

Chapter 1

Operationalism and Ordinary Language

(with Charles Chihara)

Introduction

This paper explores some lines of argument in Wittgenstein's post-*Tractatus* writings in order to indicate the relations between Wittgenstein's philosophical psychology on the one hand and his philosophy of language, his epistemology, and his doctrines about the nature of philosophical analysis on the other. We shall hold that the later writings of Wittgenstein express a coherent doctrine in which an operationalistic analysis of confirmation and language supports a philosophical psychology of a type we shall call "logical behaviorism."

We shall also maintain that there are good grounds for rejecting the philosophical theory implicit in Wittgenstein's later works. In particular we shall first argue that Wittgenstein's position leads to some implausible conclusions concerning the nature of language and psychology; second, we shall maintain that the arguments Wittgenstein provides are inconclusive; and third, we shall try to sketch an alternative position which avoids many of the difficulties implicit in Wittgenstein's philosophy. In exposing and rejecting the operationalism which forms the framework of Wittgenstein's later writings, we do not however, suppose that we have detracted in any way from the importance of the particular analyses of the particular philosophical problems which form their primary content.

I

Among the philosophical problems Wittgenstein attempted to dissolve is the "problem of other minds." One aspect of this hoary problem is the question "What justification, if any, can be given for the claim that one can tell, on the basis of someone's behavior, that he is in a certain mental state?" To this question, the sceptic answers: "No good justification at all." Among the major motivations of the later Wittgenstein's treatment of philosophical psychology is that of showing that this answer rests on a misconception and is *logically* incoherent.

Characteristically, philosophic sceptics have argued in the following way. It is assumed as a premiss that there are no logical or conceptual relations between propositions about mental states and propositions about behavior in virtue of which propositions asserting that a person behaves in a certain way provide support, grounds, or justification for ascribing the mental states to that person. From this, the sceptic deduces that he has no compelling reason for supposing that any person other than himself is ever truly said to feel pains, draw inferences, have motives, etc. For, while his first-hand knowledge of the occurrence of such mental events is of necessity limited to his own case, it is entailed by the premiss just cited that application of mental predicates to others must depend upon logically fallible inferences. Furthermore, attempts to base such inferences on analogies and correlations fall short of convincing justifications.

Various replies have been made to this argument which do not directly depend upon contesting the truth of the premiss. For example, it is sometimes claimed that, at least in some cases, no *inference* from behavior to mental states is at issue in psychological ascriptions. Thus we sometimes *see* that someone is in pain, and in these cases we cannot be properly said to *infer* that he is in pain. However, the sceptic might maintain against this argument that it begs the question. For the essential issue is whether anyone is *justified* in claiming to see that another is in pain. Now a physicist, looking at cloud-chamber tracks, may be justified in claiming to see that a charged particle has passed through the chamber. That is because in this case there is justification for the claim that certain sorts of tracks show the presence and motion of particles. The physicist can explain not only how he is able to detect particles,

but also why the methods he uses are methods of detecting *particles*. Correspondingly, the sceptic can argue that what is required in the case of another's pain is some justification for the claim that, by observing a person's behavior, one can *see* that he is in *pain*.

Wittgenstein's way of dealing with the sceptic is to attack his premiss by trying to show that there do exist conceptual relations between statements about behavior and statements about mental events, processes, and states. Hence, Wittgenstein argues that in many cases our knowledge of the mental states of some person rests upon something other than an observed empirical correlation or an analogical argument, viz. a conceptual or linguistic connection.

To hold that the sceptical premiss is false is *ipso facto* to commit oneself to some version of *logical behaviorism* where by "logical behaviorism" we mean the doctrine that there are logical or conceptual relations of the sort denied by the sceptical premiss.¹ Which form of logical behaviorism one holds depends on the nature of the logical connection one claims obtains. The strongest form maintains that statements about mental states are translatable into statements about behavior. Wittgenstein, we shall argue, adopts a weaker version.

II

It is well known that Wittgenstein thought that philosophical problems generally arise out of misrepresentations and misinterpretations of ordinary language. (*PI*, §§ 109, 122, 194).² Philosophy," he tells us, "is a fight against the fascination which forms of expression exert upon us" (*BB*, p. 27). Thus Wittgenstein repeatedly warns us against being misled by superficial similarities between certain forms of expression (*BB*, p. 16) and tells us that to avoid philosophical confusions, we must distinguish the "surface grammar" of sentences from their "depth grammar" (*PI*, §§ 11, 664). For example, though the grammar of the sentence "A has a gold tooth" seems to differ in no essential respect from that of "A has a sore tooth," the apparent similarity masks important conceptual differences (*BB*, pp. 49, 53; *PI*, §§ 288-293). Overlooking these differences leads philosophers to suppose that there is a problem about our knowledge of other minds. It is the task of the Wittgensteinian philosopher to dissolve the problem by

obtaining a clear view of the workings of pain language in this and other cases.

The Wittgensteinian method of philosophical therapy involves taking a certain view of language and of meaning. Throughout the *Investigations*, Wittgenstein emphasizes that "the speaking of language is part of an activity" (*PI*, § 23) and that if we are to see the radically different roles superficially similar expressions play, we must keep in mind the countless kinds of language-using activities or "language games" in which we participate (*BB*, pp. 67-68).

It is clear that Wittgenstein thought that analyzing the meaning of a word involves exhibiting the role or use of the word in the various language games in which it occurs. He even suggests that we "think of words as instruments characterized by their use . . ." (*BB*, p. 67).

This notion of analysis leads rather naturally to an operationalistic view of the meaning of certain sorts of predicates. For in cases where it makes sense to say of a predicate that one has determined that it applies, one of the central language games that the fluent speaker has learned to play is that of making and reporting such determinations. Consider, for example, one of these language games that imparts meaning to such words as "length," e.g., that of reporting the dimensions of physical objects. To describe this game, one would have to include an account of the procedures involved in measuring lengths; indeed, mastering (at least some of) those procedures would be an essential part of learning this game. "The meaning of the word 'length' is learnt among other things, by learning what it is to determine length" (*PI*, p. 225). As Wittgenstein comments about an analogous case, "Here the teaching of language is not explanation, but training" (*PI*, § 5). For Wittgenstein, "To understand a sentence means to understand a language." "To understand a language means to be master of a technique" (*PI*, § 199).

In short, part of being competent in the language game played with "length" consists in the ability to arrive at the truth of such statements as "x is three feet long" by performing relevant operations with, e.g., rulers, range-finders, etc. A philosophic analysis of "length," insofar as it seeks to articulate the language game played with that word, must thus refer to the operations which determine the applicability of length predicates. Finally, insofar as

the meaning of the word is itself determined by the rules governing the language games in which it occurs, a reference to these operations will be essential in characterizing the meaning of such predicates as "three feet long." It is in this manner that we are led to the view that the relevant operations for determining the applicability of a predicate are conceptually connected with the predicate.³

By parity of reasoning we can see that to analyze such words as "pain," "motive," "dream," etc., will *inter alia* involve articulating the operations or observations in terms of which we determine that someone is in pain, or that he has such and such a motive, or that he has dreamed, etc. (*PI*, p. 224). But clearly such determinations are ultimately made on the basis of the behavior of the individual to whom the predicates are applied (taking behavior in the broad sense in which it includes verbal reports). Hence, for Wittgenstein, reference to the characteristic features of pain behavior on the basis of which we determine that someone is in pain is essential to the philosophical analysis of the word "pain," just as reference to the operations by which we determine the applicability of such predicates as "three feet long" is essential to the philosophical analysis of the word "length." In both cases the relations are conceptual and the rule of language which articulates them is in that sense a rule of logic.

III

But what, specifically, is this logical connection which, according to Wittgenstein, is supposed to obtain between pain behavior and pain? Obviously, the connection is not that of simple entailment. It is evident that Wittgenstein did not think that some proposition to the effect that a person is screaming, wincing, groaning, or moaning could entail the proposition that the person is in pain. We know that Wittgenstein used the term "criterion" to mark this special connection, but we are in need of an explanation of this term.

We have already remarked that one of the central ideas in Wittgenstein's philosophy is that of a "language game." Apparently Wittgenstein was passing a field on which a football game was being played when the idea occurred to him that "in language we play *games* with *words*."⁴ Since this analogy dominated so much

of the later Wittgenstein's philosophical thinking, perhaps it would be well to begin the intricate task of explicating Wittgenstein's notion of a criterion by considering some specific game.

Take basketball as an example. Since the object of the game is to score more points than one's opponents, there must be some way of telling if and when a team scores. Now there are various ways of telling that, say, a field goal has been scored. One might simply keep one's eyes on the scoreboard and wait for two points to be registered. Sometimes one realizes that a field goal has been scored on the basis of the reactions of the crowd. But these are, at best, indirect ways of telling, for if we use them we are relying on someone else: the score-keeper or other spectators. Obviously, not every way of telling is, in that sense, indirect; and anyone who is at all familiar with the game knows that, generally, one *sees* that a field goal has been scored in seeing the ball shot or tipped through the hoop. And if a philosopher asks, "Why does the fact that the ball went through the basket show that a field goal has been scored?" a natural reply would be, "That is what the rules of the game say; that is the way the game is played." The ball going through the basket satisfies a *criterion* for scoring a field goal.

Notice that though the relation between a criterion and that of which it is a criterion is a logical or conceptual one, the fact that the ball goes through the hoop does not entail that a field goal has been scored. First, the ball must be "in play" for it to be possible to score a field goal by tossing the ball through the basket. Second, even if the ball drops through the hoop when "in play," it need not follow that a field goal has been scored, for the rules of basketball do not cover all imaginable situations. Suppose, for example, that a player takes a long two-handed shot and that the ball suddenly reverses its direction, and after soaring and dipping through the air like a swallow in flight, gracefully drops through the player's own basket only to change into a bat, which immediately entangles itself in the net. What do the rules say about that?

An analogous situation would arise, in the case of a "language game," if what seemed to be a chair suddenly disappeared, reappeared, and, in general, behaved in a fantastic manner. Wittgenstein's comment on this type of situation is:

Have you rules ready for such cases—rules saying whether one may use the word "chair" to include this kind of thing? But do

we miss them when we use the word "chair"; and are we to say that we do not really attach any meaning to this word, because we are not equipped with rules for every possible application of it? (PI, § 80)

For Wittgenstein, a sign "is in order—if, under normal circumstances it fulfils its purpose" (PI, § 87).

It is only in normal cases that the use of a word is clearly prescribed; we know, are in no doubt, what to say in this or that case. The more abnormal the case, the more doubtful it becomes what we are to say. (PI, § 142)

Let us now try to make out Wittgenstein's distinction between *criterion* and *symptom*, again utilizing the example of basketball. Suppose that, while a game is in progress, a spectator leaves his seat. Though he is unable to see the playing court, he might realize that the home team had scored a field goal on the basis of a symptom—say, the distinctive roar of the crowd—which he had observed to be correlated with home-team field goals. This correlation, according to Wittgenstein, would have to be established *via* criteria, say, by noting the sound of the cheering when the home team shot the ball through the basket. Thus a symptom is "a phenomenon of which experience has taught us that it coincided, in some way or other, with the phenomenon which is our defining criterion" (BB, p. 25). Though both symptoms and criteria are cited in answer to the question, "How do you know that so-and-so is the case?" (BB, p. 24), symptoms, unlike criteria, are discovered through experience or observation: that something is a symptom is not given by the rules of the "language game" (not deducible from the rules alone). However, to say of a statement that it expresses a symptom is to say something about the relation between the statement and the rules, viz., that it is not derivable from them. Hence, Wittgenstein once claimed that "whereas 'When it rains the pavement gets wet' is not a grammatical statement at all, if we say 'The fact that the pavement is wet is a *symptom* that it has been raining' this statement is 'a matter of grammar'."⁵ Furthermore, giving the criterion for (e.g.) another's having a toothache "is to give a grammatical explanation about the word 'toothache' and, in this sense, an explanation concerning the meaning of the word 'toothache'" (BB, p. 24). However, given that there is this important

difference between criteria and symptoms, the fact remains that Wittgenstein considered both symptoms and criteria as "evidences" (*BB*, p. 51).

Other salient features of criteria can be illuminated by exploiting our illustrative example. Consider Wittgenstein's claim that "in different circumstances we apply different criteria for a person's reading" (*PI*, § 164). It is clear that in different circumstances we apply different criteria for a person's scoring a field goal. For example, the question whether a player scored a field goal may arise even though the ball went nowhere near the basket: in a "goal-tending" situation, the question will have to be decided on the basis of whether the ball had started its descent before the defensive player had deflected it. According to the rules it would be a decisive reason for not awarding a field goal that the ball had not reached its apogee when it was blocked.

One can now see that to claim that *X* is a criterion of *Y* is not to claim that the presence, occurrence, existence, etc., of *X* is a necessary condition of the applicability of 'Y', and it is not to claim that the presence, occurrence, existence, etc., of *X* is a sufficient condition of *Y*, although if *X* is a criterion of *Y*, it may be the case that *X* is a necessary or a sufficient condition of *Y*.

Again, consider the tendency of Wittgenstein, noted by Albritton,⁶ to write as if *X* (a criterion of *Y*) just *is* *Y* or is what is called 'Y' in certain circumstances. We can understand a philosopher's wanting to say that shooting the ball through the basket in the appropriate situation just *is* scoring a field goal or is what we call "scoring a field goal."

Consider now the following passage from the *Investigations* (§ 376) which suggests a kind of test for "non-criterionhood":

When I say the ABC to myself, what is the criterion of my doing the same as someone else who silently repeats it to himself? It might be found that the same thing took place in my larynx and in his. (And similarly when we both think of the same thing, wish the same, and so on.) But then did we learn the use of the words: "to say such-and-such to oneself" by someone's pointing to a process in the larynx or the brain?

Obviously not. Hence, Wittgenstein suggests, something taking place in the larynx cannot be the criterion. The rationale behind

this "test" seems to be this: For the teaching of a particular predicate 'Y' to be successful, the pupil must learn the rules for the use of 'Y' and hence must learn the criteria for 'Y' if there are such criteria. Thus if the teaching could be entirely successful without one learning that X is something on the basis of which one tells that 'Y' applies, X cannot be a criterion of Y. For example, since a person could be taught what "field goal" means without learning that one can generally tell that the home team has scored a field goal by noting the roar of the home crowd, the roar of the home crowd cannot be a criterion of field goals.

Finally, let us examine the principle, which Wittgenstein appears to maintain, that any change of criteria of X involves changing the concept of X. In the *Investigations*, Wittgenstein makes the puzzling claim:

There is *one* thing of which one can say neither that it is one metre long, nor that it is not one metre long, and that is the standard metre in Paris.—But this is, of course, not to ascribe any extraordinary property to it, but only to mark its peculiar role in the language-game of measuring with a metre-rule.—Let us imagine samples of colour being preserved in Paris like the standard metre. We define: "Sepia" means the colour of the standard sepia which is there kept hermetically sealed. Then it will make no sense to say of this sample either that it is of this colour or that it is not. (PI, § 50)

Wittgenstein evidently is maintaining not only that the senses of the predicates "x is one meter long" and "x is sepia" are given by the operations which determine the applicability of the respective predicates (the operations of comparing objects in certain ways with the respective standards),⁷ but also that these operations cannot be performed on the standards themselves and hence neither standard can be said to be an instance of either the *predicate* for which it is a standard or of its negation. (Cf., "A thing cannot be at the same time the measure and the thing measured" [RFM, I, § 40, notes].)

Wittgenstein would undoubtedly allow that we might introduce a new language-game in which "meter" is defined in terms of the wave length of the spectral line of the element krypton of atomic weight 86.⁸ In this language-game, where such highly accurate and

complex measuring devices as the interferometer are required, the standard meter does not have any privileged position: it, too, can be measured and “represented.” In this language-game, the standard meter is or is not a meter. But here, Wittgenstein would evidently distinguish two senses of the term “meter.” Obviously what is a meter in one language-game need not be a meter in the other. Thus, Wittgenstein’s view seems to be that by introducing a new criterion for something’s being a meter long, we have introduced a new language-game, a new sense of the term “meter,” and a new concept of meter. Such a position is indicated by Wittgenstein’s comment:

We can speak of measurements of time in which there is a different, and as we should say a greater, exactness than in the measurement of time by a pocketwatch; in which the words “to set the clock to the exact time” have a different, though related meaning. . . . (PI, § 88)

Returning to our basketball analogy, suppose that the National Collegiate Athletic Association ruled that, henceforth, a player can score a field goal by pushing the ball *upward* through the basket. Obviously, this would involve changing the rules of basketball. And to some extent, by introducing this new criterion, the rules governing the use or “grammar” of the term “field goal” would be altered. To put it somewhat dramatically (in the Wittgensteinian style), a new *essence* of field goal would be created. (Cf. “The mathematician creates *essence*” [RFM, I, § 32].) For Wittgenstein, not only is it the case that the criteria we use “give our words their common meanings” (BB, p. 57) and that to explain the criteria we use is to explain the meanings of words (BB, p. 24), but also it is the case that to introduce a new criterion of *Y* is to define a new concept of *Y*.⁹

In summary, we can roughly and schematically characterize Wittgenstein’s notion of criterion in the following way: *X* is a criterion of *Y* in situations of type *S* if the very meaning or definition of ‘*Y*’ (or, as Wittgenstein might have put it, if the “grammatical” rules for the use of ‘*Y*’)¹⁰ justify the claim that one can recognize, see, detect, or determine the applicability of ‘*Y*’ on the basis of *X* in *normal* situations of type *S*. Hence, if the above relation obtains between *X* and *Y*, and if someone admits that *X* but denies

Y, the burden of proof is upon him to show that something is abnormal in the situation. In a normal situation, the problem of gathering evidence which justifies concluding Y from X simply does not arise.

IV

The following passage occurs in the *Blue Book* (p. 24):

When we learnt the use of the phrase “so-and-so has toothache” we were pointed out certain kinds of behavior of those who were said to have toothache. As an instance of these kinds of behavior let us take holding your cheek. Suppose that by observation I found that in certain cases whenever these first criteria told me a person had toothache, a red patch appeared on the person’s cheek. Supposing I now said to someone “I see A has toothache, he’s got a red patch on his cheek.” He may ask me “How do you know A has toothache when you see a red patch?” I would then point out that certain phenomena had always coincided with the appearance of the red patch.

Now one may go on and ask: “How do you know that he has got toothache when he holds his cheek?” The answer to this might be, “I say, *he* has toothache when he holds his cheek because I hold my cheek when I have toothache.” But what if we went on asking:—“And why do you suppose that toothache corresponds to his holding his cheek just because your toothache corresponds to your holding your cheek?” You will be at a loss to answer this question, and find that here we strike rock bottom, that is we have come down to conventions.

It would seem that, on Wittgenstein’s view, empirical justification of the claim to see, recognize, or know that such and such is the case *on the basis of some observable feature or state of affairs* would have to rest upon inductions from observed correlations, so that, if a person claims that Y is the case on the grounds that X is the case, in answer to the question “Why does the fact that X show that Y?” he would have to cite either conventions or observed correlations linking X and Y. Thus Wittgenstein appears to be arguing that the possibility of ever inferring a person’s toothache from his behavior requires the existence of a criterion of toothache that can sometimes be observed to obtain. A generalized

form of this argument leads to the conclusion that "an 'inner process' stands in need of outward criteria" (*PI*, § 580).

As an illustration of Wittgenstein's reasoning, consider the following example: It appears to be the case that the measurement of the alcohol content of the blood affords a reasonably reliable index of intoxication. On the basis of this empirical information, we may sometimes justify the claim that *X* is intoxicated by showing that the alcohol content of his blood is higher than some specified percentage. But now consider the justification of the claim that blood-alcohol is in fact an index of intoxication. On Wittgenstein's view, the justification of *this* claim must rest ultimately upon correlating cases of intoxication with determinations of high blood-alcohol content. But the observations required for this correlation could be made only if there exist independent techniques for identifying each of the correlated items. In any particular case, these independent techniques may themselves be based upon further empirical correlations; we might justify the claim that the blood-alcohol content is high by appealing to some previously established correlation between the presence of blood-alcohol and some test result. But ultimately according to Wittgenstein, we must come upon identifying techniques based not upon further empirical correlations, but rather upon definitions or conventions which determine criteria for applying the relevant predicates. This is why Wittgenstein can say that a symptom is "a phenomenon of which experience has taught us that it coincided, in some way or other with the phenomenon which is our defining criterion" (*BB*, p. 25).

A similar argument has recently been given by Sidney Shoemaker, who writes:

If we know psychological facts about other persons at all, we know them on the basis of their behavior (including, of course, their verbal behavior). Sometimes we make psychological statements about other persons on the basis of bodily or behavioral facts that are only contingently related to the psychological facts for which we accept them as evidence. But we do this only because we have discovered, or think we have discovered, empirical correlations between physical (bodily and behavioral) facts of a certain kind and psychological facts of a certain kind.

And if *all* relations between physical and psychological facts were contingent, it would be impossible for us to discover such correlations. . . . Unless some relationships between physical and psychological states are not contingent, and can be known prior to the discovery of empirical correlations, we cannot have even indirect inductive evidence for the truth of psychological statements about other persons, and cannot know such statements to be true or even probably true.¹¹

Malcolm argues in a similar manner in *Dreaming*.¹²

Of course, Wittgenstein did not claim that all predicates presuppose criteria of applicability. For example, Wittgenstein probably did not think that we, in general, see, tell, determine, or know that something is red on the basis of either a criterion or a symptom. The relevant difference between ascriptions of "red" and third-person ascriptions of "pain" is that we generally see, recognize, determine, or know that another is in pain on the basis of something which is not the pain itself (as for example, behavior and circumstances) whereas, if it made any sense at all to say we generally see, recognize, etc., that an object is red on the basis of something, what could this something be other than just the object's redness? But Wittgenstein's use of the term "criterion" seems to preclude redness being a criterion of redness. If someone asks "How do you know or tell that an object is red?" it would not, in general, do to answer "By its redness." (Cf. Wittgenstein's comment "How do I know that this color is red?—It would be an answer to say: 'I have learnt English'" [*PI*, § 381].) Evidently, some color predicates and, more generally, what are sometimes called "sense datum" predicates (those that can be known to apply—as some philosophers put it—*immediately*), do not fall within the domain of arguments of the above type. But the predicates with which we assign "inner states" to another person are not of this sort. One recognizes that another is in a certain mental state, *Y*, on the basis of something, say, *X*. Now it is assumed that *X* must be either a criterion or symptom of *Y*. If *X* is a symptom, *X* must be known to be correlated with *Y*, and we may then inquire into the way in which this correlation was established. Again, *X* must have been observed to be correlated with a criterion of *Y* or with a symptom, *X*₁, of *Y*. On the second alternative, we

may inquire into the basis for holding that X_1 is a symptom of Y Such a chain may go on for any distance you like, but it cannot go on indefinitely. That is, at some point, we must come to a criterion of Y . But once this conclusion has been accepted, there appears to be no reasonable non-sceptical alternative to Wittgenstein's logical behaviorism, for if "inner" states require "outward" criteria, behavioral criteria are the only plausible candidates.

V

As a refutation of scepticism, the above argument certainly will not do, for, at best, it supports Wittgenstein's position only on the assumption that the sceptic is not right. That is, it demonstrates that there must be criteria for psychological predicates by assuming that such predicates are sometimes applied justifiably. A sceptic who accepts the argument of Section IV could maintain his position only by allowing that no one could have any idea of what would show or even indicate that another is in pain, having a dream, thinking, etc. In this section we shall show how Wittgenstein argues that that move would lead the sceptic to the absurd conclusion that it must be impossible to teach the meaning of these psychological predicates.

"What would it be like if human beings showed no outward signs of pain (did not groan, grimace, etc.)? Then it would be impossible to teach a child the use of the word 'toothache'" (*PI*, § 257). For just imagine trying to teach a child the meaning of the term "toothache," say, on the supposition that there is absolutely no way of telling whether the child—or anyone else for that matter—is actually in pain. How would one go about it, if one had no reason for believing that gross damage to the body causes pain or that crying out, wincing, and the like indicate pain? ("How could I even have come by the idea of another's experience if there is no possibility of any evidence for it?" [*BB*, p. 46; cf. also *BB*, p. 48].)

Again, what would show us that the child had grasped the teaching? If anything would, the argument of Section IV requires that there be a criterion of having succeeded in teaching the child. (As Wittgenstein says of an analogous case, "If I speak of communicating a feeling to someone else, mustn't I in order to understand what I say know what I shall call the criterion of having succeeded in communicating?" [*BB*, p. 185].) But the only

plausible criterion of this would be that the child applies the psychological predicates correctly (cf. *PI*, § 146); and since the sceptical position implies that there is no way of knowing if the child correctly applies such predicates, it would seem to follow that nothing could show or indicate that the child had learned what these terms mean.

We now have a basis for explicating the sense of “logical,” which is involved in the claim that scepticism is a logically incoherent doctrine. What Wittgenstein holds is not that “*P* and not-*P*” are strictly deducible from the sceptic’s position, but rather that the sceptic’s view presupposes a deviation from the rules for the use of key terms. In particular, Wittgenstein holds that if the sceptic were right, the preconditions for teaching the meaning of the mental predicates of our ordinary language could not be satisfied.¹³

We now see too the point to the insistence that the sceptic’s position must incorporate an extraordinary and misleading use of mental predicates. The sceptic’s view is logically incompatible with the operation of the ordinary language rules for the application of these terms, and these rules determine their meanings. (Cf. “What *we* do is to bring words back from their metaphysical to their everyday usage” [*PI*, § 116].) As Wittgenstein diagnoses the sceptic’s view, the sceptic does not have in mind any criteria of third person ascriptions when he denies that he can know if anyone else has pains (cf. *PI*, § 272). The sceptic tempts us to picture the situation as involving “a barrier which doesn’t allow one person to come closer to another’s experience than to the point of observing his behavior”; but, according to Wittgenstein, “on looking closer we find that we can’t apply the picture” (*BB*, p. 56); no clear meaning can be attached to the sceptic’s claim: no sense can even be given the hypothesis that other people feel “pains,” as the sceptic uses the term “pain.” (“For how can I even make the hypothesis if it transcends all possible experience?” [*BB*, p. 48].) And if the sceptic says, “But if I suppose that someone has a pain, then I am simply supposing that he has just the same as I have so often had.” Wittgenstein can reply:

That gets us no further. It is as if I were to say: “You surely know what ‘It is 5 o’clock here’ means; so you also know what ‘It’s 5 o’clock on the sun’ means. It means simply that it is just

the same time there as it is here when it is 5 o'clock."—The explanation by means of *identity* does not work here. For I know well enough that one can call 5 o'clock here and 5 o'clock there "the same time," but what I do not know is in what cases one is to speak of its being the same time here and there. (*PI*, § 350)

Thus, we can see how Wittgenstein supports his logical behaviorism: the argument in Section IV purports to show that the only plausible alternative to Wittgenstein's philosophical psychology is radical scepticism; and the argument in the present section rules out this alternative. For Wittgenstein, then, "the person of whom we say 'he has pains' is, by the rules of the game, the person who cries, contorts his face, etc." (*BB*, p. 68).

Undoubtedly, there is much that philosophers find comforting and attractive in Wittgenstein's philosophical psychology, but there are also difficulties in the doctrine which mar its attractiveness. To some of these difficulties, we shall now turn.

VI

In this section, we shall consider some consequences of applying the views just discussed to the analysis of dreaming, and we shall attempt to show that the conclusions to which these views lead are counter-intuitive.

According to Wittgenstein, we are to understand the concept of dreaming in terms of the language-game(s) in which "dream" plays a role and, in particular, in terms of the language-game of dream telling. For, to master the use of the word "dream" is precisely to learn what it is to find out that someone has dreamed, to tell what someone has dreamed, to report one's own dreams, and so on. Passages in the *Investigations* (e.g., *PI*, pp. 184, 222–223) indicate that for Wittgenstein a criterion of someone's having dreamed is the dream report. On this analysis, sceptical doubts about dreams arise when we fail to appreciate the logical bond between statements about dreams and statements about dream reports. The sceptic treats the dream report as, at best, an empirical correlate of the occurrence of a dream: a symptom that is, at any event, no more reliable than the memory of the subject who reports the dream. But, according to Wittgenstein, once we have understood the criterial relation between dream reporting and dreaming, we

see that “the question whether the dreamer’s memory deceives him when he reports the dream after waking cannot arise . . .” (*PI*, p. 222). (Compare: “Once we understand the rules for playing chess, the question whether a player has won when he has achieved checkmate cannot arise.”)

The rules articulating the criteria for applying the word “dream” determine a logical relation between dreaming and reporting dreams. Moreover, the set of such rules fixes the language-game in which “dream” has its role and hence determines the meaning of the word.

It is important to notice that there are a number of *prima facie* objections to this analysis which, though perhaps not conclusive, supply grounds for questioning the doctrines which lead to it. Though we could perhaps learn to live with these objections were no other analyses available, when seen from the vantage point of an alternative theory they indicate deep troubles with Wittgenstein’s views.

(1) Given that there exist no criteria for first person applications of many psychological predicates (“pain,” “wish,” or the like), it is unclear how the first person aspects of the game played with these predicates are to be described. Wittgenstein does not appear to present a coherent account of the behavior of predicates whose applicability is not determined by criteria. On the other hand, the attempt to characterize “I dreamt” as criterion-governed leads immediately to absurdities. Thus in Malcolm’s *Dreaming* it is suggested that:

If a man wakes up with the impression of having seen and done various things, and if it is known that he did not see and do those things, then it is known that he dreamt them. . . . When he says “I dreamt so and so” he implies, first, that it seemed to him on waking up as if the so and so had occurred and second, that the so and so did not occur. (p. 66)

That this is an incredibly counter-intuitive analysis of our concept of dreaming hardly needs mentioning. We ask the reader to consider the following example: A person, from time to time, gets the strange feeling that, shortly before, he had seen and heard his father commanding him to come home. One morning he wakes with this feeling, knowing full well that his father is dead. Now we

are asked by Malcolm to believe that the person *must have dreamt* that he saw and heard his father: supposedly, it would be logically absurd for the person to claim to have this feeling and deny that he had dreamt it!

(2) Wittgenstein's view appears to entail that no sense can be made of such statements as "Jones totally forgot the dream he had last night," since we seem to have no criteria for determining the truth of such a statement. (We have in mind the case in which Jones is totally unable to remember having dreamed and no behavioral manifestations of dreaming were exhibited.) It is sometimes denied that observations of what people ordinarily say are relevant to a description of ordinary language. But insofar as statements about what we would say are susceptible to empirical disconfirmation, the claim that we would feel hesitation about saying that someone completely forgot his dream appears to be just false.¹⁴

(3) The Wittgensteinian method of counting concepts is certainly not an intuitive one. Consider Malcolm's analysis of dreaming again. Malcolm realizes that sometimes, on the basis of a person's behavior during sleep, we say that he had a dream, even though he is unable to recall a dream upon awaking. But, in such cases, Malcolm claims, "our words . . . have no clear sense" (*Dreaming*, p. 62). On the other hand, Malcolm admits that there is a *sense* of the term "nightmare" where behavior during sleep is the criterion. However, a different concept of dreaming is supposedly involved in this case. An analogous situation is treated in the *Blue Book* (p. 63), where Wittgenstein writes:

If a man tries to obey the order "Point to your eye," he may do many different things, and there are many different criteria which he will accept for having pointed to his eye. If these criteria, as they usually do, coincide, I may use them alternately and in different combinations to show me that I have touched my eye. If they don't coincide, I shall have to distinguish between different senses of the phrase "I touch my eye" or "I move my finger towards my eye."

Following this suggestion of Wittgenstein, Malcolm distinguishes not only different senses of the term "dream," but also different concepts of sleep—one based upon report, one based upon nonverbal

behavior. But surely, this is an unnatural way of counting concepts. Compare Malcolm's two concepts of sleep with a case where it really does seem natural to say that a special concept of sleep has been employed, viz., where we say of a hibernating bear that it sleeps through the winter.

(4) As Malcolm points out, the language-game *now* played with "dream" seems to exhibit no criteria which would enable one to determine the precise duration of dreams. Hence, it would seem to follow (as Malcolm has noticed) that scientists who have attempted to answer such questions as, "How long do dreams last?" are involved in conceptual confusions rather than empirical determinations. For such questions cannot be answered without adopting criteria for ascribing the relevant properties to dreams. But since, on Wittgenstein's view, to adopt such new criteria for the use of a word is, to that extent, to change its meaning, it follows that the concept of "dream" that such researchers employ is not the ordinary concept and hence that the measurements they effect are not, strictly speaking, measurements of *dreams*.¹⁵ The notion that adopting any test for dreaming which arrives at features of dreams not determinable from the dream report thereby alters the concept of a dream seems to run counter to our intuitions about the goals of psychological research. It is not immediately obvious that the psychologist who says he has found a method of measuring the duration of dreams *ipso facto* commits the fallacy of ambiguity.¹⁶

(5) Consider the fact that such measures as EEG, eye-movements and "dream-behavior" (murmuring, tossing, etc., during sleep) correlate reasonably reliably with one another and dream reports. The relation between, say, EEG and dream reports is clearly not criterial; no one holds that EEG is a criterion of dream reports. It would seem then that, on Wittgenstein's view, EEG provides us with, at best, a symptom of positive dream reports; and symptoms are supposedly discovered by observing co-occurrences. The difficulty, however, is that this makes it unclear how the expectation that such a correlation must obtain could have been a rational expectation even *before* the correlation was experimentally confirmed. One cannot have an inductive generalization over no observations; nor, in this case, was any higher level "covering law" used to infer the probability of a correlation between EEG and

dream reports. Given Wittgenstein's analysis of the concept of dreaming, not only do the researches of psychologists into the nature of dreams appear mysterious, but even these experimental predictions which proved to be *true* are made to seem irrational.

The difficulties we have mentioned are not peculiar to the Wittgensteinian analysis of dreams. Most of them have counterparts in the analyses of sensation, perception, intention, etc. Whether or not these difficulties can be obviated, in some way, noticing them provides a motive for re-examining the deeper doctrines upon which Wittgensteinian analyses of psychological terms are based.

VII

The Wittgensteinian argument of Section IV rests on the premiss that if we are justified in claiming that one can tell, recognize, see, or determine that 'Y' applies on the basis of the presence of X, then either X is a criterion of Y or observations have shown that X is correlated with Y. Wittgenstein does not present any justification for this premiss in his published writings. Evidently, some philosophers find it self-evident and hence in need of no justification. We, on the other hand, far from finding this premiss self-evident, believe it to be false. Consider: one standard instrument used in the detection of high-speed, charged particles is the Wilson cloud-chamber. According to present scientific theories, the formation of tiny, thin bands of fog on the glass surface of the instrument indicates the passage of charged particles through the chamber. It is obvious that the formation of these streaks is not a Wittgensteinian criterion of the presence and motion of these particles in the apparatus. That one can detect these charged particles and determine their paths by means of such devices is surely not, by any stretch of the imagination, a *conceptual* truth. C. T. R. Wilson did not learn what "path of a charged particle" means by having the cloud-chamber explained to him: he *discovered* the method, and the discovery was contingent upon recognizing the empirical fact that ions could act as centers of condensation in a supersaturated vapor. Hence, applying Wittgenstein's own test for non-criterionhood (see above), the formation of a cloud-chamber track cannot be a criterion of the presence and motion of charged particles.

It is equally clear that the basis for taking these streaks as

indicators of the paths of the particles is not observed *correlations* between streaks and some criterion of motion of charged particles. (What criterion for determining the path of an electron could Wilson have used to establish such correlations?) Rather, scientists were able to give compelling explanations of the formation of the streaks on the hypothesis that high-velocity, charged particles were passing through the chamber; on this hypothesis, further predictions were made, tested, and confirmed; no other equally plausible explanation is available; and so forth.

Such cases suggest that Wittgenstein failed to consider all the possible types of answers to the question, "What is the justification for the claim that one can tell, recognize, or determine that *Y* applies on the basis of the presence of *X*?" For, where *Y* is the predicate "is the path of a high-velocity particle," *X* need not have the form of either a criterion or a correlate.

Wittgensteinians may be tempted to argue that cloud-chamber tracks really are criteria, or symptoms observed to be correlated with criteria, of the paths of charged particles. To obviate this type of counter, we wish to stress that the example just given is by no means idiosyncratic. The reader who is not satisfied with it will easily construct others from the history of science. What is at issue is the possibility of a type of justification which consists in neither the appeal to criteria nor the appeal to observed correlations. If the Wittgensteinian argument we have been considering is to be compelling, some grounds must be given for the exhaustiveness of these types of justification. This, it would seem, Wittgenstein has failed to do.

It is worth noticing that a plausible solution to the problem raised in VI. 5 can be given if we consider experiments with dreams and EEG to be analogous to the cloud-chamber case. That is, we can see how it could be the case that the correlation of EEG with dream reports was anticipated prior to observation. The dream report was taken by the experiments to be an indicator of a psychological event occurring prior to it. Given considerations about the relation of cortical to psychological events, and given also the theory of EEG, it was predicted that the EEG should provide an index of the occurrence of dreams. From the hypothesis that dream reports and EEG readings are both indices of the same psychological events, it could be deduced that they ought to be

reliably correlated with one another, and this deduction in fact proved to be correct.

This situation is not at all unusual in the case of explanations based upon theoretical inferences to events underlying observable syndromes. As Meehl and Cronbach have pointed out, in such cases the validity of the "criterion" is often nearly as much at issue as the validity of the indices to be correlated with it.¹⁷ The successful prediction of the correlation on the basis of the postulation of a common etiology is taken both as evidence for the existence of the cause and as indicating the validity of each of the correlates as an index of its presence.

In this kind of case, the justification of existential statements is thus identical neither with an appeal to criteria nor with an appeal to symptoms. Such justifications depend rather on appeals to the simplicity, plausibility, and predictive adequacy of an explanatory system as a whole, so that it is incorrect to say that relations between statements which are mediated by such explanations are either logical in Wittgenstein's sense or contingent in the sense in which this term suggests simple correlation.

It cannot be stressed too often that there exist patterns of justificatory argument which are not happily identified either with appeals to symptoms or with appeals to criteria, and which do not in any obvious way rest upon such appeals. In these arguments, existential claims about states, events, and processes, which are *not* directly observable are susceptible of justification despite the fact that no *logical* relation obtains between the predicates ascribing such states and predicates whose applicability *can* be directly observed. There is a temptation to hold that in such cases there *must* be a criterion, that there must be some set of possible observations which would settle *for sure* whether the theoretical predicate applies. But we succumb to this temptation at the price of postulating stipulative definitions and conceptual alterations which fail to correspond to anything we can discover in the course of empirical arguments. The counter-intuitive features of philosophical analyses based on the assumption that there must be criteria are thus not the consequences of a profound methodological insight, but rather a projection of an inadequate philosophical theory of justification.

VIII

It might be replied that the above examples do not constitute counter-instances to Wittgenstein's criterion-correlation premiss since Wittgenstein may have intended his principle to be applicable only in the case of ordinary language terms which, so it might seem, do not function within the framework of a theory. It is perhaps possible to have indicators that are neither criteria nor symptoms of such highly theoretical entities as electrons and positrons, but the terms used by ordinary people in everyday life are obviously(?) in a different category. (Notice that Wittgenstein considers "making scientific hypotheses and theories" a different "game" from such "language-games" as "describing an event" and "describing an immediate experience" [*BB*, pp. 67-68; Cf. *PI*, § 23].) Hence, Wittgenstein might argue, it is only in the case of ordinary language terms that the demand for criteria is necessary.

Once one perceives the presuppositions of Wittgenstein's demand for criteria, however, it becomes evident that alternatives to Wittgenstein's analyses of ordinary language mental terms should at least be explored. Perhaps, what we all learn in learning what such terms as "pain" and "dream" mean are not criterial connections which map these terms severally onto characteristic patterns of behavior. We may instead form complex conceptual connections which interrelate a wide variety of mental states. It is to such a conceptual system that we appeal when we attempt to explain someone's behavior by reference to his motives, intentions, beliefs, desires, or sensations. In other words, in learning the language, we develop a number of intricately interrelated "mental concepts" which we use in dealing with, coming to terms with, understanding, explaining, interpreting, etc., the behavior of other human beings (as well as our own). In the course of acquiring these mental concepts we develop a variety of beliefs involving them. Such beliefs result in a wide range of expectations about how people are likely to behave. Since only a portion of these beliefs are confirmed in the normal course, these beliefs and the conceptual systems which they articulate are both subject to correction and alteration as the consequence of our constant interaction with other people.

On this view, our success in accounting for the behavior on the

basis of which mental predicates are applied might properly be thought of as supplying *evidence* for the existence of the mental processes we postulate. It does so by attesting to the adequacy of the conceptual system in terms of which the processes are understood. The behavior would be, in that sense, analogous to the cloud-chamber track on the basis of which we detect the presence and motion of charged particles. Correspondingly, the conceptual system is analogous to the physical *theory* in which the properties of these particles are formulated.

If something like this should be correct, it would be possible, at least in theory, to reconstruct and describe the conceptual system involved and then to obtain some confirmation that the putative system is in fact employed by English speakers. For example, confirmation might come *via* the usual methods of "reading off" the conceptual relations in the putative system and *matching them* against the linguistic intuitions of native speakers. Thus, given that a particular conceptual system is being employed, certain statements should strike native speakers as nonsensical, others should seem necessarily true, others should seem ambiguous, others empirically false, and so on, all of which would be testable.

To maintain that there are no criterial connections between pains and behavior does not commit us to holding that the fact that people often feel *pains* when they cry out is *just* a contingent fact (in the sense in which it is just a contingent fact that most of the books in my library are unread). The belief that other people feel pains is not gratuitous even on the view that there are no criteria of pains. On the contrary, it provides the only plausible explanation of facts I know about the way that they behave in and *vis à vis* the sorts of situations I find painful. These facts are, of course, enormously complex. The "pain syndrome" includes not only correlations between varieties of overt behaviors but also more subtle relations between pain and motivations, utilities, desires, and so on. Moreover, I confidently expect that there must exist reliable members of this syndrome other than the ones with which I am currently familiar. I am in need of an explanation of the reliability and fruitfulness of this syndrome, an explanation which reference to the occurrence of pains supplies. Here, as elsewhere, an "outer" syndrome stands in need of an inner process.

Thus it is at least conceivable that a non-Wittgensteinian account

ought to be given of the way children learn the mental predicates. (It is, at any event, sufficient to notice that such an account *could* be given, that there exist alternatives to Wittgenstein's doctrine.) For example, if the concept of dreaming is *inter alia* that of an inner event which takes place during a definite stretch of "real" time, which causes such involuntary behavior as moaning and murmuring in one's sleep, tossing about, etc., and which is remembered when one correctly reports a dream, then there are a number of ways in which a child might be supposed to "get" this concept other than by learning criteria for the application of the word "dream." Perhaps it is true of many children that they learn what a dream is by being told that what they have just experienced was a dream. Perhaps it is also true of many children that, having grasped the notions of *imagining* and *sleep*, they learn what a dream is when they are told that dreaming is something like imagining in your sleep.

But does this imply that children learn what a dream is "from their own case?" If this is a logical rather than psychological question, the answer is "Not necessarily": a child who never dreamed, but who was very clever, might arrive at an understanding of what dreams are just on the basis of the sort of theoretical inference we have described above. For our notion of a dream is that of a mental event having various properties that are required in order to explain the characteristic features of the dream-behavior syndrome. For example, dreams occur during sleep, have duration, sometimes cause people who are sleeping to murmur or to toss, can be described in visual, auditory, or tactile terms, are sometimes remembered and sometimes not, are sometimes reported and sometimes not, sometimes prove frightening, sometimes are interrupted before they are finished, etc. But if these are the sorts of facts that characterize our concept of dream, then there seems to be nothing which would, in principle, prevent a child who never dreamed from arriving at this notion.

A similar story might be told about how such sensation terms as "pain" are learned and about the learning of such quasi-dispositionals as "having a motive." In each case, since the features that we in fact attribute to these states, processes, or dispositions are just those features we know they must have if they are to fulfill their role in explanations of behavior, etiology, personality, etc.,

it would seem that there is nothing about them the child could not in principle learn by employing the pattern of inference we have described above, and hence nothing that he could in principle learn *only* by an analogy to his own case.

Now it might be argued that the alternative to Wittgenstein's position we have been sketching is highly implausible. For, if children do have to acquire the complicated conceptual system our theory requires to understand and use mental predicates, surely they would have to be taught this system. And the teaching would surely have to be terribly involved and complex. But as a matter of fact, children do not require any such teaching at all, and hence we should conclude that our alternative to Wittgenstein's criterion view is untenable.

The force of this argument, however, can to some extent be dispelled if we consider the child's acquisition of, e.g., the grammar of a natural language. It is clear that, by some process we are only now beginning to understand, a child, on the basis of a relatively short "exposure" to utterances in his language, develops capacities for producing and understanding "novel" sentences (sentences which he has never previously heard or seen). The exercise of these capacities, so far as we can tell, "involve" the use of an intricate system of linguistic rules of very considerable generality and complexity.¹⁸ That the child is not taught (in any ordinary sense) any such system of rules is undeniable. These capacities seem to develop naturally in the child in response to little more than contact with a relatively small number of sentences uttered in ordinary contexts in everyday life.¹⁹ Granting for the moment that the apparent complexity of such systems of rules is not somehow an artifact of an unsatisfactory theory of language, the fact that the child develops these linguistic capacities shows that a corresponding "natural" development of a system of mental concepts may not, as a matter of brute fact, require the sort of explicit teaching a person needs to master, say, calculus or quantum physics.

IX

It is easily seen that this unabashedly nonbehavioristic view avoids each of the difficulties we raised regarding Wittgenstein's analyses of mental predicates. Thus the asymmetry between first

and third person uses of "dream" discussed in Section VI need not arise since there need be no criteria for "X dreamed," *whatever* value X takes: we do not have the special problem of characterizing the meaning of "I dreamed" since "dream" in this context means just what it means in third person contexts, viz., "a series of thoughts, images, or emotions occurring during sleep." Again, it is now clear why people find such remarks as "Jones totally forgot what and that he dreamed last night" perfectly sensible. It is even clear how such assertions might be confirmed. Suppose, for example, that there exists a neurological state a such that there is a very high correlation between the presence of a and such dream behavior as tossing in one's sleep, crying out in one's sleep, reporting dreams, and so on. Suppose, too that there exists some neurological state β such that whenever β occurs, experiences that the subject has had just prior to β are forgotten. Suppose, finally, that sometimes we observe sequences, a, β , and that such sequences are not followed by dream reports though the occurrences of a are accompanied by other characteristic dream behaviors. It seems clear that the reasonable thing to say in such a case is that the subject has dreamed and forgotten his dream. And since we have postulated no criterion for dreaming, but only a syndrome of dream behaviors each related to some inner psychological event, we need have no fear that, in saying what it is reasonable to say, we have changed the meaning of "dream." We leave it to the reader to verify that the other objections we raised against the Wittgensteinian analysis of "dream" also fail to apply to the present doctrine.

Thus, once we have abandoned the arguments for a criterial connection between statements about behavior and statements about psychological states, the question remains open whether applications of ordinary language psychological terms on the basis of observations of behavior ought not themselves be treated as theoretical inferences to underlying mental occurrences. The question whether such statements as "He moaned because he was in **pain**" function to explain behavior by relating it to an assumed **mental** event cannot be settled simply by reference to ordinary **linguistic** usage. Answering this question requires broadly empirical investigations into the nature of thought and concept formation in normal human beings. What is at issue is the question of

the role of theory construction and theoretical inference in thought and argument outside pure science. Psychological investigations indicate that much everyday conceptualization depends on the exploitation of theories and explanatory models in terms of which experience is integrated and understood.²⁰ Such pre-scientific theories, far from being mere functionless "pictures," play an essential role in determining the sorts of perceptual and inductive expectations we form and the kind of arguments and explanations we accept. It thus seems *possible* that the correct view of the functioning of ordinary language mental predicates would assimilate applying them to the sorts of processes of theoretical inference operative in scientific psychological explanation. If this is correct, the primary difference between ordinary and scientific uses of psychological predicates would be just that the processes of inference which are made explicit in the latter case remain implicit in the former.

We can now see what should be said in reply to Wittgenstein's argument that the possibility of teaching a language rests upon the existence of criteria. Perhaps teaching a word would be impossible if it could not sometimes be determined that the student has mastered the use of the word. But this does not entail that there need be *criteria* for "X learned the word *w*." All that is required is that we must sometimes have good reasons for saying that the word has been mastered; and this condition is satisfied when, for example, the simplest and most plausible explanation available of the verbal behavior of the student is that he has learned the use of the word.