13

RYLE'S BEHAVIORISM

ULLIN T. PLACE

I. GILBERT RYLE

Gilbert Ryle (1900–1976) spent the whole of his career, apart from military service as an officer in the British Army in both World Wars, at the University of Oxford. He was lecturer and tutor in philosophy (with the title of Student) at Christchurch College (1924–1945) and Wayneflete Professor of Metaphysical Philosophy (1945–1968). He was editor of the philosophy journal *Mind* (1945–1971). His major work and the source for his behaviorism is his *The Concept of Mind,* published in 1949.

II. OUR-BEHAVIORISM VERSUS OR-BEHAVIORISM

In the final chapter of *The Concept of Mind* Ryle discusses implications of what has gone before for the science of psychology. By postponing all mention of the science to the very end, Ryle is drawing a distinction that was novel at the time between philosophical psychology, which, as he puts it, examines "the logical behaviour of a set of concepts all of which are regularly employed by everyone" (Ryle, 1949, p. 319), and the science of psychology whose ostensible subject matter is the nonphysical mental world postulated by the Cartesian myth that he has been at pains to demolish in what has gone before. What the subject matter of the science of psychology ought to be, given the mythical character of its official subject matter, is an issue on which Ryle passes no judgment. To a philosopher whose only concern is with the meaning of the things we say in ordinary nontechnical discourse the question of how a future science of psychology should develop is a matter of indifference.

It is clear nevertheless where Ryle's sympathies lie. The second and final sec-

tion of this final chapter is titled " Behaviourism." It begins with the statement
"The general trend of this book will be undoubtedly, and harmlessly stigmatised
as 'behaviourist'" (Ryle, 1949, p. 327). This is as close as Ryle ever gets to ac-
knowledging the behaviorist character of his own position. The rest of this final
section is devoted to exposing the uncertainty as to whether "the early adherents
of this [behaviorist] methodological programme . . . were espousing a not very
sophisticated mechanistic doctrine, like that of Hobbes and Gassendi, or whether
they were still cleaving to the Cartesian para-mechanical theory, but restricting
their research procedures to those that we have inherited from Galileo" (Ryle,
1949, p. 327).

The lack of enthusiasm for a science of psychology, whether behaviorist or
not, apparent in this final chapter of *The Concept of Mind* is matched by the even
more striking disdain shown by Wittgenstein when he says:

> The confusion and barrenness of psychology is not to be 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. Set theory.) For in psychology there
> are experimental methods and *conceptual confusion*. (As in the other case conceptual
> confusion and methods of proof.) (Wittgenstein, 1953, p. 232)

In the treating of the behaviorism that emerged from the work of Wittgenstein
and Ryle, it seems appropriate to retain the British English spelling, not only be-
cause that is the way they spelled it, but because of the difference between their
approach and that of the American behaviorists. To mark the difference for the
purposes of oral presentation I shall speak henceforth of OUR-behaviourism for
that of Wittgenstein and Ryle and OR-behaviourism for the various American va-
rieties. For the Americans, in philosophy as much as in psychology, OR-behav-
iorism is an answer to the problem of how to do objective scientific research in a
discipline committed by its title and tradition to the study of the intrinsically
subjective. OUR-behaviourism, by contrast, has its roots, not in the science of
psychology, but in the philosophy of language. As such, it is a deduction from
two principles that, at the time, were taken for granted.

1st premise: The primary function of language is to enable human beings
to communicate with one another across the space between
them in such a way as to provide the listener with instructions
and information relating to objects, events, and states of af-
fairs in the physical environment common to both parties to
which the listener would otherwise have no access.[2]

2nd premise: The lexical words (names) that comprise a language user's ba-
sic vocabulary acquire their meaning by a process somewhat
misleadingly referred to as "ostensive definition," whereby the

---

[2] Cf. Wittgenstein's (1953, p. 88) statement: "If language is to be *a means of communication*
there must be agreement not only in definitions but also (queer as this may sound) in judgments [my
italics]."

child learns the meaning of a word by being shown instances to which it applies.[3]

As Wittgenstein (1953) demonstrates in his private language argument, it follows from these premises that a language that is private in the sense that "the individual words of this language are to refer to what can only be known to the person speaking; to his immediate private sensations" (pp. 88–89), could not be understood by another person and could not, therefore, fulfill what, on this view, is the primary function of a language, namely, to allow one person to communicate with another.

It follows that a language that *can* enable people to communicate effectively will be one consisting of words whose meanings have been learned and conventionally fixed by a process in which a speaker directs the attention of the listener to an objective feature of the stimulus environment in which both are currently situated. It is a further consequence that the primary function of "our ordinary psychological concepts," as Ryle calls them, is not, as philosophers have assumed since the time of Descartes, to enable us to talk about our own private experience. Its primary function must be, as Ryle has shown it is, to allow us to talk about and account for the publicly available talk and behavior of other people. It is insofar as they subscribe to that doctrine that both Wittgenstein and Ryle can properly be described as OUR-behaviourists, whether or not they themselves accepted that description, as Ryle did and Wittgenstein, as we have seen, did not.

III. RYLE'S DEBT TO WITTGENSTEIN

There is no reason to suppose that Ryle was aware of Wittgenstein's private language argument at the time he was writing *The Concept of Mind*. The argument first appeared in the posthumous *Philosophical Investigations*, which were not published until 1953, 4 years after Ryle's book. What he must have known was that Wittgenstein was exploring what with hindsight we can recognize as its implications, even, no doubt, before the argument itself had crystallized in Wittgenstein's own mind. Ryle would have noted this from the *Blue and Brown Books* (Wittgenstein, 1958), stenciled copies of which were widely circulated in interested philosophical circles during the late 1930s, if not from conversations with Wittgenstein in person when the two men went on walking holidays together during this crucial period in the development of Wittgenstein's thought (see Monk, 1990, p. 275).

---

[3] The term *ostensive definition* comes from W. E. Johnson's (1921) *Logic*. The idea that the meaning of lexical words or names must ultimately rest on what he calls "deictic" definitions is found in Schlick's (1935) "Facts and propositions," and is apparently assumed by Wittgenstein's (1953, p. 92) description of *private ostensive definition*. Recent research from the School of Psychology, University of Wales Bangor (Horne & Lowe, 1996), suggests that learning a name requires the concurrent operant reinforcement of two responses, that of emitting the name when presented with an instance and that of picking an instance when presented with the name.

That Ryle fails to acknowledge his debt to Wittgenstein in this as in many other respects is understandable in that when *The Concept of Mind* was published, Wittgenstein, though terminally ill, was still alive and his practice of publicly repudiating views attributed to him in print, even by his most devoted disciples, was well known.[4] The extent of that debt is considerable. Ryle has a very distinctive, not to say idiosyncratic, style of writing; so much so that there is hardly a sentence in his published work which a perceptive reader could not immediately identify as his. Yet with hindsight, it can be seen that there are few important insights in *The Concept of Mind* that cannot be traced back to a source in Wittgenstein's later philosophy.

A. PHILOSOPHY AS LINGUISTIC CLARIFICATION

Although, as Ryle (1970) himself points out in his "Autobiographical," the idea has a common source in "Russell's antithesis of the nonsensical to the true-or-false," Wittgenstein and Ryle share the conviction that all the traditional problems of philosophy are a product of what Wittgenstein calls "conceptual confusion" and Ryle calls "category mistakes." Once these conceptual confusions or category mistakes have been clarified or corrected and their roots in language exposed, the philosopher's task is complete. This conception of philosophy as a purely linguistic and clarificatory activity comes undoubtedly from Wittgenstein. It is a theme that pervades both his early and later philosophy.

B. LOGICAL GRAMMAR

Implicit both in Russell's notion that some sentences are nonsensical rather than either true or false and in Wittgenstein's conception of philosophy as linguistic clarification is the notion that in order to avoid nonsense, conceptual confusions, and category mistakes the philosopher must pay close attention to the way words are *used,* both in constructing sentences and in using those sentences for the purposes of communication in everyday life. This is the idea underlying Wittgenstein's talk in the *Blue and Brown Books* (1958) of studying the "grammar" of a word and in the *Philosophical Investigations* (1953, p. 59n.) of doing "a grammatical investigation." In his "Autobiographical" Ryle acknowledges his debt to Wittgenstein for this notion, which appears in his writings in phrases such as "the logical grammar," "logical behavior," and "logical geography" of our ordinary concepts.

Although this is not an issue that Ryle himself addresses, it is clear that, when he talks in this way, he is not talking about what people *actually* say in practice,

---

[4] Denis Paul (personal communication, October 1996) reports that an unnamed mutal friend of both men challenged Ryle to justify his failure to acknowledge his debt to Wittgenstein when *The Concept of Mind* was first published. Ryle is said to have replied that it was not his practice to make such acknowledgments, but that he recognized that his debt was very considerable, and had no wish to disguise it. This apology was communicated to Wittgenstein before he died and accepted by him.

as might be ascertained from some kind of statistical survey. He is talking about the norms of correct usage that they follow when choosing their words with care. As Wittgenstein might have put it, though Ryle himself would not have done, he is talking about the tacit "rules" of the "language game" that is being played.[5]

C. ORDINARY LANGUAGE

The logical grammar that interests Ryle and to the analysis of which the whole of his book is devoted is that of ordinary language, specifically our ordinary psychological language, the language of common sense, or "folk psychology," as it is called in contemporary philosophical jargon. This preoccupation with ordinary language is also characteristic of Wittgenstein's later philosophy, in contrast to the period of the *Tractatus* (Wittgenstein, 1921/1971), where it is the grammar of logical symbolism and mathematics that is the dominant concern. But although Ryle's interest in ordinary language was doubtless imparted to him by Wittgenstein in the first place, it plays a rather different and much more authoritative role in Ryle's philosophy than it does in Wittgenstein's. Ryle is the archetypal "ordinary language philosopher"; Wittgenstein is not. For Ryle the way to avoid philosophical error is to stick as closely as possible to what the man-in-the-street, or, perhaps one should say, the man-in-the-Oxford-Senior-Common-Room, would find it natural to say. For Wittgenstein ordinary language is not a primary authority in matters philosophical, except in the sense that it is an actual working communicatory tool. For him it is a test bed on which principles derived from thought experiments with imaginary language games are tested against the real thing. In other respects ordinary language is as much a source of conceptual confusion as it is of conceptual clarity.

D. DISPOSITIONS

The key notion in the OUR-behaviourist analysis of our ordinary psychological language that Ryle develops in *The Concept of Mind* is that of a *disposition*. It seems likely, judging from the use he makes of the term itself and from his dispositional analysis of the verb *understand* (1953, p. 53ff.), that Wittgenstein's later philosophy is the source for this idea in Ryle. Moreover, the analysis of dispositional statements as "being testable, open hypothetical, and what I shall call 'semi-hypothetical' statements" may well reflect Wittgenstein's fantasy in the *Brown Book* (1958, pp. 100–101) of a people in whose language the dispositional adjectives *hard* and *soft* are replaced by descriptions of what *can* happen based on the results of tests (e.g., of the ease with which a stick can be bent). With one exception, this analysis of dispositional predicates contains all the elements of Ryle's account: the use of the example of a physical disposition to illustrate principles that are to be applied later to psychological–behavioral dispositions, the use of modal sentences (containing the verbal auxiliary *can*) to

---

[5] For an interpretation of the methodology of conceptual analysis in terms of Garfinkel's (1964/1967) "ethnomethodological experiment," see Place (1992).

provide an analysis of what a statement ascribing a dispositional property to an object amounts to, the observation that such statements are verified by means of a test either of the object in question or of some relevantly similar object. The one exception is Ryle's contention that the modal sentence that provides the analysis for a dispositional statement is a hypothetical or conditional statement, the antecedent of which specifies the conditions under which a manifestation of the disposition is to be expected, while the consequent specifies the nature of the manifestation.

E. ASPECT AND ONTOLOGY

One of Ryle's most important discoveries reported in *The Concept of Mind* is the distinction he draws in Chapter 5 between three types of psychological verbs:

1. Verbs that signify *dispositions* (Ryle, 1949, pp. 116–135)
2. *Activity* verbs (pp. 135–149)
3. *Achievement* verbs (pp. 149–153)

The criterion that he uses to draw these distinctions is a matter of what linguists refer to as the "aspect"[6] of the verbs in question. Verbs are classified according to whether it makes sense to construct a sentence combining the verb in question with a particular aspect. There are three aspects invoked in this connection:

1. The *continuous aspect* marks a continuous ongoing activity or process, as in the continuous past tense *Jane was swimming,* the continuous present *Jane is swimming,* and the continuous future *Jane will be swimming.* Ryle's activity verbs are verbs that take this aspect, whereas disposition and achievement verbs do not.

2. The *habitual aspect* signifies a propensity to do something intermittently from time to time, as in the past habitual tense *Jane used to swim,* the present habitual *Jane swims,* and the future habitual *Jane will swim regularly.* Ryle's disposition verbs take only this aspect.

3. The *punctual aspect* signifies an isolated instantaneous event, as in the punctual past tense *Joe struck his fist on the table,* the punctual present *Joe's fist strikes the table—NOW!,* and punctual future *Joe will strike his fist on the table.* Ryle's achievement verbs[7] take only this aspect.

---

[6] I am indebted to Anthony Galton's (1984) *The Logic of Aspect* for such understanding of the technicalities of this linguistic phenomenon as is here displayed.

[7] Ryle's notion of achievement verbs confounds two distinctions:
   a. The distinction between verbs that refer to instantaneous events (stops and starts) and verbs that refer to temporally extended situations (processes and states)
   b. The distinction between success verbs, which apply only when the individual "has it" or "gets it right," and verbs that are neutral in this respect

An example of an instantaneous event verb that is neutral with respect to success is the verb *decide.* Examples of success verbs that denote temporally extended dispositional states are *know* and *understand.*

The evidence on which these distinctions are based comes from thought experiments of the kind described earlier, which Wittgenstein refers to in the *Investigations* as "a grammatical investigation." In the *Investigations* example Wittgenstein (1953, p. 59n.) points out that we can say "Since yesterday I have understood this word," but not that I have been understanding it continuously since then. In other words "to understand," at least as it is used here, is not what Ryle calls an activity verb (since it does not take the continuous aspect). Since the only aspect it *does* take is the habitual aspect, it is what Ryle calls a disposition verb.

It might be argued that, since this example comes from the *Investigations,* which Ryle almost certainly had not seen when he was writing *The Concept of Mind,* it cannot have been the model for Ryle's deployment of similar thought experiments in developing his taxonomy of psychological verbs. But Wittgenstein describes a similar thought experiment in the *Blue Book,* which Ryle had undoubtedly read and studied carefully. Considering a case in which he is interrupted in the middle of whistling a tune he knows well and thus knows how to go on, he raises the question "What sort of process is this *knowing how to go on?*" and answers his own question with another:

> Ask yourself such a question as: "How long does it take to know how to go on?" Or is it an instantaneous process? Aren't we making a mistake like mixing up the existence of a gramophone record of a tune with the existence of the tune? And aren't we assuming that whenever a tune passes through existence there must be some sort of a gramophone record of it from which it is played? (Wittgenstein, 1958, p. 40)

As Ryle would put it, "knowing how to go on" is neither an activity verb nor an achievement (instantaneous event) verb. Like the verb "to understand" in the *Investigations* example, it is a disposition verb.

F. REASONS AND CAUSES

Another less commendable practice Ryle may have inherited from Wittgenstein is that of contrasting *reasons* and *causes* in a way that invites the slogan "reasons are not causes." Wittgenstein's deployment of this contrast appears in the *Brown Book* (1958, p. 110) in connection with an imaginary tribe whose members place bets on the outcome of various athletic contests, are "caused" to place those bets by considerations such as the size of a wrestler or his track record on previous occasions, but whose language does not allow them to express those considerations in words and thus to have "reasons" for placing their bets as they do.

In Ryle the contrast between reasons and causes is much sharper. It appears in his discussion of motives (Ryle, 1949, pp. 86–90), and its source is the assumption that causes have to be events that occur immediately prior to the onset of their effects. He recognizes that what others have called "dispositional causes" (such as the peculiar brittleness of a pane of glass that is in position long before it is shattered by the stone hitting it) enter into the explanation of why the

effect occurred as and when it did. But dispositions for Ryle are not causes. They are "reasons" why the effect occurred as it did.

It is clear from this discussion that whereas for Wittgenstein the distinction between reasons and causes separates those dispositional causes of behavior that can be put into words (reasons) from those that cannot (causes), for Ryle all so-called dispositional causes, whether "mental," such as beliefs and desires, or physical, such as the brittleness of the pane of glass, are reasons for rather than causes of what happens. So great is the difference between these two ways of distinguishing reasons from causes, that although both may have contributed to the popularity of the "reasons are not causes" slogan in its heyday in the 1950s, there may be no genuine connection between the two.

IV. WHAT IS IN WITTGENSTEIN, BUT NOT IN RYLE

Because they all apply principles derived from the philosophy of language to problems in what has been variously described as the "philosophy of mind" or "philosophical psychology," the *Blue and Brown Books* (Wittgenstein, 1958), *Philosophical Investigations* (Wittgenstein, 1953), and *The Concept of Mind* (Ryle, 1949) can be compared both for what they have in common and for the respects in which they differ. But such differences as there are, are not differences of opinion between the two men. They are differences of emphasis and perspective, of what is included by the one and neglected by the other.

A. LANGUAGE GAMES

One of the most striking differences of this kind is Wittgenstein's preoccupation with the nature of language in general, which manifests itself in the thought experiments in which various possible "language games" are imagined and their properties evaluated. We have already encountered three examples of such language games: the private language whose "individual words are to refer to what can only be known to the person speaking; to his immediate private sensations," the language in which dispositional adjectives are replaced by descriptions of what *can* happen, and the tribal language that allows its speakers to place bets, but not explain their reasons for so doing. Although he would have been familiar with the notion, particularly from the *Brown Book,* Ryle makes no mention of language games in *The Concept of Mind.*

B. LINGUISTIC RULES

The idea that you can make mistakes in the way you construct and use language is central to Ryle's philosophical enterprise. It is an implication of this belief that when such a mistake is made some kind of logical or grammatical rule

is being broken. Wittgenstein acknowledges this implication and speaks constantly of "rules" and "rule-following" in relation to language. Ryle never does.

As we have seen, for Ryle the way to avoid philosophical pitfalls is to stick closely to ordinary language. In ordinary language a rule is an explicit universal imperative statement designed either to control behavior within a social group or to decide disputes that may arise within it, a rule has either been officially accepted by the group or imposed on it by higher authority. The only rules of language in this sense are the rules of grammar and spelling as written down in the grammar books and inculcated in schools. From this perspective the tacit rules that are broken when someone makes what Ryle calls "a category mistake," rules that a speaker follows without ever being aware of so doing, and that, in most cases, she could not put into words even if she wanted to, seem very odd indeed. Despite thereby depriving his notion of a "category mistake" of its theoretical underpinning, Ryle chooses not to mention the rules of language.

V. RYLE'S INNOVATIONS: THE FAILURES

A cynic might well argue that, apart from the fact that he surveys a wider sample of concepts drawn from our ordinary psychological language than does Wittgenstein, those doctrines that are distinctively Rylean and owe little or nothing to what his predecessor had discussed before him are the least satisfactory aspects of *The Concept of Mind.* Three doctrines come to mind in this connection:

1. The caricature of Cartesian dualism as the doctrine of the "Ghost in the Machine,"
2. The notions of *category, category difference,* and *category mistake.*
3. The distinction between "knowing how" and "knowing that"

A. "THE GHOST IN THE MACHINE"

That Descartes thought of the body including the brain and nervous system as a mechanical system cannot be gainsaid. In this respect, however, his views, though much refined in the light of more than 150 years of physiological research, are recognizably ancestral to those of physiologists today. If Descartes thought of the body including the brain as a machine, then so do they. The only significant difference is that today, and even 50 years ago when Ryle was writing, the machine models available are far more complex and sophisticated than the crude mechanical robots that inspired Descartes.

But it is in characterizing Descartes' *res cogitans* as a ghost harnessed to the bodily machine that Ryle's caricature does scant justice both to the subtlety and persuasiveness of Descartes's argument and to the difference between his mind–body dualism and the earlier soul–body dualism it replaced. As a prac-

ticing anatomist and physiologist, Descartes was well aware that the traditional animism that explains death as the departure from the body of its vital principle, the soul, which could persist thereafter as a disembodied spirit or ghost, had been made redundant by the development of the new mechanical physiology of which he was a vociferous exponent. His philosophical achievement was to develop what he and most of his successors saw as a knockdown argument for the ontological independence of mind and body, based on epistemological considerations in which the conception of the soul as an animating life force plays no part. For this Ryle's "Ghost-in-the-Machine" gives him no credit.

B. CATEGORIES, CATEGORY DIFFERENCES, AND CATEGORY MISTAKES

Unlike Wittgenstein, for whom they are always central, Ryle usually avoids issues in the theory of language that underlie and justify his philosophical practice. The one exception is when he discusses the notions of *category, category difference,* and *category mistake.*

In his 1938 paper "Categories," Ryle claims that "we are in the dark about the nature of philosophical problems and methods if we are in the dark about types or categories" (Ryle, 1938, p. 189). Likewise in the introduction to *The Concept of Mind* he maintains that "philosophy is the replacement of category-habits by category-disciplines" (Ryle, 1949, p. 8). Likewise, his charge against what he calls "Official Doctrine" to the refutation of which the book is devoted is that it commits "a category-mistake [i.e.] it 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" (Ryle, 1949, p. 16). But in neither case does he succeed in dispelling the obscurity that surrounds the concept. By the time *Dilemmas* (Ryle, 1954) had appeared, Ryle had lost all confidence in his ability to give any kind of precise meaning to the term. In that book *categories* are dismissed as "a familiar mnemonic with some helpful associations" but with no "exact professional way of using it." It is a sorry tale of conceptual confusion surrounding what he himself admits is the key term for the understanding of his own way of doing philosophy, a failure of nerve that Sir Peter Strawson (1970) in his essay on the subject does little to disguise.

Ryle's failure to sharpen up the notion of a category is unfortunate for two reasons. Firstly, because he needs to rebut the claim made by Descartes and his followers that the distinction between the mental and the physical, between the *res cogitans* and the *res extensa,* is a distinction of category. Ryle uses the term *category* in its Aristotelian sense, in which a category is the kind of thing you end up with if you go on asking the question "And what kind of a thing is that?" and of which the category of substance *(οὐσία)* is the prime example. Secondly, because the distinction he himself draws between disposition verbs, activity verbs, and achievement verb corresponds to the distinction between *states of affairs,* of which dispositions are an instance and persist unchanged over a period

of time; *processes,* which are extended over time with continuous change; and *instantaneous events* (stops and starts), whereby one state or process ends and another begins, which occur at moments of time but are not extended over time. Not only do these groupings have a much better claim to be described as categories than do the mental and the physical, it is evident that the distinction between these three basic categories can be drawn on either side of the mental–physical divide. That means, if I am not mistaken, that if *they* are categories, the mental and the physical are not.

Ryle's failure to develop a coherent account of what a category is and, consequently, a methodology for his own taxonomic enterprise has a number of sources:

1. The example he gives in *The Concept of Mind* of a category-mistake, that of the foreign visitor to Oxford or Cambridge who having been "shown a number of colleges, libraries, playing fields, museums, scientific departments, and administrative offices . . . then asks 'But where is the University?'" (Ryle, 1949, p. 16), involving as it does a simple failure to apply the part–whole relation, is hardly illuminating.

2. A satisfactory system of classification requires a set of clear and objective definitions of the different categories that comprise the system such that any particular within the universe to which the taxonomy applies can be unambiguously assigned to one class or another. Producing such a set of definitions would be deeply offensive to Ryle's way of thinking for two reasons. On the one hand, he would have been persuaded by Wittgenstein's arguments in the *Blue Book* that ordinary language concepts are too open-ended, too much a matter of "family resemblance," to lend themselves to the kind of precise definition required. Any move toward the development of such definitions would necessarily be a move away from ordinary language and toward some kind of more technical and "scientific" way of proceeding. That, as we have seen, would have been anathema to Ryle.

3. As a consequence, I suspect, of Wittgenstein's abandonment of the picture theory of the meaning of sentences in his later philosophy, Ryle was deeply confused, at least at the level of theory, as to when he was talking *de re* about the objects, events, and states of affairs in a universe that exists independently of our talk and thought about it and when he is talking *de dicto* about the words and expressions we use to talk about them. In discussing categories he invariably talks as if categories are simply a matter of language and logic. Yet his examples suggest otherwise. It is not the word *university* that is composed of "colleges, libraries, playing fields, museums, scientific departments, and administrative offices." It is the universities themselves. Likewise although activity verbs, achievement verbs, and disposition verbs are, as we have seen, distinguished by the verb-aspects that they do and do not "take," an obvious explanation for this is that it is the distribution over time of the continuities and discontinuities to

which they refer, rather than any logical principle, that determines what aspects go with what verb.

C. "KNOWING HOW" AND "KNOWING THAT"

The distinction between "knowing how" and "knowing that" is undoubtedly Ryle's best-known contribution to the philosophy of mind, one that is still cited when the rest has been either forgotten or never learned. There is, of course, a valid contrast between the essentially linguistic and intellectual ability described by the phrase "knowing that so-and-so is the case" and the purely practical ability described by "knowing how to do so-and-so"; but Ryle's emphasis on the purely practical character of "knowing how" was probably suggested by Wittgenstein's use of the phrase "knowing how to go on" in the passage already quoted from the *Blue Book* (p. 368), where he is talking about the ability to continue whistling a well-known tune after an interruption. Ryle's only innovation is to add the contrast with "knowing that."

But in contrasting "knowing how" with "knowing that," Ryle fails to notice that "knowing how" is just *one* among a number of locutions in which the verb "to know," together with other verbs of cognitive success such as "to remember," takes as its grammatical object an embedded sentence in *oratio obliqua,* or indirect reported speech, which, unlike the case of "knowing that," in which the embedded sentence is declarative, is in the interrogative mood introduced by an interrogative pronoun of which "how" is only one. Thus besides "knowing that" and "knowing how" one can be said to know what, when, where, whether, which, who, and why. Once this is appreciated it becomes apparent that the function of such embedded questions in *oratio obliqua* is to indicate a question for which the knower is able to supply the correct answer. What distinguishes "knowing how" from these other cases, where knowing is a matter of being able to answer the question correctly, is that in this case you can answer the question "How does one do this?" not by giving a verbal account of the procedure to be followed, but by giving a demonstration. As time has gone on, even the requirement that the knower be able to show how something is done, when asked to do so, is dropped, with the result that "knowing how" becomes simply a matter of being able to do what one knows how to do, whether or not that ability is manifested in response to a request for a demonstration.

Ryle's failure to appreciate this point had an important impact on the subsequent history of the philosophy of mind, because the contrast he draws between "knowing how" and "knowing that" is the nearest he gets to addressing the problem of the peculiarities of the grammatical objects of psychological verbs. It is not just that the linguistic phenomena usually discussed under such headings as intentionality, intensionality, and referential opacity are as significant a part of the "grammar" of these expressions as are the phenomena of aspect emphasized by both Wittgenstein and Ryle. Having been convinced by their arguments that incorrigible self-awareness is not what distinguishes the mental from the non-

mental, philosophers were looking for an alternative way of marking off the domain of the mental from that of the physical. By failing to deal adequately with the peculiar grammatical objects of psychological verbs, Wittgenstein and Ryle allowed Roderick Chisholm (1957) to fill the gap by reviving Brentano's (1874/1995) doctrine that "intentional reference to an inexistent object" is the mark of the mental, while presenting it as a thesis, not as it was for Brentano, a thesis about mental acts and mental states, but about the peculiarities of psychological language.

VI. RYLE'S INNOVATIONS:
THE ACHIEVEMENTS

Not all the respects in which Ryle goes beyond what is to be found in Wittgenstein are as unsatisfactory as his caricature of Descartes, his treatment of categories, and the "knowing how" and "knowing that" distinction. There are also genuine achievements that build on and go beyond anything Wittgenstein envisaged. I see five such achievements:

1. The restriction of conceptual analysis to "on-duty" sentences
2. The method of verification as a clue to meaning
3. The hypothetical analysis of dispositional statements
4. The comprehensive survey of commonsense psychology from the standpoint of conceptual analysis
5. The demonstration that most ordinary psychological concepts are dispositional and that only a minority involve inner episodes

A. RESTRICTING CONCEPTUAL ANALYSIS
TO ON-DUTY SENTENCES

In his paper "The Meaning of a Word" John Austin (1961), the cofounder with Ryle of the Oxford ordinary language school of philosophy, shows how conceptual analysis as a technique for elucidating word meanings rests on Frege's (1884/1950) principle that the meaning of a word or expression is the contribution it makes to meanings of those (meaningful) sentences in which it occurs. It follows from this principle that the only way to study word meanings effectively is by contrasting the kinds of sentence in which the word or expression can meaningfully occur with those in which its insertion makes nonsense. As we have seen, the first practical application of the principle is due to Wittgenstein. But, although he never explains exactly what he means by this, to Ryle must go the credit for insisting that the sentences you need to look at when you study word meanings are the ones in which the word or expression in question is "on duty."

This metaphor may well be another of the ideas that came to Ryle from Wittgenstein. There is a passage in the *Investigations* (Wittgenstein, 1953, p. 19)

where he maintains that "philosophical problems arise when language *goes on holiday*."[8] It would appear to be a natural inference from this statement that the way to avoid philosophical problems is to use and pay attention to the way language is used when it is *not* "on holiday," that is, when it is "on duty." But while this is the natural inference, there is no positive evidence that Wittgenstein himself actually drew it. Ryle clearly did. But, since neither he nor Wittgenstein explain the metaphor, the only way to work out what it means is to look at the kinds of sentences Ryle cites as examples in contrast to those that he conspicuously omits. While there are doubtless many intermediate cases, it is clear from this analysis that at one extreme a linguistic expression is "on duty" when it occurs in a sentence that either prescribes or describes a particular concrete situation that, if it does not already exist or has not existed in the past, may exist in the future or might have existed in the past. At the other extreme a linguistic expression is "off duty" when it occurs in a sentence that talks in an abstract way about the concept itself. In the case of the psychological words and expressions with which Ryle deals in *The Concept of Mind,* such expressions when "on duty" are either predicate expressions in their own right, (i.e., they are verbs or adjectives), or they form part of complex predicates as in the case of nouns such as *a pain, a throb,* or *a tingle,* which are inseparable from the predicates *having* or *feeling a pain, a throb,* or *a tingle,* or the reflexive pronoun suffix *-self* in phrases such as "talking to oneself" or "thinking to oneself." In a sentence in which such predicates or predicate components are "on duty," the subject term is invariably a noun phrase that designates one or more particular substances (in Aristotle's sense of that term) in which a substance is a discrete entity extended in three dimensions of space and one of time. Substances in this sense are, in a phrase Ryle is reported to have used, either "things or chaps" — in other words, either inanimate objects or living organisms. Where the predicate is psychological, the subject term is a noun phrase that designates a person. Moreover, in line with the conviction that the primary function of our ordinary psychological language is to enable us to describe and explain the behavior of others, in all Ryle's examples it is in the third person, rather than in the first, as it invariably is in the tradition that descends from Descartes.

In the kind of sentence that Ryle would disqualify as being "off duty," an expression that, when "on duty," occurs as a predicate or as part of a predicate is nominalized (i.e., converted into a noun), so that it can be placed in the subject position in the sentence and thus become the focus of discussion. Although he makes use of the traditional nominalizations of predicates and other parts of speech that make up the traditional mental faculties, terms such as *intelligence, intellect, knowledge, volition, emotion, consciousness, sensation, The Self, per-*

---

[8] Denis Paul, who was asked by Elizabeth Anscombe to check her translation of the *Philosophical Investigations,* thinks (personal communication, October 1996) that it was he who suggested "goes on holiday" as a translation of Wittgenstein's *feiert.* However, he now thinks that "knocks off" or "goes off duty" would be more accurate. If so, it brings this metaphor of Wittgenstein's even closer to Ryle's "on duty."

ception, imagination, and *memory* in his chapter and section headings and in some of his own classifications of psychological predicates, Ryle seldom uses such forms when mentioning a particular linguistic expression and never in an example of its occurrence within a sentence. Although he does not explicitly say so, his own practice clearly shows that, in his view, this nominalization of predicates and other parts of speech seriously obscures the important grammatical differences between constructions that do and do not make sense with those expressions.

B. THE METHOD OF VERIFICATION
AS A CLUE TO MEANING

Central to the "logical positivism" inspired by Wittgenstein and developed by the Vienna Circle during the late 1920s was the so-called verification principle, the principle that the meaning of a statement is its method of verification. It was used by them for the following purposes:

1. To dismiss as meaningless nonsense propositions such as those of traditional metaphysics and theology for which no acceptable method of verification had been or could be proposed
2. To show that the theoretical entities of science must be construed as "logical constructions" out of statements describing the operations used to verify their "existence" (operationalism)
3. To show that the physical objects of common sense are likewise to be construed as "logical constructions" out of statements describing the sensory experience or "sense data" that were supposed to provide "evidence" of *their* "existence" (phenomenalism)

Though it is an open question whether Wittgenstein himself would have approved, the verification principle was subsequently used by Norman Malcolm (1959) to provide a conceptual analysis of the concept of dreaming as the propensity to report fictitious events on waking from sleep, a view for which he appeals to the authority of the later Wittgenstein.

There is no reason to suppose that Ryle endorsed the verification principle in this form. Although he was as anxious as any logical positivist to show that the doctrines of traditional metaphysics are nonsense, he never uses the argument that they are in principle unverifiable. About the theoretical entities of science he has nothing to say. He has been accused by David Armstrong (1968) of phenomenalism. But the only substance to this claim is Ryle's contention that to say of something that it has a certain disposition (e.g., of a pane of glass that it is brittle) is to say that if certain conditions are fulfilled (if the pane is struck by a hard object or falls onto a hard surface), certain consequences are liable to follow (it is liable to break). But it is a matter of what is liable to *happen,* not, as in phenomenalism, a matter of what is liable to be *observed.*

While Ryle's (1949, pp. 234–240) attempt to refute phenomenalism may not be as convincing as either Wittgenstein's (1953, p. 88ff.) private language argument or Austin's (1962) *Sense and Sensibilia* (mainly because it relies on the not altogether convincing claim that you cannot be said to observe your own sensations) he makes it abundantly clear that he rejects the theory, that it is the object and not the sensations it produces that we observe, and that "we cannot describe sensations themselves without employing the vocabulary of common objects" (Ryle, 1949, p. 237).

There is a story I have heard, but for whose truth I cannot vouch, that when Wittgenstein was asked whether, as he appears to have done in the 1920s, he endorsed the verification principle, he said that all he really wanted to claim was not that the meaning *is* its method of verification, but that raising the question as to how you would set about verifying a statement of that kind is a good way of elucidating what a sentence means. If that *is* what Wittgenstein said and it was known to Ryle, it may well be that it was from this statement that Ryle got the idea of asking questions about how we tell whether a particular concept applies in the course of his exploration of the "logical geography" of our ordinary psychological concepts. But even if this story is true, it by no means detracts from the credit Ryle deserves for having been the first to apply the verification principle in this purely exploratory way.

Curiously, Ryle seems not to have appreciated the usefulness of asking questions about how we verify statements ascribing this or that psychological predicate to others and to ourselves until he was more than halfway through writing *The Concept of Mind.* Although from the very beginning he ridicules the official doctrine that we have what he calls incorrigible "Privileged Access" to our mental states and processes, and although he picks up from Wittgenstein the notion that the way we satisfy ourselves that someone or something has a particular disposition is to subject the dispositional property bearer or a near identical sample of the same kind to a *test* in which the manifestation conditions for that disposition are fulfilled, it is not until he comes to discuss introspection in his chapter titled "Self Knowledge" (Chapter 6) that he brings these two observations together.

Talking about what it means to say of oneself or of someone else that I or they suddenly understood something, he says:

> Even if you claimed that you had experienced a flash or click of comprehension and had actually done so, you would still withdraw your other claim to have understood the argument, if you found that you could not paraphrase it, illustrate, expand, or recast it; and you would allow someone else to have understood it who could meet all examination-questions about it, but reported no click of comprehension. (Ryle, 1949, pp. 170–171)

The delayed appearance of this crucial "click of comprehension" on Ryle's part strongly suggests that it is an insight for which he alone is responsible and that owes little or nothing to the verification principle or to anything Wittgenstein may or may not have said.

C. THE HYPOTHETICAL ANALYSIS
OF DISPOSITIONAL STATEMENTS

Controversial though it is, Ryle's account of dispositions and dispositional statements is arguably his most significant contribution to metaphysics and the philosophy of language and the foundation of his OUR-behaviourist theory of ordinary psychological language. As we have already seen, much of his account of dispositions comes to him from Wittgenstein. From Wittgenstein comes the idea that many of our most important psychological concepts are dispositional in character, that psychological dispositions are in principle no different from physical ones, that a dispositional statement—a statement ascribing a disposition to someone or something—can be replaced without change or loss of meaning by a statement about what the dispositional property bearer *can do*, and that such statements are verified by the administration of an appropriate test. To this Ryle adds the following elements:

1. The statement about what the property bearer can do, which replaces the disposition-ascribing statement, is the consequent of a hypothetical or conditional statement whose antecedent specifies the conditions under which a manifestation, or "exercise," as Ryle calls it, of the disposition is to be expected.

2. There are also disposition-ascribing statements whose hypothetical–conditional replacements describe not what the property bearer *can do,* but what it, he, or she *would* or *would very probably do,* given the fulfillment of the conditions specified in the antecedent. In other words, not all dispositions are capacities. We need to include tendencies, or "propensities," as Ryle calls them, as well.

3. Disposition-ascribing statements, though not law statements in the strict sense, since they may apply only to a single individual, are nevertheless lawlike.

4. Both law statements and disposition-ascribing statements, *qua* lawlike, are "inference licences" or "inference tickets" that, when combined with the observation that the conditions specified in the antecedent of the conditional have been fulfilled, justify an inference to the occurrence or existence of the event or state of affairs of the type described in the consequent (is a manifestation, or "exercise," of the disposition).

Of these innovations the first is undoubtedly Ryle's most important and enduring contribution. For although, as we shall see, many subsequent commentators have challenged the claim, made as much by Wittgenstein as by Ryle, that a dispositional statement is *equivalent* to a modal statement about what the property bearer *can, could,* or *would* do and says nothing about what is categorically and currently the case, no one has seriously challenged the claim that dispositional statements *entail* a hypothetical–conditional statement to that effect. The other innovations have either, as in the case of the lawlike character of dispositional statements, been superseded by much better discussions of the issue (in

this case by Nelson Goodman's [1955/1965] *Fact, Fiction, and Forecast* or, as in the case of the extension of the concept of disposition from capacities to tendencies, are marred by a failure to explain the distinction between the two. As we shall see, when discussing C. B. Martin's (1994) "electro-fink" argument, Ryle's "inference ticket" notion reflects a failure to distinguish between, on the one hand, causal conditionals that describe conditional relations between the existence or occurrence of states of affairs and events and, on the other, sentences of the form "If *p*, then *q*" that describe conditional relations between the truth of propositions.

D. A COMPREHENSIVE SURVEY OF COMMONSENSE PSYCHOLOGY

Because of his aphoristic style and his practice of following a line of thought and argument wherever it may lead, Wittgenstein's writings leave the reader without a clear picture of how a particular branch of philosophy, such as the philosophy of language or the philosophy of mind, now looks in the light of what was at the time a new and revolutionary approach. Although, as we have seen, Ryle gives us no overview of the new philosophy of language on which he relies for his analysis of our ordinary psychological language, his book *does* provide an excellent survey of commonsense psychology viewed from the perspective of Wittgensteinian conceptual analysis.

Ryle did not, of course, set out in *The Concept of Mind* to write a manual of commonsense psychology. His purpose is essentially polemical, to demonstrate by a series of *reductio ad absurdum* arguments that what he stigmatizes as the "Official Doctrine," the "Dogma of the Ghost in the Machine," is false. Nevertheless, in pursuing this objective, he chases his quarry through a series of chapters whose headings would not look out of place in a late-nineteenth-century textbook of psychology such as William James's (1890) *Principles of Psychology* or G. F. Stout's (1898) *A Manual of Psychology.* Consequently, given the wealth of Ryle's examples and the sheer number of topics he covers, the reader is left by the end of the book with the feeling that no important aspect of our ordinary psychological language, apart perhaps from the concept of dreaming, remains undiscussed.

E. MOST, BUT NOT ALL, ORDINARY PSYCHOLOGICAL CONCEPTS ARE DISPOSITIONAL

Partly because of the comprehensiveness of his survey, partly because of the distinction he draws within psychological predicates between disposition verbs, activity verbs, and achievement verbs, and partly because, unlike Wittgenstein in the *Investigations,* he was never tempted to conclude from the private language argument that there is no way a language *could* make reference to private events, Ryle was in a position, as Wittgenstein was not, to draw the following conclusions:

1. The vast majority of our ordinary psychological terms either refer to some kind of disposition on the part of an individual human being to talk and behave in a variety of broadly specifiable ways or entail a reference to such a disposition

2. There is, nevertheless, a small minority of such terms that refer or contain a reference to an event or process taking place beneath the individual's skin to which he or she has some kind of "privileged access" that is not available to another person

Ryle is obviously embarrassed by having to make the concession in point 2 here. Like all behaviorists, whether OR-behaviorists or OUR-behaviourists, he does his best to minimize its magnitude and its significance. These "private events," as Skinner calls them, are restricted to bodily sensations such as pains, throbs, and tingles, the "sensations" that, as he reluctantly concedes (since this is a technical rather than an ordinary use of the term) are involved in any form of sensory observation, and what are traditionally referred to as "mental images," things like "seeing things in the mind's eye" or "having a tune running through one's head," reading silently to oneself instead of out loud, doing arithmetic "in one's head" instead of out loud or on paper, and various forms of active pondering and thinking that could be and sometimes are conducted out loud, rather than silently to oneself.

Many philosophers, particularly those who have tried to chart the way the philosophy of mind has evolved over the half century since Ryle's book first appeared, have taken this concession as evidence of the failure of OUR-behaviourism considered as an attempt to resolve the mind–body problem. But that is because their view is obscured by the typical philosopher's obsession with the search for that will-o'-the-wisp, the *essence of the mental*. Taken together, what these two conclusions show is that there is simply *nothing* that unites all mental things and differentiates them from all so-called physical things, apart perhaps from the suggestion that mental things have to do with those aspects of the regulation of human behavior that are accessible to the man-or-woman-in-the-street—though why things excluded by that definition should still be described as physical remains obscure. When combined with the demonstration of how far the OUR-behaviourist analysis can go before it hits the buffers, that is a major achievement and one which, although subsequently obscured by the fickle tides of philosophical fashion, is Ryle's enduring legacy.

VII. RYLE'S CRITICS

I shall examine five publications published between 1954 and 1994 in which the position adopted by Ryle in *The Concept of Mind* is criticized:

1. My own (Place, 1954) "The Concept of Heed"
2. Chapters 3 and 4 of Peter Geach's (1957) *Mental Acts*
3. Brian Medlin's (1967) "Ryle and the Mechanical Hypothesis"

4. Chapters 5 and 6 of David Armstrong's (1968) *A Materialist Theory of the Mind*
5. C. B. Martin's (1994) "Dispositions and Conditionals"

A. PLACE (1954)

In "The Concept of Heed" (Place, 1954) I criticized the account Ryle gives in Chapter 5 of *The Concept of Mind* of what he calls "heed concepts." What he means by this term I explain as follows:

> Ryle defines the notion of "heeding" or "minding" as embracing such concepts as "noticing, taking care, attending, applying one's mind, concentrating, putting one's heart into something, thinking what one is doing, alertness, intentness, studying, and trying." Concepts which "entail, but are not entailed by, heeding" include "enjoying, disliking, pondering, searching, testing, debating, planning, listening, relishing, calculating, and scrutinizing" (p. 136), looking (p. 232), observing, watching, descrying (p. 207), and recognizing (p. 223). Remembering something, according to Ryle (pp. 91 and 137–9) involves having paid heed to it at the time, while being conscious of sensations in one's body or objects in one's environment is evidently synonymous with heeding or noticing them (pp. 157–8). (Place, 1954, p. 244)

The reason Ryle needs to stress the activity of paying attention at the expense of the passive state of being conscious of something or, for that matter, the instantaneous achievement of noticing something is that his account of these concepts assumes (incorrectly in the case of "being conscious of" and "noticing something") that they are all *activity verbs*. This, as we have seen, means that unlike disposition verbs, which are restricted to the habitual aspect, and achievement verbs, which are restricted to the punctual aspect, they take the continuous aspect. In other words, activity verbs refer to an ongoing activity in which an individual can be engaged and on which he or she can spend time.

According to Ryle heed concepts are what he calls "mongrel categoricals." His favorite example of a mongrel categorical is the statement that a bird is migrating. He points out that to say this is to say something more than is said by saying that the bird is currently flying north or flying south, as the case may be. Moreover the bit that is added by saying that the bird is migrating is something dispositional, something about how the bird is disposed to continue flying over the next few weeks until some warmer or cooler climate is reached.

The claim that heed concepts are mongrel categoricals in this sense is intended by Ryle as a way of defeating what he calls the traditional practice of "misdescribing heed in the contemplative idiom" (Ryle, 1949, p.137), as if it consisted in an internal activity of "theorising, investigating, scrutinising, or 'cognising'" that is superimposed on and serves to regulate the activity in which the individual in question is currently engaged. Central to this enterprise is the claim "that it is quite idiomatic to replace the heed verb by a heed adverb. We commonly speak of reading attentively, driving carefully, and conning studiously, and this usage has the merit of suggesting that what is being described is

one operation with a special character and not two operations executed in differ-
ent 'places,' with a peculiar cable between them" (Ryle, 1949, p. 138). Having
replaced "paying attention to one's driving" by "driving carefully," Ryle is in a
position to claim that the bit that is added by the adverb *carefully* does not in-
volve any kind of internal activity of monitoring what we have subsequently
learned to call the "sensory feedback" from the changes in the organism–envi-
ronment relation brought about by the activity of driving as it proceeds. It is sim-
ply a matter of being disposed to react appropriately to the various contingencies
involved in the activity being performed as they arise.

In criticizing this theory in the paper I point out the following:

1. Not all heed or attention paying is a matter of paying attention to what one
is otherwise doing, that in looking, watching, listening, savoring, and observing,
the objects of heed or attention are simply features of one's current "stimulus en-
vironment"

2. Even in those cases in which the object of attention is some other activity
that the individual is performing, paying attention to one's own activity is not the
same thing as being disposed to perform it successfully. If one has not learned to
do something, no amount of attention paid to the feedback from one's move-
ments will dispose one to succeed. If a skilled performer pays attention to the
wrong aspect of the task, to sensory feedback from muscles in his arm or leg
rather than the trajectory, say, of an oncoming ball, he will surely fail.

From this I draw the following conclusions:

If the above arguments prove what I think they prove, are we back where we started at the
beginning of Ryle's inquiry? Do these arguments merely put the Ghost back into the Ma-
chine? I do not think so. So far as I am aware, the criticisms I have made of the disposi-
tional theory apply only to the dispositional analysis of consciousness and heed concepts
generally. The dispositional analysis of intelligence, knowledge, belief, motives, and
memory remains unaffected, except in so far as these concepts involve dispositions to pay
attention to or become conscious of certain features of one's environment. Indeed, since
Ryle himself appears to accept the view that words like "watching," "listening," and "ob-
serving" entail a reference to a covert process of having sensations, it is only in the case
of the heedful performance of muscular activities that the view which has been urged in
this paper differs from the account which Ryle has given as far as recognizing a reference
to covert states and processes is concerned. On Ryle's view, however, these processes are
relatively unimportant; we learn to talk silently to ourselves in order not to disturb others;
we could plan our course of action on paper, but it is often more convenient to do it in our
heads. If, on the other hand, our very ability to describe and adapt our behavior to the ob-
jects and phenomena which impinge on our sense organs, is dependent on a special state
of affairs within ourselves, which can itself be described by the person in whom it occurs,
the reference which is made to such a process in our use of expressions like "attending,"
"observing," and "being conscious" can hardly be brushed aside as a matter of no great
significance. If such a view is accepted, we can hardly avoid raising the question which
Ryle has dodged persistently throughout his book, namely the question: "What are these
curious occurrences within ourselves on which we can give a running commentary as
they occur?" Lack of space unfortunately precludes any discussion of this fascinating
problem here. It is my belief, however, that the logical objections to the statement "con-

sciousness is a process in the brain" are no greater than the logical objections which
might be raised to the statement "lightning is a motion of electric charges." (Place, 1954,
pp. 254–255)

Many subsequent commentators have interpreted this paper, or rather its se-
quel, "Is Consciousness a Brain Process?" (Place, 1956), in which I argued the
case for believing that consciousness, in the sense of this active process of atten-
tion paying, is a process in the brain, as a rejection of Ryle's OUR-behaviourism
in favor of what became known as the "mind–brain identity theory." But as
should be clear from this quotation, the criticism of Ryle's position is relatively
minor. It affects only his attempt to extend his dispositional analysis to a particu-
lar group of activity verbs where, if the argument is sound, there *is* a reference to
an internal activity to whose operation its owner has some kind of privileged ac-
cess. The claim that *most* of our ordinary mental concepts are dispositional still
stands, as does the hypothetical analysis of dispositional statements and the ba-
sic tenet of OUR-behaviourism that the primary function of our ordinary
psychological talk is to enable us to describe and explain the behavior of other
people.

B. GEACH (1957)

In *Mental Acts* Peter Geach (1957) devotes two chapters—Chapter 3, "Ryle's
Rejection of Mental Acts," and Chapter 4, "Acts of Judgment"—to criticism of
two central theses of *The Concept of Mind.* In Chapter 3 he criticizes the hypo-
thetical analysis of dispositional statements and in Chapter 4 the thesis that to
believe that a certain proposition is true is to be disposed to behave in a variety
of broadly specifiable ways.

The argument in Chapter 3 is complex. It begins with a point that Ryle him-
self concedes that not all our ordinary psychological statements are hypothetical
or semihypothetical in character. This part of Geach's argument misses its target
because, although Ryle would undoubtedly have preferred to extend his hypo-
thetical–dispositional analysis to all mental concepts and does his best to mini-
mize the importance of those for which he is forced to concede a reference to
private events, he nowhere claims to be giving a general account of the
mental–physical distinction.

Geach's second argument is more formidable. He compares Ryle's explana-
tion "that a glass broke because it was brittle" with the explanation given by the
doctor in Molière's *Le Malade Imaginaire* of opium's propensity to put people to
sleep, in which it is attributed to the *virtus dormitiva,* or dormitive power of the
drug. What he fails to notice is the difference between the two cases. In Ryle's
explanation the *explicandum* is a particular breaking, a particular manifestation
of the dispositional property of brittleness. The effect of the explanation is to
subsume the manifestation under a law, the law constituted by the disposition it-
self. That this is so follows from Goodman's (1955/1965) observation that dispo-
sitional statements are not merely lawlike, as Ryle claims, but are genuine coun-

terfactual-sustaining law statements, even when they are restricted in scope to the behavior of a single individual. In Molière's case, on the other hand, the *explicandum* is not a particular event whereby taking opium has the effect of putting a particular individual to sleep, it is the propensity of opium *in general* to put those who take it to sleep. If what was to be explained *had been* a particular case of someone going to sleep after taking opium, an explanation that attributed that concatenation of events to opium's *virtus dormitiva* (propensity to put people to sleep) would not only have been a perfectly acceptable explanation; it would be the only kind of explanation required in such a case, an explanation that subsumes it under the relevant law. What creates the absurdity in Molière's case is that the doctor is offering a high-sounding Latin phrase, meaning "having a tendency to put people to sleep," as an explanation, not of a particular event whereby someone falls asleep after taking some opium, but of the tendency of opium *in general* to put those who take it to sleep. In other words, it is an empty tautology that explains nothing. It is simply a high-sounding redescription of the phenomenon to be explained that is intended to obscure the doctor's total ignorance of its true explanation.

To accuse Ryle, as this comparison implicitly does, of hiding his ignorance of the true explanation of the brittleness of glass *in general* is wide of the mark. All he is concerned with is the *meaning* of dispositional statements. Insofar as he is concerned with the problem of explanation at all, it is only with what the dispositional statement itself can be used to explain. What explains the fact that the dispositional statement itself describes is a scientific matter and, as such, none of Ryle's business.

Geach, of course, is entirely right to imply as he does, that in order to explain a *phenomenon,* such as the brittleness of glass in general or the hypnotic property (as it is now called) of opium, what is needed is a scientific explanation that explores the microstructure of the property bearer, the molecular structure of the glass in the case of brittleness, the molecular structure both of the drug and of the brain with which it interacts in the case of the hypnotic property of opium. Where he is mistaken is in accusing Ryle of offering his hypothetical analysis of dispositional statements as a substitute for an explanation of the fact that the dispositional statement describes, as he does in the following passage:

> A physicist would be merely impatient if someone said to him: "Why look for, or postu-
> late, any actual difference between a magnetized and an unmagnetized bit of iron? Why
> not say that if certain things are done to a bit of iron certain hypotheticals become true of
> it?" He would be still more impatient at being told that his enquiries were vitiated by the
> logical mistake of treating "X is magnetized" as categorical, whereas it is really hypothet-
> ical or semi-hypothetical. (Geach, 1957, p. 6)

What must be conceded is that, because of his Oxford classical training and consequent lack of understanding of and sympathy for the scientific enterprise, combined with his insistence that to deviate from "on-duty" ordinary language is to invite conceptual confusion, Ryle gives the impression of being deeply antipathetic to the kind of conceptual innovation that is the lifeblood of science.

Moreover, although there is nothing in his publications that commits him to it, there is oral testimony[9] to the effect that Ryle himself endorsed the view expressed by his old friend and Oxford colleague Professor Henry Price when he wrote: "There is no a priori necessity for supposing that all dispositional properties must have a 'categorical basis.' In particular, there may be mental dispositions which are ultimate" (Price, 1953, p. 322; quoted by Armstrong, 1968, p. 86). On this point Geach's response is as apt as it is devastating:

> Of course there may be people prepared to say that, although men of science regularly look for differences already existing between the agents in order to explain differences of behavior, there is no reason to expect that such differences always do exist; the principle on which men of science proceed might be as unsound as any gambling system, and their success up to now mere luck. I shall not argue the point. (Geach, 1957, p. 6)

Geach's third argument in Chapter 3 of *Mental Acts* is equally scathing. It attacks the very heart of Ryle's hypothetical analysis of dispositional statements:

> It ought to be, but plainly is not, generally known to philosophers that the logic of counterfactual conditionals is a very ill-explored territory; no adequate formal logic for them has yet been devised, and there is an extensive literature on the thorny problems that crop up. It is really a scandal that people should count it a philo"sophical advance to adopt a programme of analysing ostensible categoricals into unfulfilled conditionals, like the programmes of phenomenalists with regard to "physical-object" statements and of neo-behaviourists with regard to psychological statements. (Geach, 1957, pp. 6–7)

In this passage Geach is "pulling rank" in his capacity as a formal logician over Ryle who, as he admits in his "Autobiographical," "having no mathematical ability, equipment, or interest, . . . did not make myself even competent in the algebra of logic" (Ryle, 1970, p. 7).

Forty years on the logic of counterfactual conditionals is no nearer to solution; but what also remains is the gut intuition that something *has* been made clear, when we are told by Ryle that to say that glass was brittle is to say that if, contrary to fact, it had been dropped on a hard surface or struck by a hard object, it would have shattered, or when we are told by Hume (1777/1902, p. 76), John Mackie (1962, 1974), or David Lewis (1973) that to say that A caused B is to say that if, contrary to fact, A had not existed or occurred, B would not have existed or occurred. But, if I am right, what creates the problem with these counterfactual conditionals is that standard logic forces us to construe them as what Ryle calls "inference licences," statements of the form "If p, then q" in which, given the truth of the antecedent, the truth of the consequent may be inferred. In my view, the only way to make sense of these conditionals is to recognize that the conditional relation they specify is not between the *truth* of the antecedent and the *truth* of the consequent, but between the *existence* of the situation specified in the antecedent and the *existence* of that specified in the consequent. It is therefore ironic that Geach's final dig at Ryle in Chapter 3 of *Mental Acts* is to lam-

---

[9] From Professor C. B. Martin, who discussed the matter with Ryle in 1953 (personal communication, February 1995).

poon his talk of such conditionals as "inference licences" or "inference tickets."
As Geach rightly points out, that view leads to the absurd conclusion that "on
Ryle's view . . . 'the rubber has begun to lose its elasticity' has to do not with
a change in the rubber but with the (incipient?) expiry of an inference-ticket"
(Geach, 1957, p. 7).

In Chapter 4 of *Mental Acts* under the heading "Acts of Judgment," Geach in-
troduces an objection to Ryle's claim that "the gardener who . . . expects rain
. . . leaves the watering-can in the toolshed, keeps his coat handy, beds out
more seedlings, and so on" (Ryle, 1949, p. 175). He points out that an action
cannot

> be described as "acting as if you held such-and-such a belief" unless we take for granted,
> or are somehow specially informed about, the needs and wants of the agent. In Ryle's ex-
> ample this information is smuggled in by his speaking of a *gardener's* rain-expecting be-
> havior (and tacitly assuming that the gardener is not e.g. a discontented or corrupt servant
> who wants the garden to be ruined). When Dr Johnson did penance in Uttoxeter market-
> place, he may have begun by standing around bareheaded until the threatened shower
> should fall; this would not be recognizable as rain-expecting behavior without a knowl-
> edge of Johnson's wish to do penance. (Geach, 1957, p. 8).

Geach does not make the point, though many others have, that the same goes for
the agent's motives. We cannot predict how someone will behave solely from a
knowledge of what he or she wants to achieve. We need also to know, or be in a
position to infer something about, the person's means-end-beliefs.

Though some have taken this as a knockdown argument against Ryle's view
that beliefs and desires are dispositions to behave in a variety of broadly specifi-
able ways, there are plenty of examples in science where outcomes can be pre-
dicted only when the values of two complementary dispositional properties are
known. Ohm's Law is a case in point. Here the magnitude of a current flow
along a conductor cannot be predicted either from a knowledge of the potential
difference between its two ends or from a knowledge of its resistance. It is pre-
dictable only from a knowledge of both.

C. MEDLIN (1967)

Brian Medlin's (1967) critique of Ryle's *The Concept of Mind* in his "Ryle
and the Mechanical Hypothesis" is obfuscated by the curious anachronism
whereby he treats it as a set of objections to his own preferred theory of the na-
ture of the mind, which in common with and, one suspects, inspired by David
Armstrong (1968) he refers to as "Central State Materialism." The anachronism
here derives from the fact that, although Ryle makes one or two disparaging re-
marks about earlier and less sophisticated versions of materialism, he does not
discuss Central State Materialism for the very good reason that it had not then
been invented. Moreover, as will be apparent from both the discussion of my
contribution mentioned previously and Armstrong's contribution mentioned
later, Central State Materialism grew out of and owes a great deal to Ryle's
analysis.

Nevertheless from the somewhat tortuous argumentation that results from this curious inversion of the historical relation between the two, there emerges three criticisms of Ryle's position that in my judgment are the most serious and least defensible of all the charges laid against him:

1. The claim that Ryle systematically confuses conceptual and ontological issues
2. The claim, not as clearly articulated as the other two, that Ryle systematically misconstrues the causal relation, particularly when he concludes that, having shown that dispositions are not episodes, he has shown that they are not causes
3. The claim that Ryle's repudiation of mechanistic theories of human behavior is not supported by such meager arguments as he adduces in its favor

1. The Confusion of Conceptual and Ontological Issues

Medlin claims that "the confusion of conceptual questions and ontological questions . . . underlies a great part of *The Concept of Mind,* as I shall show, and is the starting point for much contemporary British and American philosophizing" (Medlin, 1967, p. 99). Judging from the examples he gives of such confusions, it would seem that for Medlin confusing the conceptual and the ontological is a matter of failing to appreciate the following:

1. The actual objects, events, and states of affairs that fall under our ordinary concepts share properties (such as physical or physiological properties in the case of mental entities) that do not form part of the criteria we employ when we assign them to those concepts
2. Our ordinary concepts, particularly our adjectival descriptions of things, contain elements that express attitudes toward such things, rather than drawing attention to any common feature possessed by the instances that fall under them

Given this understanding of what he has in mind, I am convinced that Medlin is right both in seeing such confusions in Ryle and in claiming that they are endemic in "British and American philosophizing." We have seen in discussing his treatment of the notions of *category* and *category-mistake* (pp. 372–3) that Ryle's examples of such things belie his characterization of them as a purely logical and linguistic matter. In a book (Armstrong, Martin, & Place, 1996, pp. 105–108) I give several examples of what I call "linguisticism," a term introduced by C. B. Martin in his contribution to the same volume.

Martin defines *linguisticism* as "that [which] renders properties being had by objects as merely a matter of predicates being true or false of the object, if any, to which the subject term refers" (Armstrong, Martin, & Place, 1996, p. 71). It should be clear that linguisticism, so defined, is a form of the confusion of conceptual and ontological issues to which Medlin refers, one in which the philosopher talks of the truth of a statement in which a predicate is ascribed to a subject,

when what is really at issue is the existence of the property that the predicate designates. Ryle's description of causal laws as "inference licences" is an example of linguisticism in this sense.

2. The Causal Relation

Medlin's somewhat confused critique of Ryle's account of causation stems from a wish to defend, from what he assumes would be Ryle's objections to it, his own view, which he describes as "a *general causal theory* of mind." According to this theory states of mind or mental states are causes. They are conditions of a person which tend to result in behavior falling within certain more or less determinate limits" (Medlin, 1967, p. 95). But for the fact that he insists that there is something categorical, here-and-now-existing, about such states and that they act as causes, the mental states that Medlin describes in this passage are indistinguishable from Ryle's mental dispositions. The same range of examples is given for both. The two differences are connected. Ryle and Medlin agree that if something is to be a cause, it must be something that exists here-and-now, something that is to that extent categorical. Ryle thinks that, because he has shown that dispositions are simply a matter of what would happen if certain conditions were to be fulfilled in the future, dispositions cannot be causes. Equally Medlin, who thinks that mental dispositional states (and hence, presumably, dispositions in general) are causes, has to hold that they are categorical here-and-now-existing entities. Both views are partly right and partly wrong. Two things are certain. Firstly, if on a particular occasion A is an immediate cause of B and there is no *chain* of causes and effects linking the two, A's existence must either have overlapped with B's existence (where A is a state of affairs) or have immediately preceded B (where A is an event). Secondly, as Hume has taught us, A and B must be "distinct existences" — in other words, it must be *conceivable* that A should exist and B not exist, even though to say that A is a cause of B is to say that B's existence is *in some sense* necessary, given the existence of A.

Ryle's belief that dispositions are not and could not be causes rests on two mistaken assumptions:

1. The assumption that only an event can be a cause, an assumption that manifests itself in the claim that "when we say that the glass broke when struck because it was brittle, the 'because' clause does not report a happening or a cause" (Ryle, 1949, p. 89)

2. The assumption that having shown that dispositional statements entail a hypothetical–conditional statement specifying what would or would probably happen, if at any time in the future certain conditions were to be fulfilled, he has also shown that nothing categorical is entailed by such statements about what exists *now,* before the conditions are fulfilled, which they need never be

Given that both these assumptions are false, as, so it seems to me, they manifestly are, Ryle's case for denying that dispositions are causes collapses. Moreover, had he realized that the natural partner for his hypothetical analysis of

dispositional statements is the counterfactual theory of causal necessity (the thesis that to say that A was the cause of B is to say that if A had not existed as and when it did, B would not have existed as and when it did), he would have had to accept that not only are dispositions causes of their manifestations (for if the glass had not been as brittle as it was, it would not have broken when struck by the stone) but that without such a dispositional cause, no mere juxtaposition of substances, no mere striking of a stone against a pane of glass, can have an effect.

Medlin's mistake is different. He supposes with David Armstrong (1968), from whom he must have derived the idea (for although Armstrong's book had not appeared when Medlin was writing, its principal thesis was already well known to philosophers in Australia), that even if dispositional statements contain no more than a vague allusion to the categorical here-and-now existence of a state of the dispositional property bearer, which is such that if certain conditions were to be fulfilled, a manifestation of the disposition would or would very probably exist or occur, this categorical element of the disposition is, *as a matter of fact,* something much more substantial. It is a state of the property bearer's microstructure; in the case of a mental disposition, a state of the property bearer's brain. Since this is Armstrong's doctrine, the reasons for thinking that it is false and that something more like Ryle's story is true will be presented next when dealing with *his* critique of Ryle.

3. The Bogy of Mechanism

Medlin's critique of Ryle's repudiation of mechanism is both more explicit and more cogent than his critique of Ryle's account of causation. Ryle's repudiation of mechanism is expressed in the following well-known quotation: "Men are not machines, not even ghost-ridden machines. They are men — a tautology which is sometimes worth remembering" (Ryle, 1949, p. 81). In reacting to this claim, the obvious retort is that it all depends on what you mean by terms such as the nouns *machine* and *mechanism* and the adjective *mechanical.* It goes without saying that there is at least one sense of the word *machine* in which it is true — but trivially so — that men (and women) are not machines. This is the ordinary sense of the term in which a machine is a human artifact designed and constructed by human beings to enable them to do things that without the machine they could not do or could do only with much expenditure of time and effort. To suggest that men are machines in this sense is patently absurd. On the other hand, there are senses of the word in which it is equally obvious that human beings, along with other species of living organisms, are machines. For example, the Penguin *A Dictionary of Science* (Uvarov & Chapman, 1943/1951) states that *machine* is "defined mathematically as a device for overcoming resistance at one point by the application of a force, usually at some other point. Generally understood to be any arrangement for the purpose of taking in some definite form of energy, modifying it, and delivering it in a form more suitable for the desired purpose" (Uvarov & Chapman, 1943/1951, p. 33).

There are two phrases in this definition that identify a machine as human arti-
fact, the word *device* and the reference to the *purpose* it serves. But if we substi-
tute the word *system* for the word *device* and *for the survival of the system* for
for the purpose, the definition of *machine* comes out as follows: "Defined math-
ematically [a machine is] a system which overcomes resistance at one point by
the application of a force, usually at some other point. Generally understood to
be any arrangement which takes in some definite form of energy, modifies it, and
delivers it in a form more suitable for the survival of the system." By that defini-
tion any living organism is a machine.

In the same book *mechanistic theory* is defined as "the view that all biological
phenomena may he explained in mechanical, physical, and chemical terms; in
opposition to the vitalistic theory" (Uvarov & Chapman, 1943/1951, p. 39). This
is the definition of *mechanism* that Medlin takes Ryle to be rejecting when he
speaks of "the Bogy of Mechanism" (Ryle, 1949, pp. 76–82). Given that as-
sumption, he is able to use another quotation from Ryle as the perfect *argumen-
tum ad hominem* against the view that there is some kind of incompatibility be-
tween *mechanism* so defined and the ascription to human beings of the highest
moral virtues.

> The fears expressed by some moral philosophers that the advance of the natural sciences
> diminishes the field within which the moral virtues can be exercised rests on the assump-
> tion that there is some contradiction in saying that one and the same occurrence is gov-
> erned both by mechanical laws and by moral principles, an assumption as baseless as the
> assumption that a golfer cannot at once conform to the laws of ballistics *and* obey the
> rules of golf *and* play with elegance and skill. (Ryle, 1949, pp. 80–81; quoted by Medlin,
> 1967, p. 118).

Ryle's lack of clarity as to what he means by *mechanism* invites such retorts.
Nevertheless, as will be apparent from what is said about it in other chapters of
this book, there is at least one other sense of the term in which the repudiation of
it, not just by Ryle, but by many contemporary OR-behaviorists, is fully justi-
fied. The sense in which mechanism is inappropriate in the description and
analysis of behavior at what Broad (1925) calls the "molar" level can be illus-
trated by comparing two causal chains, one mechanical and the other historical.
In a machine such as the internal combustion engine the same sequence of
events is repeated over and over again. In a four-stroke engine the piston de-
scends with the inlet valve(s) open, drawing the mixture of air and fuel into the
cylinder. The piston rises with all valves closed, compressing the mixture. The
mixture ignites, expands, and, with all valves still closed, drives the piston
downward. Finally the piston rises with the exhaust valve(s) open, expelling the
exhaust gases, and the cycle is repeated. Compare this description with that of a
causal chain such as the sequence of events that began with the assassination of
Archduke Franz Ferdinand in Sarajevo on June 28, 1914, and the outbreak of the
First World War 2 months later. In both these cases events succeed one another
with apparent inevitability. But whereas in the internal combustion case the same
cycle repeats itself over and over again, history, as we say, never repeats itself.

The difference between the two cases is not, however, due to the fact that in one case we are dealing with human behavior, whereas in the other we are dealing with the behavior of an inanimate object. Cycles that repeat themselves in the same "mechanical" way as that which keeps the internal combustion engine going are just as common within biological systems. Think of the circulation of the blood or the process whereby one neuron induces excitation in another to which it is synaptically connected. By the same token historical-type event sequences of a purely physical kind are encountered daily in the atmosphere as one weather system succeeds another.

The essential difference between these two types of causal chains becomes apparent when we recognize, as Ryle refused to do, that dispositions are causes too. Once this idea is accepted it becomes apparent that the *immediate* causes of an event are always multiple and that they are of two kinds, *standing conditions,* mainly dispositional, which are already in position some time before the effect occurs and a single *triggering event,* which completes the set of causal conditions that are jointly sufficient for the initiation of the effect. In an historical-type causal chain the set of relevant immediate causes, both standing conditions and a triggering event, are different for each event in the sequence. In a mechanical system, whether natural or artificial, the standing conditions are held constant as they are in a controlled experiment and the triggering events succeed one another in a regular cyclical fashion. In the behavior of human beings, as in the behavior of other species of complex free-moving living organisms (animals), we find both types of causal sequences. Mechanical repetition applies not just at the level of the synapse, it applies at the level of the reflexes and habits—both learned and unlearned—that make possible the smooth execution of any skill whether motor or verbal. But in dealing with anything novel or where decisions affecting the survival of the individual and its offspring need to be taken, different factors come into play at each step in the behavioral chain. To deny the existence of this creative problem-solving character of the molar behavior of living organisms at the strategic level, as some early behaviorists were inclined to do, is a form of mechanism with which contemporary behaviorists are rightly concerned, as was Ryle, to dissociate themselves. But failing to appreciate that creative problem solving depends for its execution on an automatized and mechanical substrate is equally mistaken.

D. ARMSTRONG (1968)

The critique of Ryle's hypothetical analysis of dispositional statements in Armstrong's (1968) *A Materialist Theory of the Mind* has been by far the most influential of all those considered here within the philosophical community. The reason for this is not because his criticism of Ryle's position is particularly cogent. As we have seen in discussing Ryle's repudiation of phenomenalism (p. 376) Armstrong's only argument against Ryle is to accuse him of phenomenalism. This accusation misses its target, not only because Ryle (1949,

pp. 234–240) specifically repudiates phenomenalism, but because phenomenalism is a thesis about the nature of material objects. It is the thesis that they consist, when unobserved, in the disposition to be so. Conversely, the theory of Ryle's that Armstrong is trying to refute is a theory about dispositional statements and the dispositions they ascribe. It is the theory that they consist, not in the probability that their manifestations will be *observed,* if certain conditions are fulfilled, but in the probability that those manifestations will *occur* under those conditions, whether observed or not.

Evidently, as a critique of Ryle's hypothetical analysis of dispositions, Geach's arguments are far more formidable than Armstrong's. But what made Armstrong's repudiation of Ryle's OUR-behaviourism far more influential among philosophers was the alternative materialist account of the nature of dispositions that he offers as a replacement both for Ryle's dispositional analysis and for the return to traditional mind–body dualism, which is all Geach has to offer by way of a theory of dispositional mental states.

In developing his alternative Armstrong makes two moves. The first, which we have already encountered in our discussion of Medlin, is to insist contra Ryle that dispositions are causes of their manifestations. As we have seen, this argument requires that they cannot, as Ryle supposes, be simply a matter of what would happen in the future, if at some time certain conditions were to be fulfilled. Even if that is *part* of the story, it cannot be the *whole* story. If dispositions are to be causes of their manifestations they must exist prior to and independently of the manifestations they cause. They must exist categorically here-and-now, not just in some hypothetical future.

That part of Armstrong's thesis has application to all dispositions, whether mental or physical. As we have seen, it is almost certainly correct. The second part, on the other hand, applies only to mental dispositions. We have seen in discussing my own (Place, 1954) criticism of Ryle's account of heed concepts, that I was not criticizing the account he gives either of dispositions or of the application of that account to mental dispositions. What I was criticizing was his attempt to extend the theory to cover a particular group of mental activity verbs, the so-called heed concepts. Consequently, when I went on in the follow-up paper (Place, 1956) to defend the hypothesis that the processes referred to by these mental activity verbs are in fact processes in the brain, I specifically excluded dispositional mental states from the scope of that hypothesis on the grounds that in this case there was no need to question Ryle's dispositional analysis. As I put it in that paper:

> In the case of cognitive concepts like "knowing," "believing," "understanding," "remembering," and volitional concepts like "wanting" and "intending," there can be little doubt, I think, that an analysis in terms of dispositions to behave (Wittgenstein 1953; Ryle 1949) is fundamentally sound. On the other hand, there would seem to be an intractable residue of concepts clustering around the notions of consciousness, experience, sensation, and mental imagery, where some sort of inner process story is unavoidable. (Place, 1956, p. 44; quoted by Armstrong, 1968, p. 80)

Armstrong sweeps all this aside. For him it is not just mental activities that are in the brain. Dispositional mental states are states of the brain microstructure. But not just mental dispositions. The brittleness of a pane of glass is its molecular structure. Just as I had asserted that "I am not claiming that statements about sensations and mental images are reducible to or analysable into statements about brain processes, in the way in which [according to Ryle] 'cognition statements' are analysable into statements about behaviour" (Place, 1956, pp. 44–45), so Armstrong was not claiming that "cognitive statements" are reducible to or analyzable into statements about states of the brain microstructure. It is just a matter of contingent fact that the two descriptions happen to apply to the same state. Moreover, since the neurological description is not currently available to us, all we can say about such a state is that it is "a state of the person apt for bringing about a certain sort of behaviour" (Armstrong, 1968, p. 82). The difference between this view and Ryle's OUR-behaviourism, as so often in philosophy, is wafer thin.

Armstrong's view has proved very attractive to philosophers for a number of reasons:

1. It restores the unity of the mental and thus the possibility of being able to define its essence.

2. It preserves what seems intuitively right about Ryle's OUR-behaviourism, the idea that mental state concepts (as distinct from the states themselves) are primarily a matter of what would happen if certain conditions are fulfilled, without what seems intuitively wrong about it, the claim that to assert the existence of such a disposition says nothing about what categorically exists here-and-now.

3. In place of Ryle's restriction of philosophical inquiry to the study of ordinary language, by identifying mind and brain, it gives justification for the philosopher to become involved in the new scientific disciplines of artificial intelligence and cognitive science that were then beginning to open up in the wake of the introduction of the digital computer and its adoption as a model for the brain.

For my part, I agree that a disposition is a here-and-now-existing state of its owner. But I am persuaded by examples such as the horsepower of an engine (Place, 1967) that a disposition and its underlying structure are "distinct existences," to use Hume's phrase, in which the structure stands as cause to the disposition as effect. All one can say about the disposition, even after its underlying structure has been fully laid bare, is that it is a state of its owner such that if at any time certain conditions were to exist, a manifestation would or would very probably begin to exist or continue to do so. To that extent I am still a Rylean.

E. MARTIN (1994)

The most recent and, of all those considered here, the most elegant attempt to refute the Rylean hypothetical–conditional analysis of dispositional statements

is C. B. Martin's (1994) "Dispositions and Conditionals."[10] In this paper Martin follows what has become a fashionable strategy in contemporary philosophy, that of inventing a piece of science fiction, a practice Ryle would have, in my view, rightly deplored. Martin begins by considering the following proposition:

(A) The wire is live

This, according to Ryle as Martin interprets him, is equivalent to (is true if and only if it is true that)

(B) If the wire is touched by a conductor then electrical
current flows from the wire to the conductor

What exactly Martin means by "a conductor" here is obscure, since in ordinary scientific parlance a conductor is any piece of matter that has a low resistance to the flow of electric current. What he presumably has in mind is a case of a wire connected to the "live" pole of an alternating current supply that when connected either to the neutral pole of the same supply or to earth, will produce a current flow within the circuit thereby created. He now introduces his piece of science fiction, a device called "an electro-fink." The function of this device is to make the "wire" instantaneously live whenever it detects a connection between "the wire and the conductor" and render it instantaneously dead whenever the connection is broken. How it could possibly detect the connection between the two without detecting a current that would not be there, if the "wire" were not already live, and how it would make the "wire" live at one time and dead at another without making and breaking the circuit at some other point (with a consequent time lag) is not explained. But, given this scenario, it follows that before the connection is detected by the electro-fink the "wire" is dead—that is, proposition (A) is false, yet by virtue of the action of the electro-fink (B) is true. Once the connection is detected, the action of the electro-fink makes the "wire" live. Proposition (A) becomes true. Under this condition (B) is not falsified, but since it was already true when (A) was false, the claim that (A) and (B) are equivalent cannot be sustained.

Martin now supposes that the action of the electro-fink is reversed. Now, instead of making the "wire" live when a connection is detected, the "wire" that was previously live is made dead, with the consequence that no current flows. In this condition before a connection is detected (A) is true, but since any current flow is automatically prevented by the electro-fink (B) is false. Once the connection is detected (A) becomes false. But though (B) is also false, the fact that it was false when (A) was true again shows that the two propositions are not equivalent.

[10] Readers of *Dispositions: A Debate* (Armstrong, Martin, & Place, 1996) will find two summaries of the argument of this paper, one on p. 6 in the introduction by the book's editor, Tim Crane, and again on pp. 178–179 in Martin's concluding chapter.

As I have already suggested in discussing Ryle's "inference ticket" notion (p. 379), this argument depends on the assumption that what Ryle is claiming is that a statement ascribing a dispositional property to something ("the glass is brittle," "the wire is live") is equivalent to a conditional of the form "If p is true, then q is true" (If "the glass is struck" is true; then "the glass breaks" is true; if "the wire is connected to a conductor" is true, "current flows" is true). We have also seen that this interpretation is supported by Ryle's talk of "inference tickets" or "inference licences" in this connection. If this were Ryle's claim, then Martin's argument would undoubtedly defeat it. But this is not the only possible interpretation of his thesis. Indeed, it is not, in my view, the correct interpretation of causal conditionals of which dispositional statements, *qua* statements of laws governing the behavior of the property bearer, are an instance. These conditionals do not, as Martin's argument assumes they do, express a conditional relation between the truth of the proposition expressed by antecedent of the conditional ("the wire is connected to the 'conductor'") and its consequent ("the current flows"). What they express is a (causal) conditional relation between the *existence of the event or state of affairs* specified in the antecedent and the existence of that specified in the consequent. Now, since, as we have seen, the immediate causes of an effect are invariably multiple, and since a particular causal conditional mentions only *one* of the causes of any actual instance of the type of event or state of affairs specified in the consequent, every such causal conditional is subject to a *ceteris paribus* or other-things-being-equal clause. That clause, when fully spelled out, would mention all the other causal factors that must be present *or absent,* if an instance of the type of effect or state of affairs specified in the consequent of the conditional is to occur or exist. And among the things that must be absent is anything, such as an electro-fink, that intervenes between a disposition and its manifestations in such a way as to create the disposition whenever it would otherwise *not* exist or remove it whenever it *would* otherwise exist.

Clearly, without a much better analysis of causation and its relation to dispositions than he actually possessed, Ryle could not have availed himself of this way of defeating Martin's argument. But, given such an analysis, there is no reason why we should not mobilize it in his defense.

VIII. CONCLUSION

There is no disguising the fact that Ryle's OUR-behaviourism, along with the various forms of OR-behaviourism, have suffered an eclipse. But the reasons for this eclipse are somewhat different in the two cases. In the case of OUR-behaviourism the reasons are of two kinds, those connected with the eclipse of Wittgenstein's conceptual analysis as a philosophical methodology and those connected specifically with OUR-behaviourist analysis of mental disposition concepts.

Conceptual analysis has gone out of favor as a philosophical methodology for a number of reasons:

1. Once the conceptual confusions that, on this view, are the source of all the traditional problems of philosophy had been disposed of, philosophers were left with no ongoing program of "normal science," to use Kuhn's (1962/1970) phrase, other than a kind of lexicographic investigation of ordinary language concepts for its own sake.

2. Because of the antiscientistic, not to say antiscientific, prejudices of its principal protagonists, the impression was given that conceptual analysis is opposed in principle to the kind of conceptual innovation that is the lifeblood of science.

3. One of the fundamental assumptions underlying conceptual analysis is that *concept* and *meaning* are dispositional notions, that intension precedes and determines extension, that Frege's (1892/1960) "sense" *(Sinn)* precedes and determines "reference" *(Bedeutung)*. That assumption was undermined as far as most philosophers were concerned by Quine's (1951/1980) critique of the analytic–synthetic distinction in his "Two Dogmas of Empiricism."

4. Conceptual analysis assumes that language is learned, though not necessarily, as did most OR-behaviorists, that it is learned by the same processes as apply to animal learning. That assumption was seriously undermined as far as most philosophers were concerned by Chomsky's (1965) *Aspects of the Theory of Syntax,* if not by his earlier (1959) review of Skinner's *Verbal Behavior.*

In addition to the factors that led philosophers to abandon conceptual analysis, the OUR-behaviourist analysis of dispositional concepts was undermined by the following:

1. The criticisms reviewed earlier, particularly those of Geach and Armstrong

2. Generalization from the repudiation of OR-behaviorism in the wake of Chomsky's (1959) review, the adoption of the computer as a model for the brain, and the subsequent Cognitive Revolution, and

3. Fodor's (1975) rejection of Wittgenstein's contention that the primary function of language is interpersonal communication, replacing it with the notion of a private "language of thought" based on the model of the computer's "machine language," the digital code into which all programming instructions and data must ultimately be translated.

There are signs, I believe, that some, if not all, these factors are loosening their grip. If I am right, conceptual analysis, Ryle's hypothetical analysis of dispositional statements, and the OUR-behaviourist analysis of mental dispositions are all due, if not overdue, for a comeback. Certainly, the issues raised by Wittgenstein and Ryle in this area are still being actively debated, if only by the generation that still remembers Ryle and the consternation aroused by *The Concept of Mind* when it was first published (Armstrong *et al.,* 1996). Whether a new generation will carry the torch forward remains to be seen.

REFERENCES

Armstrong, D. M. (1968). *A materialist theory of the mind.* London: Routledge.

Armstrong, D. M., Martin, C. B., & Place, U. T. (T. Crane, Ed.). (1996). *Dispositions: A debate* London: Routledge.

Austin, J. L. (1961). *Philosophical papers* (J. O. Urmson & G. J. Warnock, Eds.). Oxford, England: Oxford University Press.

Austin, J. L. (1962). *Sense and sensibilia.* Reconstructed by G. J. Warnock. Oxford, England: Oxford University Press.

Brentano, F. (1874/1995). *Psychologie vom empirischen Standpunkt.* Leipzig: Duncker u. Humblot. English translation as *Psychology from an empirical standpoint* (2nd ed.), with an introduction by Peter Simons. London: Routledge.

Broad, C. D. (1925). *Mind and its place in nature.* London: Routledge.

Chisholm, R. (1957). *Perceiving: A philosophical study.* Ithaca, NY: Cornell University Press.

Chomsky, N. (1959). Review of B. F. Skinner's *Verbal behavior. Language, 35,* 26–58.

Chomsky, N. (1965). *Aspects of the theory of syntax.* Cambridge, MA: MIT Press.

Fodor, J. A. (1975). *The language of thought.* New York: Crowell.

Frege, G. (1884/1950). *Die Grundlagen der Arithmetik: eine logische-mathematische Untersuchung über den Begriff der Zahl.* Breslau. English translation as *The foundations of arithmetic: A logico-mathematical enquiry into the concept of number* by J. L. Austin. New York: Philosophical Library.

Frege, G. (1892/1960). Über Sinn und Bedeutung. *Zeitschrift für Philosophie und philosophische Kritik, 100,* 25–50. English translation as "On sense and reference" by M. Black. In P. T. Geach & M. Black (Eds.), *Translations from the philosophical writings of Gottlob Frege* (2nd ed, pp. 56–78). Oxford, England: Blackwell.

Galton, A. (1984). *The logic of aspect.* Oxford, England: Oxford University Press.

Garfinkel, H. (1964/1967). Studies in the routine grounds of everyday activities. *Social Problems, 11,* 225–250. Reprinted with revisions in H. Garfinkel *Studies in Ethnomethodology* (pp. 35–75). Englewood Cliffs, NJ: Prentice-Hall.

Geach, P. T. (1957). *Mental acts.* London: Routledge.

Goodman, N. (1955/1965). *Fact, fiction, and forecast* (2nd ed.). Indianapolis, IN: Bobbs-Merrill.

Horne, P. J., & Lowe, C. F. (1996). On the origins of naming and other symbolic behavior. *Journal of the Experimental Analysis of Behavior, 65,* 185–241.

Hume, D. (1777/1902). *Enquiries concerning the human understanding and concerning the principles of morals* (2nd ed., L. A. Selby-Bigge, Ed.). Oxford, England: Clarendon Press.

James, W. (1890). *The principles of psychology.* New York: Henry Holt.

Johnson, W. E. (1921). *Logic.* Cambridge, England: Cambridge University Press.

Kuhn, T. S. (1962/1970). *The structure of scientific revolutions* (2nd ed., enlarged). Chicago: University of Chicago Press.

Lewis, D. K. (1973). Causatio. *Journal of Philosophy, 70,* 556–567.

Mackie, J. L. (1962). Counterfactuals and causal laws. In R. J. Butler (Ed.), *Analytical philosophy* (pp. 66–80). Oxford, England: Blackwell.

Mackie, J. L. (1974). *The cement of the universe.* London: Oxford University Press.

Malcolm, N. (1959). *Dreaming.* London: Routledge.

Martin, C. B. (1994). Dispositions and conditionals. *Philosophical Quarterly, 44,* 1–8.

Medlin, B. (1967). Ryle and the mechanical hypothesis. In C. F. Presley (Ed.), *The identity theory of mind* (pp. 94–150). St. Lucia: University of Queensland Press.

Monk, R. (1990). *Ludwig Wittgenstein: The duty of genius.* London: Jonathan Cape.

Place, U. T. (1954). The concept of heed. *British Journal of Psychology, 45,* 234–255.

Place, U. T. (1956). Is consciousness a brain process? *British Journal of Psychology, 47,* 44–50.

Place, U. T. (1967). Comments on H. Putnam "Psychological predicates." In W. H. Capitan & D. D. Merrill (Eds.), *Art, mind, and religion: Proceedings of the 1965 Oberlin Colloquium in Philosophy* (pp. 55–68). Pittsburgh, PA: Pittsburgh University Press.

Place, U. T. (1992). The role of the ethnomethodological experiment in the empirical investigation of social norms, and its application to conceptual analysis. *Philosophy of the Social Sciences, 22,* 461–474.

Price, H. H. (1953) *Thinking and experience.* London: Hutchinson.

Quine, W. V. (1951/1980). Two dogmas of empiricism. *Philosophical Review, 60.* Reprinted in W. V. Quine *From a logical point of view* (3rd ed., pp. 20–46). Cambridge, MA: Harvard University Press.

Ryle, G. (1938). Categories. *Proceedings of the Aristotelian Society, 38,* 189–206.

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

Ryle, G. (1954). *Dilemmas.* Cambridge, England: Cambridge University Press.

Ryle, G. (1970). Autobiographical. In O. P. Wood & G. Pitcher (Eds.), *Ryle* (pp. 1–15). London: Macmillan.

Schlick, M. (1935). Facts and propositions. *Analysis, 2,* 5.

Stout, G. F. (1898). *A manual of psychology.* London: University Tutorial Press.

Strawson, P. F. (1970). Categories. In O. P. Wood & G. Pitcher (Eds.), *Ryle* (pp. 181–211). London: Macmillan.

Uvarov, E. B., & Chapman, D. R. (1943/1951). *A dictionary of science* (Rev. ed.). London: Penguin.

Wittgenstein, L. (1921/1971). Tractatus logico-philosophicus. *Annalen der Naturphilosophie. Tractatus Logico-philosophicus* (D. F. Pears & B. F. McGuiness, Trans.). London: Routledge.

Wittgenstein, L. (1953). *Philosophical investigations* (G. E. M. Anscombe, Trans.). Oxford, England: Blackwell.

Wittgenstein, L. (1958). *The blue and brown books.* Oxford, England: Blackwell.