *Modern Learning Theory* (Estes, Koch, MacCorquodale, Meehl, Mueller, Schoenfeld, & Verplanck, 1954), and *Psychology: A Study of a Science* (Koch, 1959-1963). But of these three works, Ryle's has been the most seriously and convincingly questioned. No Ryleans walk among us any longer, one presumes, and few unreconstructed Wittgensteinians either,

for that matter; yet more than several dedicated Skinnerians remain on task. And while such projections loom hazardous, it is most unlikely that *The Concept of Mind* will be read in future centuries with quite the avidity raised by Plato's *Republic*, or Descartes' *Meditations*, or Hume's *Enquiry*, or Kant's *Critique*, although it is possible that Wittgenstein will enter that pantheon. (There is no pantheon of revered psychological texts, with the possible exception of James' *Principles*, and 27 volumes of Freud.)

The relevance of Wittgenstein's work to contemporary radical behaviorism has been noted and explored in some depth (e.g., Day, 1969; Zuriff, 1975). In philosophy the relevance of Ryle's work to behaviorism is well known, and there he is often taken as the chief expositor of the behaviorist position. Yet among Skinnerian behaviorists, his work seems to have been substantially ignored. Ryle's work has been subjected to extensive critique at the hands of the philosophical community (Wood & Pitcher, 1970, contains a collection of representative essays), and it is reasonably safe to say that the philosophical community considers the critical assessment of Ryle to be complete. Perhaps from a Skinnerian perspective it is past due to evaluate Ryle, to consider those points on which the Rylean and Skinnerian analyses converge, and to evaluate those points at which they remain distinct.

First Impressions

The Skinnerian reading Ryle for the first time will no doubt take delight in *The Concept of Mind*. The book is something of a diatribe from start to finish, and Ryle is a dexterous craftsman of the polemical style. The great

¹Ryle, G. (1949). *The concept of mind*. London: Hutchinson. 334 pp.

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metaphor of the book, and probably the best known phrase from twentieth-century philosophy, is "the ghost in the machine," Ryle's expression for the viewpoint of Cartesianism, the object derided throughout the book. Descartes' doctrine has it that each person is made up of body and of mind. The body is extended in space and time, and its operation obeys mechanical laws; the mind, however, does not exist in space and its workings are not subject to mechanical laws. Because the body is extended in space and time, its operations are public and can be scrutinized by external observers. But the mind, being without spatial character, is forever private, a kind of "ghostly Robinson Crusoe" (p. 13). "Absolute solitude is on this showing the ineluctable destiny of the soul. Only our bodies can meet," says Ryle (p. 15). Ryle's task in *The Concept of Mind* is to refute this doctrine once and for all, and in the process to develop an alternative theory of mind.

Category mistakes. The major tactic of the book is to show that the Cartesian myth is false in principle, because it is founded on a logical error. The doctrine "represents the facts of mental life as if they belonged to one logical type or category (or range of types or categories), when they actually belong to another" (p. 16). For short, this kind of error is referred to as a "category mistake." Although the idea of a mistake is clear enough, Ryle never explicitly defines the notion of a "category." He develops the sense of a category mistake contextually, first through a set of illustrative cases, and then through extensive argumentation of the case against Cartesianism. If a rustic visited the University, for example, being shown the classroom buildings, the library, the laboratories, the playing fields, and so on, he still might say at the end of his tour, "All this has been quite interesting, but don't forget to show me the University." A category mistake has been committed here because the visitor has treated "the University" as if it were a member of the same type or category as the various buildings, fields, and quadrangles making up the campus, when in fact it is not of that same type.

Here is the way the category-mistake applies, at Ryle's hands, to Descartes' myth. Take as an example the broad vocabulary of terms applying to various intellectual activities or processes. "Inducing," "deducing," "abstracting," "judging," "reasoning," "generalizing," and such are words that often are used as if they refer to particular events that occur in the process of mental deliberations that precede some overt act. But it is Ryle's claim that such words "belong properly to the classification of the products of pondering and are mis-rendered when taken as denoting acts of which pondering consists" (p. 285). That is to say, treating these various intellectualist words as if they apply to mental acts preceding overt acts is a category mistake, because they properly apply to properties of the overt acts of intellect. For instance, "deduction" applies to the formal relation between the conclusion of an argument and its premises, not to an act that precedes the offering of the conclusion, says Ryle. Deduction is of another category, a different logical type, from psychological acts. One cannot sit on a fence, "alternately whistling and deducing," he says (p. 292). This kind of point, by the way, so informal that it may seem facetious, is just what Ryle uses to make his case. If words are of the same logical type, then they ought to function equivalently in the same logical context. A demonstration that they do not function equivalently shows them to be of different logical types. Then claims based on the category mistake can be rejected.

Dispositions. Ryle's destructive program is to demonstrate the fundamental error of dualistic Cartesian psychology. But he pursues a constructive program as well. If the mental vocabulary does not refer to ghostly happenings within some "twilit studio" (p. 296), then to what does it refer? While the Cartesian doctrine may be myth, it would seem too much to swallow that the mental vocabulary itself is mythical. Here is where Ryle's behaviorism comes to the fore. The move Ryle most frequently makes is to propose that mental terms stand for dispositions—dispositions to *behave* in various ways.

Ryle emphasizes two features of dispositions that are important for the ensuing analysis of mental concepts. First, dispositions are conditional, in a sense that makes them law-like. "To possess a dispositional property is not to be in a particular state, or to undergo a particular change; it is to be bound or liable to be in a particular state, or to undergo a particular change, when a particular condition is realised" (p. 43). Second, dispositions can be realized in an indefinitely large number of forms. To "believe" or to "desire" is not to be disposed to do a single thing, but to do an indefinitely large number of different things as relevant conditions are realized.

In a nutshell, Ryle's psychology goes like this:

I am arguing that in describing the workings of a person's mind we are not describing a second set of shadowy operations. We are describing certain phases of his one career; namely we are describing the ways in which parts of his conduct are managed. The sense in which we 'explain' his actions is not that we infer to occult causes, but that we subsume under hypothetical and semi-hypothetical propositions. The explanation is not of the type 'the glass broke because a stone hit it', but more nearly of the different type 'the glass broke when the stone hit it, because it was brittle'. (p. 50)

It should be noted here that Ryle's approach to explanation is not causal, but conceptual. Rylean explanations make recourse to *reasons* for actions, not to their causes. Were dispositions taken causally, they would be just as occult as any mental cause.

Of course, not all psychological terms are dispositional; some stand for occurrences. Dispositions and occurrences are of different logical types, however, and it is necessary to keep straight the difference between "knowing," "believing," "aspiring," and such on the one hand, and "running," "eating," and "joking" on the other. One can jog to the corner slowly, but one cannot believe in Reaganomics slowly, quickly, to the corner, or anywhere at all.

Consciousness. According to the Cartesian doctrine, the mind has the capacity to know at least some of its states and processes directly, through the kind of nonsensory perception we call "consciousness." According to Ryle this is all a muddle, for "John Doe's ways of finding out about John Doe are the same as John Doe's ways of finding out about Richard Roe" (p. 156). How is a case for this position made? To begin with, Ryle does not deny that persons are prone to experience various sorts of "thrills, twinges, pangs, throbs, wrenches, itches, prickings, chills, glows, loads, qualms, hankerings, curdlings, sinkings, tensions, gnawings and shocks" (p. 83-84). But while all that may be so, Ryle maintains that it cannot be very important. For one thing, he questions the purported incorrigibility of first-person reports. There is no reason to think a hypochondriac any more accurate in describing his or her various aches and pains than the innocently dissembling angler in describing a catch, and surely experience in practical reasoning tells us that among the least persuasive of arguments is that the conclusion was obtained directly "from consciousness" (p. 161). Ryle also considers numerous cases where one might naively suggest that some piece of self-knowledge is obtained by casting the eye inward, only to find that no such inner sight of an auto-illuminating mental world is implicated (p. 159). One learns of one's abilities and one's limits by *doing* things, for instance, and not by meditating upon them; and Ryle proposes that one typically learns one's *motives* to do one thing or another by self-observing conduct as well. Furthermore, a person is notably insensitive to his own conceit, boorishness, or vanity, despite the presumed accessibility of consciousness to all that one is, for these dispositions show themselves in conduct as much to oneself as to others.

Much of Ryle's critique of traditional notions of consciousness turns on the weakness of the "ocular metaphor" — the idea that consciousness is a sort of inner sight of the mental processes, which are in their nature self-illuminating.

To relapse perforce into simile, it is supposed that mental processes are phosphorescent, like tropical sea-water, which makes itself visible by the light which it itself emits . . . 'Consciousness' was imported to play in the mental world the part played by light in the mechanical world. (p. 159)

It is enough to make one muse on the nature of an epistemology that might be created by a blind man.

Para-Mechanisms. According to Ryle, the myth of the ghost in the machine in fact turns out to be the myth of the ghostly machine in the machine:

Minds are not merely ghosts harnessed to machines, they are themselves just spectral machines. Though the human body is an engine, it is not quite an ordinary engine, since some of its workings are governed by another engine inside it—this interior governor-engine being one of a very special sort. It is invisible, inaudible and it has no size or weight. It cannot be taken to bits and the laws it obeys are not those known to ordinary engineers. Nothing is known of how it governs the bodily engine. (p. 20)

This aspect of the myth Ryle refers to as the para-mechanical hypothesis (p. 19). It is mostly invoked by way of causal explanation: Why does the body choose?—Because the mind has decided. But according to Ryle it is a misconstrual to take questions about the relation of mental-conduct concepts to behavior as questions about the causation of behavior (p. 67). For instance, to ask if a given act was voluntary is not to ask if a mental entity called a volition caused the behavior. One determines the voluntariness of behavior neither by assaying one's consciousness for the ghostly nudge of a volition, nor by determining through some obscure means the propriety of inferring the presence of such an entity in the mind of another. Rather, the role that the notion of voluntariness in behavior plays in ordinary discourse is carried jointly by reference to the *capacities* and *opportunities* of the agent

(p. 72). We consider an act to be voluntary if it is within the capacity of the agent to perform it, and the opportunity to perform it is set. These are not causal questions as such, and they are certainly not part of a para-mechanical account.

So that is a survey of the major aspects of Ryle's work, and I have tried to include enough quotations to impart some of its flavor. The fundamental category mistake lying behind Descartes' myth, the myth of the ghost in the machine, is in the assumption that "mind" and "body" are of the same logical type, as they must be for a polarity between them to exist. But they are not of the same type. Mental concepts are about behavior and its dispositions, not about a spectral body lurking behind the physical body. Consequently, all contrasts are in error that take the form: either the action was caused by a change in the agent's body, or by a change in the agent's mind (pp. 22-23).

Much here should be of appeal to the radical behaviorist. The ghost in the machine is as much the target of Skinner in, say, *About Behaviorism* (Skinner, 1974) as it is of Ryle in *The Concept of Mind*. Skinner never invokes so technical a logical objection to dualistic mentalism as the category mistake; however, he is certainly at home employing logical moves against mentalism. The *reductio ad absurdum*, a prominent tool in Ryle's analysis (p. 8), can also be found with some frequency in Skinner's work (for an example see Skinner, 1969, p. 222). And again, although Skinner does not actually use the term "disposition" or "dispositional concept" to a great degree, it is still quite clear that his analysis of a number of mental concepts is dispositional (e.g., "An angry man, like a hungry man, shows a disposition to act in a certain way," Skinner, 1953, p. 168). Furthermore, Skinner's reservations about the causal significance of consciousness are well known. And the para-mechanical hypothesis sounds like a precursor to the contemporary view proposed by cognitive psychology that the mind is a kind of shadow mechanism lodged somewhere between physiology and

behavior. Ryle and Skinner would seem to be in league in opposing that hypothesis.

Daniel Dennett, a philosopher who is friend of neither the Rylean nor the Skinnerian versions of behaviorism, has assessed the contributions of Ryle and his colleagues as follows.

Ordinary language philosophy of mind has now played itself out to the point where it can be comfortably viewed as a historical phenomenon. As an essentially critical and reactive discipline, it was bound to die of its own successes when it had run out of important errors and confusions to diagnose. . . . Although its most characteristic doctrines and methods have been widely rejected or abandoned, its contributions to current thinking are positive and pervasive. Most important, the new way with words really did destroy the traditional way of composing a philosophical theory of mind. (Dennett, 1978, p. 250)

So in a sense Ryle made his case, but in another sense he failed. The fundamental flaw of Ryle's work is now seen not so much in its critical contributions (the contributions that Dennett lauds), but in its constructive, alternative theory of mind. Logical behaviorism has not stood up well to 35 years of critique. Few if any philosophers today would hold that external behavioral criteria are logically prerequisite to the use of all mental terms. Yet that was Ryle's insistent view. Still, not all behaviorism is logical behaviorism. There are grounds on which a Skinnerian might express reservations about Ryle, as well.

Second Thoughts

Perhaps the kinship between Ryle and Skinner is more apparent than real. Not all behaviorisms are equivalent, or even mutually supportive. Skinner has gone to some pains to separate his own radical behaviorism from methodological behaviorism, for instance. Perhaps differences of some significance separate the behaviorisms of Ryle and Skinner as well. A number of

points of difference might be raised. Here, the roles of folk psychology, logic, and private events will be considered further.

Folk psychology. A trap into which the unwary behaviorist must not fall is the belief that Ryle really approaches things with the same objectives as the behavior analyst. This is not so. The man was a philosopher, not a scientist, and his goals remained essentially philosophical. In particular, he was not concerned with advancing empirical knowledge about behavior and its controlling circumstances. Instead, his goals were of a wholly conceptual sort. The concepts with which he was concerned were those of ordinary-language psychology, or folk psychology, as it is now more frequently called. Ryle's goal was to determine just what these concepts are, how they are employed in ordinary discourse, and of what their proper range and use consist. He accepted mental language as a given, and he had no interest in eliminating any of it, or replacing it with technical, scientific behavioral language. Consequently, a dedicated Rylean talking about his or her own behavior would not feel obliged to avoid mentalistic locutions, although considerable care might be taken to avoid certain sorts of causal expressions.

By contrast, the Skinnerian program is one of offering a certain sort of empirical analysis of behavior in terms of its functional relation to controlling (environmental) circumstances. The proper way for a Skinnerian to talk is in terms of these behavior-analytic locutions, and there is usually a measure of unease when mental words appear in the behaviorist's discourse. Skinner finds it necessary to offer something of an apology and explanation for the frequent lapses into mentalistic language that occur in his less technical works (e.g., Skinner, 1974, p. 19). The goal of Skinnerian behaviorism is, ultimately, to replace folk psychology with technical, scientific psychology, to replace intentional mentalistic language with the extensional language of behavior analysis. Ryle, I believe, would find such a goal to be entirely spurious and misconceived.

Skinner's and Ryle's goals are closest at

those points where Skinner has attempted an "operational analysis" of psychological terms (Skinner, 1945). As is well known to radical behaviorists—if less so to his critics—by operational analysis Skinner has always meant something quite different from the standard sort of operationism. He has been after descriptive analyses of the relationships controlling the use of a term as it ordinarily occurs rather than measurement-based definitional prescriptions (Moore, 1975). While Skinnerian operational analysis is meant to be causal, its focus on the factors governing the actual occurrence of a term often results in a convergence with the findings of Rylean conceptual analysis. But there has been a fair measure of equivocation on Skinner's part over the years, for although at times he has proposed this sort of operational analysis, at others he has advocated "translation" of mental concepts to behavioral terms, and at still others he has simply indicated that mental concepts should be jettisoned in favor of behavioral kinds of talk. These various positions have led to confusion about Skinner's status as a philosophical behaviorist (e.g., Martin, 1978). But my reading of Skinner is that, could he have his way, he would simply eliminate mental terms from ordinary language. Ryle, by contrast, wishes only to clarify the meaning and proper use of such terms. He has no project for a scientific psychology.

Logic. The Rylean and Skinnerian methodologies are fundamentally different. While Skinner analyzes behavior, including verbal behavior, in terms of its relation to its controlling circumstances, Ryle attempts to map out "the logical geography of concepts" (p. 8) in order to determine the logic of propositions containing such concepts. Rylean research can be done in an armchair, simply by dreaming up possible propositions employing mental concepts and critically assessing their implications. By contrast, Skinnerians come to understand phenomena by exercising material control over their occurrence. At times Skinner endorses a more reflective practice he calls interpretation (Schnaitter, 1978), but this practice is closer

to the logic of induction than to the essentially deductive reasoning in which Ryle engages.

Indeed, there is a considerable reluctance on the part of many radical behaviorists to accept any kind of appeal to logic in behavioristic discussion. That line has been taken most recently in the pages of this journal (Moore, 1984, pp. 390-391). The behavioristic argument against appeals to logic follows from the cornerstone of radical behaviorism that a science of behavior is to be developed at its own level, without recourse to events or processes taking place in some other dimensional system. Something is a bit spooky about the fact that deductive forms (e.g., *modus ponens*, *modus tollens*, etc.) admit to no counterinstances. They are not probabilistic. Their force does not rely on shaping via contingencies of reinforcement in any apparent way. Such observations seem to put logic outside the dimensional system of behavior (whatever that is). There is a sense in which logic is behavioral, whereby arguments and such, as instances of verbal behavior, provide phenomena *to be explained* via the standard sort of behavioral analysis. In such cases, however, logic does not provide a system to which explanatory recourse can be taken. Appeals to logic (e.g., "You can't draw that conclusion; your argument commits the fallacy of affirming the consequent") are illicit because the appeal is to a non-behavioral dimensional system, so it is claimed.

Not all radical behaviorists take this line, of course (e.g., Harzem & Miles, 1978). That is because it has certain important weaknesses. Behaviorists argue (and, one hopes, logically) all the time. Indeed, it might be maintained that logic is just as much a dimension of verbal behavior as number is a dimension of response rate. It is an abstract dimension, to be sure, which is to say that it superordinates over diverse and heterogeneous material instances. Exactly the same can be said about mathematics. And while it remains a matter of some controversy among behaviorists as to how much mathematics can go on in behavior analysis

before something essential about the discipline had been obscured, I know of no one who would claim that mathematics is an illicit dimensional system.

Private events. Does John Doe know John Doe in the same way he knows Richard Roe? Ryle says yes, and about that he has surely overstated the case. If Richard Roe is in pain, then John Doe knows this by observing Richard Roe and the circumstances to which he has been exposed: the automobile that knocked him to the ground as he stepped off the curb; the compound fracture jutting through his pantleg; and the groans and moans emanating from his throat. But it is surely not the case that were John Doe the unfortunate victim of the accident he would have taken note of these public observables before being warranted to conclude that he himself was experiencing pain. Ryle's dominant claim that behavioral criteria are logically prerequisite to the mental simply fails to withstand a range of first-person counterexamples.

Ryle's disparagement of consciousness, his scorn of all that is intimate, led him to overstate the significance of public criteria for the use of psychological terms. Skinner, by contrast, has always acknowledged the role of nonpublic, or private, events in the control of behavior, including psychological verbal behavior. An environment exists inside the skin as well as outside it, and events of that inner environment are as available to the processes of behavioral control as events in the outside world (although, Skinner would caution, the branches of the sensory nervous system responding to that inner environment are limited in the specificity of their response). So according to Skinner, there is a sense in which each person is a sort of Robinson Crusoe, though not a ghostly one. Public accessibility is not, according to Skinner, the sine qua non Ryle thought it to be. In a slightly different context, Skinner has argued:

The ultimate criterion for the goodness of a concept is not whether two people are brought into agreement but whether the

scientist who uses the concept can operate successfully upon his material—all by himself if need be. What matters to Robinson Crusoe is not whether he is agreeing with himself but whether he is getting anywhere with his control over nature. (Skinner, 1945, p. 293)

Para-Mechanisms and the Future of Behaviorism

The philosophical community, under the influence of Descartes, advanced the view that folk psychology implied the para-mechanical hypothesis of a ghostly machine operating behind the bodily machine. Ryle attempted to demonstrate that the logic of folk-psychological concepts shows the para-mechanical hypothesis to be unwarranted. The workings of folk psychology were used to evaluate a dualistic explanatory theory, and the evaluation found the explanatory theory to be lacking. But that does not put an end to the issue of mechanism in psychological explanation.

In Ryle's time folk psychology was the only game in town as potential foundation for a philosophical theory of mind. Today, however, the situation has changed significantly. The selfsame aggravation of behaviorists and joy of philosophers of mind is the ascendancy of modern cognitive science. Here is an entirely different foundation for the mechanical hypothesis (sans Cartesian dualism, it should be noted). It matters not one whit if folk psychology provides a proper foundation for the inference of para-mechanisms; cognitive scientists infer mechanisms on the independent grounds of impeccably respectable behavioral research. So far as folk psychology goes, the argument of contemporary cognitive science would be that, although folk psychological concepts may serve to identify real psychological phenomena, they do not, by and large, indicate anything significant about the mechanisms responsible for such phenomena. This is only as it should be, as psychological mechanisms themselves are substantially without experiential properties, such properties being associated only with a subset of the *products* of such mechanisms.

For example, folk-psychological "memory" talk roughly identifies a real phenomenon, but it does not identify anything significant about the internal mechanisms of that phenomenon. Not putting too fine a point on it, the fact that people sometimes say that a word is "on the tip of the tongue" has not led cognitive scientists to perform lingual dissections in search of relevant memory mechanisms. (See also Stich, 1983, who makes a more sober case for the independence of cognitive science from folk psychology.)

Ryle is at his worst when raising questions of mechanism and attempting to force answers into the mold of ordinary language description. In discussing the difference between listening to a tune that is unfamiliar and one that is recognized, he makes the following points:

Roughly, to know how a tune goes is to have acquired a set of auditory expectation propensities, and to recognise or follow a tune is to be hearing expected note after expected note. . . . The description of a person hearing expected notes is indeed different from that of a person hearing unexpected notes . . . but this does not mean that there is something extra going on in the first person which is not going on in the second. . . . It means that the hearing is going on in a different way, the description of which difference involves . . . only the characterisation of his hearing as specially schooled hearing. (pp. 228-229)

It might be interesting to know how ordinary language descriptions of persons following and not following tunes diverge, and perhaps Ryle is correct that such distinctions follow primarily from "schooling," although his presentation of the example belies his own claim. But if hearing can go on in different ways, then the mechanism of hearing must operate differentially as a consequence of Ryle's purported difference in schooling. The appeal to "auditory expectation propensities" amply demonstrates the vacuity of dispositional analysis when pressed hard for explanatory duty.

As time passes it becomes more clear that Ryle performed an act of misdirection as deft as a magician's. In consequence of the failures of Cartesian and introspective accounts of mental mechanism, he concluded that questions of mechanism are intrinsically misconceived, and that all questions of mind devolve just to questions concerning the proper use of mental concepts in ordinary language. Roughly, that is like claiming that analysis of the logic of "sunrise" and "sunset" talk can substitute for celestial mechanics. For example, to wonder if that fluttering outside the window is a robin raises for Ryle only a linguistic question concerning use of the description "robin" (pp. 222-234). Every problem of visual perception turns out to have a linguistic answer. Questions of mechanism are not illicit just because intellectual history is filled with bad answers, however. The issue of mechanism is not to be so easily finessed.

Questions of mechanism, then, cannot be eliminated just by shifting to a different set of questions about use of ordinary language concepts. Furthermore, even were Ryle's category-mistake argument in *The Concept of Mind* correct in every detail, it would simply be beside the point with respect to a critique of contemporary cognitive theory. It does not reach beyond theories of ordinary language and folk psychology. The radical behaviorist, of course, has other charges with which to load his antimentalistic cannon, those chiefly being various arguments concerning the logic of explanation—for example, to infer a construct on the basis of a body of evidence and then employ the inferred construct to explain the evidence is circular. For reasons that are too complex to outline here, however, such arguments have not been as persuasive as the radical behaviorist would want them to be. Consequently, the ghostbusting must continue, or else the radical behaviorist will have to learn how to live a somewhat haunted professional existence. The ghost in the machine is obstinate and perverse, and Ryle's exorcism did not fully take.

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