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SOME REFLECTIONS ON LANGUAGE GAMES

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1. It seems plausible to say that a language is a system of expressions the use of which is subject to certain rules. It would seem, thus, that learning to use a language is learning to obey the rules for the use of its expressions. However, taken as it stands, this thesis is subject to an obvious and devastating refutation. After formulating this refutation, I shall turn to the constructive task of attempting to restate the thesis in a way which avoids it. In doing so, I shall draw certain distinctions the theoretical elaboration of which will, I believe, yield new insight into the psychology of language and of what might be called "norm conforming behavior" generally. The present paper contains an initial attempt along these lines.

2. The refutation runs as follows:

Thesis. Learning to use a language (L) is learning to obey the rules of L.

But, a rule which enjoins the doing of an action (A) is a sentence in a language which contains an expression for A.

Hence, a rule which enjoins the using of a linguistic expression (E) is a sentence in a language which contains an expression for E,—in other words a sentence in a *meta*language.

Consequently, learning to obey the rules for L presupposes the ability to use the metalanguage (ML) in which the rules for L are formulated.

So that learning to use a language (L) presupposes having learned to use a language (ML). And by the same token, having learned to use ML presupposes having learned to use a *meta*-metalanguage (MML) and so on.

But this is impossible (a vicious regress).

Therefore, the thesis is absurd and must be rejected.

3. Now, at first sight there is a simple and straightforward way of preserving the essential claim of the thesis while freeing it from the refutation. It consists in substituting the phrase 'learning to *conform to* the rules . . .' for 'learning to obey the rules . . .' where 'conforming to a rule enjoining the doing of A in circumstances *C*' is to be equated simply with 'doing A when the circumstances are C—regardless of how one comes to do it. [It is granted that 'conforming to' is often used in the sense of 'obeying' so that this distinction involves an element of stipulation.] A person who has the habit of doing A in C would then be conforming to the above rule even though the idea that he was to do A in C had never occurred to him, and even though he had no language for referring to either A or C.

4. The approach we are considering, after proposing the above definition of 'conforming to a rule' argues that whereas *obeying* rules involves using the language in which the rules are formulated, *conforming* to rules does not, so that whereas the thesis put in terms of *obeying* rules leads to a vicious regress, it ceases to do so once the above substitution is made. Learning to use a language (L) no longer entails having learned to use the metalanguage (ML) nor does

learning ML entail having learned MML, and so on. Of course, once one has learned ML one may come to *obey* the rules for L to which one hitherto merely conformed, and similarly in the case of the rules for ML, and so on.

5. After all, it could be argued, there are many modes of human activity for which there are rules (let us stretch the word 'game' to cover them all) and yet in which people participate (play) without being able to formulate the rules to which they conform in so doing. Should we not conclude that playing these games is a matter of *doing A when the circumstances are C, doing A′ when the circumstances are C′* etc., and that the ability to formulate and obey the rules, although it may be a necessary condition of playing "in a critical and self-conscious manner" cannot be essential to playing *tout court*. It would be granted, of course, that the formulation and promulgation of rules for a game is often an indispensable factor in bringing it about that the game is played. What is denied is that playing a game *logically* involves obedience to the rules of the game, and hence the ability to use the language (play the language game) in which the rules are formulated. For it was this idea which led to the refutation of an otherwise convincing thesis with respect to the learning to use a language. One can suppose that the existence of Canasta players can be traced to the fact that certain people formulated and promulgated the rules of this game. But one cannot suppose that the existence of language speakers can be traced to the fact that certain *Urmenschen* formulated and promulgated the rules of a language game.

6. What are we to make of this line of thought? The temptation is to say that while the proposed revision of the original thesis does, indeed, avoid the refutation, it does so at too great a cost. Is conforming to rules, in the sense defined, an adequate account of playing a game? Surely the rules of a game are not so "externally related" to the game that it is logically possible to play the game without "having the rules in mind!" Or, again, surely one is not making a move in a game (however uncritically and un-selfconsciously) unless one is making it *as a move in the game*, and does this not involve that the game be somehow "present to mind" in each move? And what is the game but the rules? So must not the rules be present to mind when we play the game? These questions are both searching and inevitable, and yet an affirmative answer would seem to put us back where we started.

7. It may prove helpful, in our extremity, to note what Metaphysicus has to say. As a matter of fact, he promises a way out of our difficulty which combines the claim that one isn't playing a game—even a language game—unless he is *obeying* (not just *conforming to*) its rules, with the claim that one may obey a rule without being able to use the language—play the language game—in which its rules are formulated. To do this he distinguishes between the verbal formulation of a rule, and the rule itself as the *meaning* of the verbal formula. He compares the relation of rules to rule sentences with that of propositions to factual sentences. Whether as Platonist he gives rules an "objective" status, or as Conceptualist he makes their *esse* dependent on *concipi*, he argues that they are entities of which the mind can take account before it is able to give them a verbal

clothing. Thus, Metaphysicus distinguishes between the rule sentences, 'Faites A en C!' 'Tu A in C! (and 'Do A in C!') and the common rule to which they give expression, *Do A in C!* [Rules need not be formulated as imperatives; they can also be phrased as indicative "ought"-sentences. But the former is more convenient for our present purposes.] He continues by proposing to represent these rules by the form 'D (doing A in C)' where this indicates that the doing of A in C has the "demanded" character which makes it a rule to do A in C.

8. Having developed this account of rules, Metaphysicus proceeds to argue that to learn a game is to become aware of a structure of *demands* (which may or may not have found expression in a language) and to become able to realize these demands and motivated to do so. With respect to the latter point, he argues that to play a game is to be moved to do what one does, at least in part, *to satisfy these demands.* A person whose motivation in "playing a game" is merely to realize some purpose external to the game (as when one "plays golf" with the company president) would correctly be said to be merely going through the motions! Thus as Metaphysicus sees it, to learn to play a game involves:

(a) becoming aware of a set of demands and permissions, D (A in C), P (A′ in C′) etc.,

(b) acquiring the ability to do A in C, A′ in C′, etc.,

(c) becoming intrinsically motivated to do them *as demanded* (for the reason that they are demanded) by the rules of the game.

9. Without pausing to follow Metaphysicus in his elaboration of this scheme, let us turn directly to its application to the problem at hand. To learn to use a language—play a language game—is, on this account, to become aware of a set of demands concerning the manipulation of symbols, to acquire the ability to perform these manipulations, and to become motivated to do them as being demanded. Since, Metaphysicus insists, the awareness of these demands does not presuppose the use of verbal formulae, one can learn to obey the set of demands for a language L without having had to learn the metalanguage (ML) in which these demands would properly be formulated. Thus, he concludes, our problem has been solved.

10. Unfortunately, a closer examination of this "solution" reveals it to be a sham. More precisely, it turns out, on analysis, to be in all respects identical with the original thesis, and to be subject to the same refutation. The issue turns on what is to be understood by the term 'awareness' in the phrase 'becoming *aware* of a set of demands and permissions'. It is clear that if Metaphysicus is to succeed, becoming aware of something cannot be to make a move in a game, for then learning a game would involve playing a game, and we are off on our regress. Yet when we reflect on the notion of being aware of propositions, properties, relations, demands, etc., it strikes us at once that these awarenesses are exactly *positions* in the "game" of *reasoning.* It may be an over-simplification to identify reasoning, thinking, being aware of possibilities, connections, etc., with playing a *language* game (e.g. French, German), but that it is playing a game is indicated by the use of such terms as 'correct', 'mistake', etc., in commenting on them.

11. But while the attempt of Metaphysicus to solve our problem has proved to be a blind alley, it nevertheless points the way to a solution. To appreciate this it is necessary only to ask 'What was it about the proposal of Metaphysicus which seemed to promise a solution?' and to answer in a way which separates the wheat from the chaff. Surely the answer is that Metaphysicus sought to offer us an account in which learning a game involves learning to do what one does *because doing these things is making moves in the game* (let us abbreviate this to 'because of the moves (of the game)') where doing what one does *because of the moves* need not involve using language about the moves. Where he went astray was in holding that while doing what one does because of the moves need not involve using language about the moves, it does involve *being aware* of the moves demanded and permitted by the game, for it was this which led to the regress.

12. But how could one come to make a series of moves *because* of the system of moves demanded and permitted by the rules of a game, unless by virtue of the fact that one made one's moves *in the light of* these demands and permissions, reasoned one's moves in terms of their place in the game as a whole? Is there then no way of denying that one is playing a game if one is merely conforming to its rules, of insisting that playing a game involves doing what one does because doing it is making a move in the game, which does not lead to paradox? Fortunately, no sooner is the matter thus bluntly put, then we begin to see what is wrong. For it becomes clear that we have tacitly accepted a dichotomy between

(a) *merely conforming to rules:* doing A in C, A′ in C′ etc. where these doings "just happen" to contribute to the realization of a complex pattern.

(b) *obeying rules:* doing A in C, A′ in C′ etc., with the intention of fulfilling the demands of an envisaged system of rules.

But surely this is a false dichotomy! For it required us to suppose that the only way in which a complex system of activity can be involved in the explanation of the occurrence of a particular act, is by the agent envisaging the system and intending its realization. This is as much as to say that unless the agent conceives of the system, the conformity of his behavior to the system must be "accidental." Of course, in *one* sense of the term it *would* be accidental, for on one usage, 'accidental' *means* unintended. But in another sense, 'accidental' is the opposite of 'necessary', and there can surely be an unintended relation of an act to a system of acts, which is nevertheless a necessary relation—a relation of such a kind that it is appropriate to say that the act occurred because of the place of that kind of act in the system.

13. Let me use a familiar analogy to make my point. In interpreting the phenomena of evolution, it is quite proper to say that the sequence of species living in the various environments on the earth's surface took the form it did because this sequence maintained and improved a biological rapport between species and environment. It is quite clear, however, that saying this does not commit us to the idea that some mind or other envisaged this biological rapport and intended its realization. It is equally clear that to deny that the steps in the process were intended to maintain and improve a biological rapport, is not to commit oneself to the rejection of the idea that these steps occurred because of the sys-

tem of biological relations which they made possible. It would be improper to say that the steps "just happened" to fit into a broad scheme of continuous adaptation to the environment. Given the occurrence of mutations and the facts of heredity, we can translate the statement that evolutionary phenomena occur because of the biological rapport they make possible—a statement which appears to attribute a causal force to an abstraction, and consequently tempts us to introduce a mind or minds to envisage the abstraction and be the vehicle of its causality—into a statement concerning the consequences to particular organisms and hence to their hereditary lines, of standing or not standing in relations of these kinds to their environments.

14. Let me give another example somewhat more closely related to our problem. What would it mean to say of a bee returning from a clover field that its turnings and wigglings occur *because* they are part of a complex dance. Would this commit us to the idea that the bee *envisages* the dance and acts as it does by virtue of intending to realize the dance? If we reject this idea, must we refuse to say that the dance pattern as a whole is involved in the occurrence of each wiggle and turn? Clearly not. It is open to us to give an evolutionary account of the phenomena of the dance, and hence to interpret the statement that *this* wiggle occurred because of the complex dance to which it belongs—which appears, as before, to attribute causal force to an abstraction, and hence tempts us to draw upon the mentalistic language of intention and purpose—in terms of the survival value to groups of bees of these forms of behavior. In this interpretation, the dance pattern comes in not as an abstraction, but as exemplified by the behavior of particular bees.

15. Roughly, the interpretation would contain such sentences as the following:

(a) The pattern (dance) is first exemplified by particular bees in a way which is *not* appropriately described by saying that the successive acts by which the pattern is realized occur *because of the pattern.*

(b) Having a "wiring diagram" which expresses itself in this pattern has survival value.

(c) Through the mechanisms of heredity and natural selection it comes about that all bees have this "wiring diagram."

It is by a mention of these items that we would justify saying of the contemporary population of bees that each step in their dance behavior occurs because of its role in the dance as a whole.

16. Now, the phenomena of learning present interesting analogies to the evolution of species. [Indeed, it might be interesting to use evolutionary theory as a *model*, by regarding a single organism as a series of organisms of shorter temporal span, each inheriting disposition to behave from its predecessor, with new behavioral tendencies playing the role of mutations, and the "law of effect" the role of natural selection.] For our purposes it is sufficient to note that when the learning to use a language is viewed against the above background, we readily see the general lines of an account which permits us to say that learning to use a language is coming to do A in C, A′ in C′, etc., *because* of a system of "moves" to which these acts belong, while yet denying that learning to use a language is

coming to do A in C, A′ in C′, etc., *with the intention of realizing* a system of moves. In short, what we need is a distinction between 'pattern governed' and 'rule obeying' behavior, the latter being a more complex phenomenon which involves, but is not to be identified with the former. Rule obeying behavior contains, in some sense, both a game and a metagame, the latter being the game in which belong the rules obeyed in playing the former game as a piece of rule obeying behavior.

17. To learn pattern governed behavior is to become conditioned to arrange perceptible elements into patterns and to form these, in turn, into more complex patterns and sequences of patterns. Presumably, such learning is capable of explanation in S–R-reinforcement terms, the organism coming to respond to patterns as wholes through being (among other things) rewarded when it completes gappy instances of these patterns. Pattern governed behavior of the kind we should call "linguistic" involves "positions" and "moves" of the sort that *would be* specified by "formation" and "transformation" rules in its meta-game if it *were* rule obeying behavior. Thus, learning to "infer", where this is purely a pattern governed phenomenon, would be a matter of learning to respond to a pattern of one kind by forming another pattern related to it in one of the characteristic ways specified (at the level of the rule obeying use of language) by a 'transformation rule'—that is, a formally stated rule of inference.

18. It is not my aim, even if I were able, to present a detailed psychological account of how an organism might come to learn pattern governed behavior. I shall have achieved my present purpose if I have made plausible the idea than an organism might come to play a language game—that is, to move from position to position in a system of moves and positions, and to do it "because of the system" without having to *obey rules*, and hence without having to be playing a *meta*language game (*and a meta-meta*language game, and so on).

19. I pointed out above that the moves in a language game as pattern governed behavior are exactly the moves which, if the game were played in a rule obeying manner, would be made in the course of obeying formation and transformation rules formulated in a metalanguage game. If we now go on to ask "under what circumstances does an organism which has learned a language game come to behave in a way which constitutes *being at a position in the game*?" the answer is clearly that there are *at least* two such circumstances. In the first place, one can obviously be at a position by virtue of having *moved* there from another position (inference). Yet not all cases of being at a position can arise out of moving there from a prior position. A glance at chess will be instructive. Here we notice that the game involves an *initial* position, a position which one can be at without having moved to it. Shall we say that language games involve such positions? Indeed, it occurs to us, are not "observation sentences" exactly such positions? Surely they are positions in the language game which one occupies without having moved there from other positions *in the language*.

20. No sooner have we said this, however, than we note a significant difference between the observation sentences of a language and the initial position of chess. It does not belong to chess to specify the circumstances in which the

initial position is to be "set up". On the other hand, it does seem to belong to English that one set up the position "this is red" when one has a certain visual sensation. In short, the transition from the sensation to being at the position "This is red" seems to be a *part* of English in a sense in which *no* transition to the initial position of chess belongs to chess. For that matter, as we shall see, the transition from being at the position "Sellars, do A!" or "Sellars, you ought to do A!" to my doing A (given that certain other conditions obtain which I shall not attempt to specify), seems to be a part of English in a sense in which *no* transition from the final or "check mate" position belongs to chess.

21. Reflection on these facts might tempt us to say that the transition from having a certain visual sensation to occupying the position "This is red" is a *move* in English. Yet, no sooner do we try this than we see that it won't do. For while the transition does indeed belong to English, it would be a mistake to classify it with *moves in English*, (and hence to classify the sensation itself as a *position in English*) without explicitly recognizing the significant respects in which they differ from the moves and positions we have been considering under these names. To occupy a position in a language is to think, judge, assert *that so-and-so*; to make a move in a language is to infer *from so-and-so, that so-and-so*. And although sensations do have status in the English language game, their role in bringing about the occupation of an observation sentence position is not that of a thought serving as a premise in an inference.

22. Let us distinguish, therefore, between two kinds of learned transition which have status in a language game: (1) moves, (2) transitions involving a situation which is not a position in the game and a situation which is a position in the game. Moves are transitions (S-R connections) in which both the stimulus (S) and the response (R) are positions in the game functioning as such. Let us represent them by the schema '(S-R)^{g}'. The second category subdivides into two subcategories: (2.1) *language entry transitions*, as we shall call those learned transitions (S-R connections) in which one comes to occupy a position in the game (R is a position in the game functioning as such) but the *terminus a quo* of the transition is not (S is not a position in the game functioning as such). Let us represent these by the schema 'S-(R)^{g}'. The language entry transitions we have particularly in mind (observation sentences) are those which satisfy the additional requirement that S would be said to be "meant by" R.

Example: When Jacques' retina is stimulated by light coming from an orange pencil, he says 'ce crayon est orange'—from which he may *move* to 'ce crayon a une couleur entre rouge et jaune'.

23. Turning now to the second subcategory (2.2) we shall call *language departure transitions* these learned transitions (S-R connections) in which from occupying a position in the game (S is a position in the game functioning as such) we come to behave in a way which is not a position in the game (R is not a position in the game functioning as such). Let us represent these by the schema '(S)^{g}-R.' The language departure transitions we have particularly in mind are those which involve the additional requirement that R would be said to be "meant by" S.

Example: When Jacques says to himself 'Je dois lever la main' he raises his hand.

24. Notice that an item of kind K may function in one kind of context as a position in a game, and in another kind of context not. Thus, in the usual context the noise *red* may be responded to as the word 'red', but a singing instructor may respond to the same noise as a badly produced note. It may indeed function for him as a language entry stimulus taking him to the position "This is a flat note". Thus we have

$$(\text{in } C_1)\ (\text{K-R})^g$$
$$(\text{in } C_2)\ \text{K-(R)}^g$$

25. In 19 it was claimed that there are at least two ways of properly coming to be at a position in a language game. Two ways were thereupon discussed which can be indicated by the words 'observation' and 'inference'. There is, however, a third way of properly coming to be at a position. Here one comes to be at certain positions without having moved to them from other positions (in which position it resembles observation), and without having made a language entry transition (in which respect it resembles inference). The positions in question are "free" positions which can properly be occupied at any time if there is any point to doing so. Obviously what I have in mind are the sentences the status of which, when used in a rule obeying manner, is specified as that of "primitive sentence" (i.e. as unconditionally assertable) by a rule in the metalanguage. (Thus, 'All A is B' might be specified as a primitive sentence of language game L). Are such sentences properly called *positions*? Their "free" status and their "catalytic" function make them a class apart, yet it is less misleading to call them positions than it would be to call sensations functioning in observation positions. Let us call them "auxiliary positions."

26. We now notice that a language game which contains the auxiliary position 'All A is B' provides the move from 'This is A and All A is B' to 'It is B' as a special case of syllogistic move. An alternative way of going from 'This is A' to 'It is B' would exist if the game included a direct move from positions of the form '. . . is A' to positions of the form ' . . . is B'. We thus notice a certain equivalence between *auxiliary positions* and *moves*. We also notice that while it is conceivable that a language game might dispense with auxiliary positions altogether, though at the expense of multiplying moves, it is not conceivable that moves be completely dispensed with in favor of auxiliary positions. A game without moves is *Hamlet* without the prince of Denmark indeed!

27. Now, if a language game contains the auxiliary position 'All A is B' we can imagine that the fact that this sentence is an auxiliary position might come to be signalized. Such a signal might be the pattern 'necessarily', thus 'All A is (necessarily) B'. And we can imagine that the same signal might come to be used where a *sentence* corresponds to a *move* as 'All C is D' corresponds to the move from positions of the form '. . . is C' to positions of the form '. . . is D'. Indeed, it is sufficient for my present purposes to suggest that these signals might develop into the pieces, positions and moves characteristic of modal dis-

course, so that, in spite of the interesting relations which exist in sophisticated discourse between modal talk "in the object language" and rule talk "in the meta-language," modal talk might well exist at the level of pattern governed (as contrasted with rule obeying) linguistic behavior. Nevertheless, as we shall see, the full flavor of actual modal discourse involves the way in which sentences in the first level language game containing modal words parallel sentences containing rule words ('may', 'ought', 'permitted', etc.) in the syntactical metalanguage. This parallelism is quite intelligible once one notes that the moves which are signalized in the object language by sentences containing modal words, are *enjoined* (*permitted*, etc.) by sentences containing rule words in the syntactical metalanguage.

28. Now the moves (inferences) and the auxiliary positions (primitive sentences) of a language can be classified under two headings. They are either *analytic* or *synthetic*, or, as I prefer, in view of the ambiguity of these terms in contemporary philosophical discussion, either *formal* or *material*. This distinction is that which appears at the level of logical criticism as that between arguments and primitive sentences the validity of which does not depend on the particular predicates they contain (thus, perhaps, 'This is red therefore it is not non-red' and 'All men are men') on the one hand, and arguments and primitive sentences the validity of which does so depend (thus, perhaps, 'Here is smoke therefore here is fire' and 'All colors are extended') on the other.

29. Now to say that it is a law of nature that all A is B is, in effect, to say that we may infer 'x is B' from 'x is A' (a *materially* valid inference which is not to be confused with the formally valid inference from 'All A is B *and* x is A' to 'x is B.' To this, however, we must at once add a most important qualification. Obviously, if I learn that in a certain language I may make a material move from 'x is C' to 'x is D' I do not properly conclude that all C is D. Clearly, the language in question must be the language I myself use, in order for me to assert 'All C is D'. But with this qualification, we may say that it is by virtue of its *material* moves (or, which comes to the same thing, its *material* auxiliary positions) that a language embodies a consciousness of the lawfulness of things.[1]

30. It is high time we paused to pay our respects to a question the raising of which even the most friendly of readers has undoubtedly felt to be long overdue. It is all very well, the question has it, to speak of a language as a game with pieces, positions and moves; this is doubtless both true and fruitful as far as it goes. But must we not at some stage recognize that the "positions" in a language *have meaning*, and differ in this key respect from positions we actually *call* games in a nonmetaphorical sense? Was it not claimed (in 22) that to say of a position of the form 'Das ist rot' in the German language that it is an observation position is to say that a language entry transition has been made to it from a situation of the kind *meant by* 'rot'? Must we not admit, then, that in describing a language game, we must not only mention its elements, positions and moves, but must also mention *what its expressions mean*?

[1] For a further discussion of the concept of a law of nature, with particular attention to the "problem of induction," i.e. the problem of justifying the adoption of a material move or material auxiliary position into our language, see below, sections 57–72.

31. A full discussion of this question is beyond the scope of this paper, but the main lines of the answer can be set down briefly. (For a more complete discussion, the reader is referred to my paper "A Semantical Solution of the Mind-Body Problem," *Methodos*, 1953.) It is, of course, quite correct to say of the German expression 'es regnet' that it *means* it is raining. And it is quite true that in saying this of 'es regnet', one is not saying that the pattern 'es regnet' plays a certain role in the pattern governed behavior to be found behind the Rhine. But it would be a mistake to infer from these facts that the semantical statement ' 'es regnet' means *it is raining*' gives information about the German use of 'Es regnet' which would *supplement* a description of the role it plays in the German language game, making a *complete* description of what could otherwise be a partial account of the properties and relations of 'Es regnet' as a meaningful German word. To say that ' 'rot' means *red*' is not to describe ' 'rot' as standing "in the meaning relation" to an entity *red*; it is to use a recognized device (the semantical language game) for bringing home to a *user* of 'red' how Germans use 'rot'. It conveys no information which could not be formulated in terms of the pieces, positions, moves, and transitions (entry and departure) of the German language game.

32. But if the charge that our conception of language as a game is "overly syntactical" because it neglects the "semantical dimension of meaning" can be overcome by a proper analysis of the nature and function of the rubric " '. . . .' means ——," there remains the more penetrating accusation of the pragmatist. He argues that to conceive of a language as a game in which linguistic counters are manipulated according to a certain syntax, is to run the danger of overlooking an essential feature of languages—that they enable language users to find their way around in the world, and satisfy their needs.

33. And if we were to point out that we had already made a gesture in this direction by recognizing language entry and language departure transitions as parts of the game, he would doubtless reply that it is not a sufficient account of the connection between *language* and *living in a world* to recognize that people respond to red objects with 'I see red' and (given hunger) to 'this is an edible object' by eating. After all, we are not always in the presence of edible objects, and is not language (in our broad sense in which 'language' is equivalent to 'conceptual structure') the instrument which enables us to go from *this* which we see to *that* which we can eat? When all is said and done, should we not join the pragmatist in saying that in any nontrivial sense of this term, the "meaning" of a term lies in its role as an instrument in the organism's transactions with its environment?

34. Now I would argue that Pragmatism, with its stress on language (or the conceptual) as an instrument, has had hold of a most important insight—an insight, however, which the pragmatist has tended to misconceive as an *analysis* of 'means' and 'is true'. For it is a category mistake (in Ryle's useful terminology) to offer a definition of 'S means p' or 'S is true' in terms of the role of S as an instrument in problem solving behavior. On the other hand, if the pragmatist's claim is reformulated as the thesis that the language we use has a much more intimate connection with conduct than we have yet suggested, and that this

connection is intrinsic to its structure as language, rather than a "use" to which it "happens" to be put, then Pragmatism assumes its proper stature as a revolutionary step in Western Philosophy.

35. One pillar on which the conduct guiding role of language rests is, of course, its character as embodying convictions as to the ways of things. It was pointed out above that our understanding of the laws of nature resides in what we have called the material moves (inferences) of our language, that is to say, those moves whereby we go from one sentence to another which is not a logically analytic consequence of it. It is by virtue of such a move that we go, let us suppose, from the sentence 'Here is smoke' to 'Nearby is fire'. But the *linguistic* move from 'Here is smoke' to 'Nearby is fire' doesn't get us from the smoke to the fire, and if such moves were all we had in the way of linguistic moves, language would not be an instrument for action. Putting the point bluntly, an organism which "knew the laws of nature" might be able to move around in the world, but it couldn't move around *in the light of its knowledge* (i.e. act intelligently) unless it used a language *relating to conduct*, which tied in with its assertions and inferences relating to matters of fact. Action can be guided by language (thought) only in so far as language contains as an integral part a sublanguage built around action words, words for various kinds of *doing*.

36. This is not the occasion for a detailed discussion of the "logic" of action words. What is important for our present purposes is that the linguistic move from 'Here is smoke' to 'Yonder is fire' can guide conduct only because there are also such moves as that from 'Yonder is fire' to 'Going yonder is going to fire'. Of course, it is *per accidens* that *going yonder* is, on a particular occasion, *going to fire*. On the other hand, there are "essential" relations among actions. Thus, one action may be *analytically* a part of another action. And if we take both relationships into account, we see that one action may be *per accidens* a part of another action, by being *per accidens* an action which is a part of that action. Thus, actions which are motions of the agent's body (e.g., waving the hand) can be *per accidens* parts of actions the successful accomplishment of which involves goings on which are *not* motions of the agent's body (e.g., paying a debt). Indeed, there could be no performance of actions of the latter type unless there were "basic actions," actions which are motions of the agent's body to be, *per accidens*, parts of them.

37. We shall round off the above remarks on the relation of thinking to doing after we have further explored the doing involved in thinking. Let us get this exploration under way by turning our attention to rule *obeying* behavior.

38. Let us now turn our attention to *rule obeying behavior*. We have already noted that it involves a distinction between game and metagame, the former, or "object game" being played according to certain rules which themselves are positions in the metagame. Furthermore, we have emphasized that in an object game played as rule obeying behavior, not only do the moves exemplify positions specified by the rules (for this is also true of mere pattern governed behavior where even though a rule exists the playing organism has not learned to play it) but also the rules themselves are engaged in the genesis of the moves. The moves occur (in part, and in a sense demanding analysis) *because of* the rules.

39. Fortunately, our discussion of language games has put us in a position to clarify the manner in which rules are involved in rule obeying behavior. To begin with, we note that typically a rule sentence enjoins that such and such be done in such and such circumstances. (Of course, not all sentences in a rule language do this; 'one may do A in C' is also a sentence in the language of rules.) Thus, rules contain words for mentioning circumstances and for enjoining actions. In the latter respect they contain action words ('hit', 'place', 'run') in contexts such as '. . . !' or '. . . ought to . . .'.

40. Now since the games in which rules occur are language games, it occurs to us that the categories of language entry and language departure transitions may throw light on the nature of rule obeying behavior. Thus, we might start by trying the following formulations. Words which mention the positions of a game (position words) are, we might say, the "observation words" of a rule language. In addition to their syntactical role in the rule language, they occur in sentences which come to be occupied as the result of a language entry transition into the rule language, in which transition the stimulus is a situation of the kind meant by the position words. "Action enjoining contexts" on the other hand are the "motivating expressions" of the rule language. In addition to their syntactical role in the rule language, they occur in sentences the occupying of which is the stimulus for a language departure transition out of the rule language to a response which is [remember that both 'observation sentence' and 'motivating expression' are success words (Ryle)] an action of the kind mentioned in the motivating context. Thus we might give as an example:

Example: I am looking at a chessboard set up in a certain way. This acts as stimulus for the language entry transition into the rule language position '. . . and my king is checked by his bishop'. I then make the move in the rule language via the auxiliary position 'If one's king is checked by a bishop interpose a pawn!' (needless to say, I am taking liberties with the game) or '. . . one *is to* interpose a pawn' or '. . . one should interpose a pawn' to 'Sellars, interpose a pawn!' (or correspondingly on the alternative formulations of the auxiliary sentence). The latter is a motivating position in the rule language, and I make the language departure transition from the rule language to the action (in the chess game) of interposing a pawn.

41. Instead of commenting directly on the above line of thought, I shall beat about the neighboring bushes. In the first place attention must be called to the differences between

'bishop'	and	'piece of wood of such and such shape'
'My bishop is checking his king'	and	'There is an open diagonal space between this white piece of wood and that red piece of wood'
'Interpose a pawn!'	and	'Place this piece of wood between those two!'

Clearly the expressions on the left hand side belong to the rule language of chess. And clearly the ability to respond to an object of a certain size and shape *as a bishop* [Note that to say of Jones that he responds to x *as a* ϕ, at least in

this kind of context, implies that his response contains a mention of ϕ, that is, an element which *means* ϕ. Thus, when I say of Schmidt that he responds to this piece of wood as a bishop, I am implying that his response contains an element which means *bishop*. This element is, presumably, the German word 'Bischof'.] presupposes the ability to respond to it as an object of that size and shape. But it should not be inferred that 'bishop' is "shorthand" for 'wood of such and such size and shape' or even for 'object of such and such size and shape *used in chess*'. 'Bishop' is a counter in the rule language game and participates in linguistic moves in which the first of the two longer expressions does not, while the second of the longer expressions is a description which, whatever its other shortcomings, presupposes the language of chess rules, and can scarcely be a definition of 'bishop' as a term belonging to it. Nor should it be supposed that to respond to a situation as a bishop checking a king, is to respond to it *first* by an observation sentence *not* belonging to the rule language—thus, 'this is such and such a piece of wood thus and so situated with respect to another piece of wood' —and *then* to respond to this sentence in turn by a *language entry transition* into the rule language. For this would make the word 'bishop' a metalinguistic word (it is, of course, a meta*game* word) which mentions the words 'such and such a piece of wood' and not the piece of wood itself. For the language entry transition category to be relevant at all, 'this is a bishop checking a king' must be a response to a chessboard arrangement, and not to *words* describing the arrangement.

42. If we are to use the "language entry transition" category, we must say that having acquired the ability to respond to a chessboard arrangement as objects of such and such shapes in such and such arrangements, we then learn to respond to the same situation by a game entry transition into the rule language of chess. Similarly in the case of the "move" words as well as the "piece" and "position" words. Thus I might learn to respond to the move-enjoining sentence 'Sellars, advance your king's pawn!' as I would to 'Sellars, shove this piece of wood two squares forward!'.

43. But while this *might* be the description of learning to apply the rule language game (given that I have learned the moves within the rule language game —its syntax) it would make the connection between expressions such as 'bishop' 'check' etc., in chess language and the expressions in everyday language which we use to describe pieces of wood, shapes, sizes and arrangements much more "external" than we think it to be. For surely it is more plausible to suppose that the piece, position, and move words of chess are, in the process of learning chess language, built onto everyday language by *moves* relating, for example, 'x is a bishop' to 'x is a ♗-shaped piece of wood', or by means of auxiliary sentences, for example, 'x is a bishop if and only if x is a ♗-shaped piece of wood'. In other words, chess words gain "descriptive meaning" by virtue of *syntactical relations* to "everyday" words.

44. Yet these syntactical relations do not give a complete inter-change ability to, for example, 'x is a bishop' and 'x is a ♗-shaped piece of wood' for the former has a syntax in chess language which the latter does not—a syntax by which it is

related to action-enjoining contexts, and hence, it may be, to such normative words as 'ought', 'permitted', 'may' etc., with their characteristic grammar, or to imperative devices the logical syntax of which has been given less attention by philosophers (but see Hector Castañeda's unpublished thesis on this subject).[2] To be sure, we could say that non-chess words correlated with chess words acquire normative meaning by virtue of these syntactical relations with chess words having normative meaning. But one of the consequences of having a special chess language is that it is only when we are in the "chess playing frame of mind" that these syntactical connections become operative. Non-chess words do have a chess meaning, but only in chess playing contexts, when the system of learned habits with respect to chess moves and chess language moves is mobilized and called into play. Notice also that the language of chess, by virtue of its special vocabulary, has a certain autonomy with respect to the everyday language in which it becomes embedded. Thus, "piece" words might be syntactically related to expressions mentioning various shapes of wood in New York, and to expressions mentioning different makes of cars in Texas—pawns being Fords, the king a Cadillac, squares counties—and yet the game be "the same."

45. If we apply these considerations to the case of those rule languages which are syntactical metalanguages, we get something like the following: A syntactical metalanguage (ML) is a rule language the entry into which is from situations which are positions in the game for which it is the rules (OL), and the departure from which is the being motivated (by motivating contexts in ML) to make moves in OL. Thus it contains expressions for situations and moves in the OL

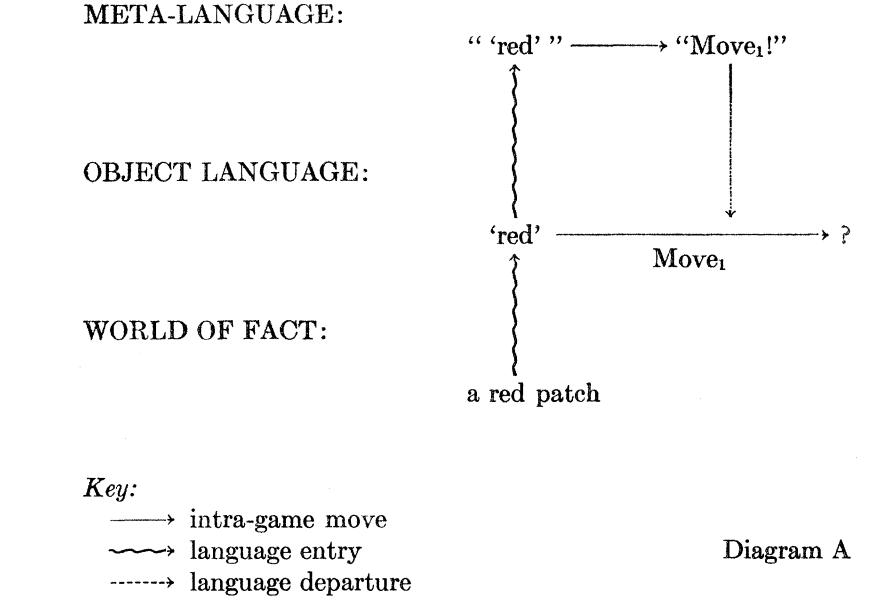


Diagram A

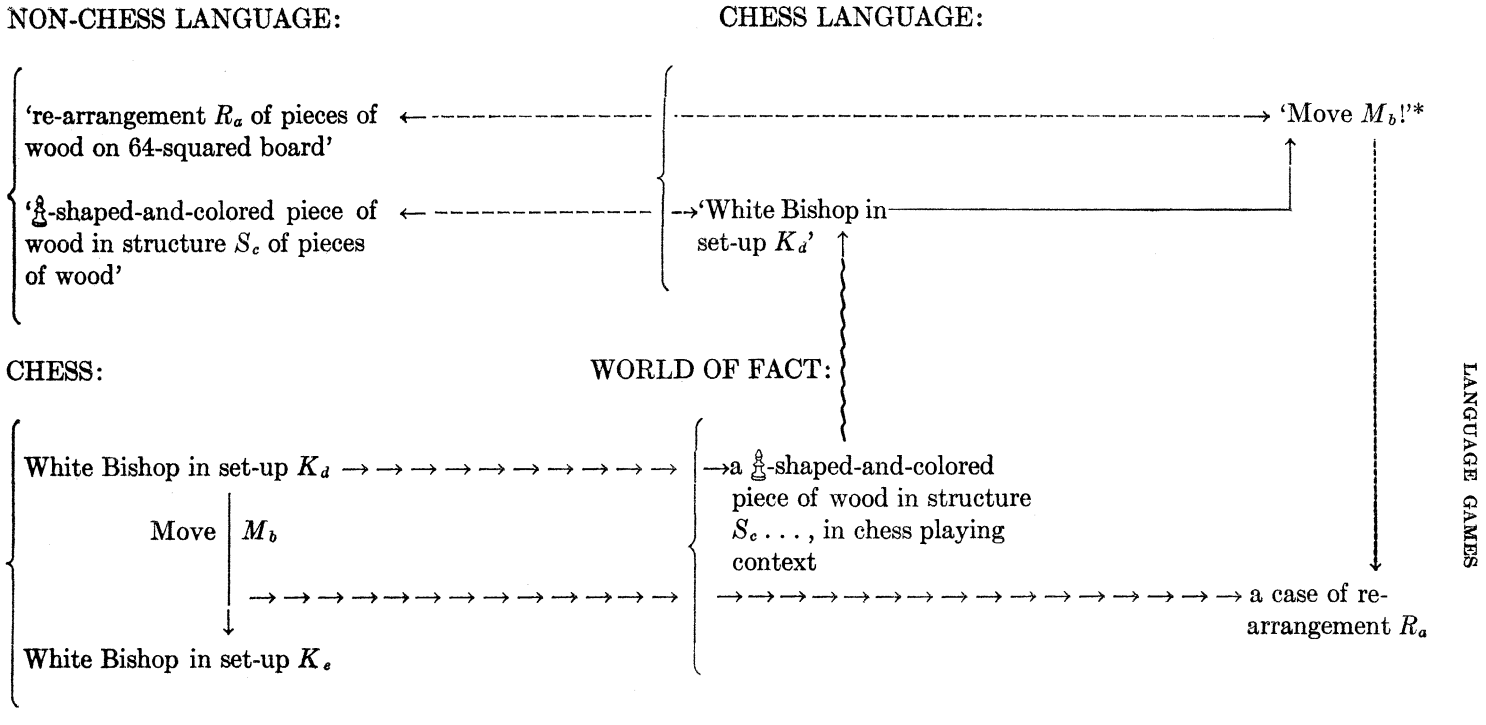
[2] Hector Castaneda, *The Logical Structure of Moral Reasoning*, a Ph.D. thesis submitted to the Faculty of the Graduate School at the University of Minnesota, April 1954.

game, as well as rule sentences involving these expressions. Now, we might be inclined to represent this as in diagram (A). But this clearly won't do as it stands. An arrow going from the expression meaning the word 'red' as a pattern in OL to the expression meaning the word ''red'' as a pattern in ML can scarcely have the same sense as an arrow going from the expression referring to a *particular* red patch to the expression meaning the word 'red' as a pattern in OL (where it stands for the language entry transition). Thus, even though there is a relationship between OL and ML which would properly be represented by something like the above diagram, some modifications must be introduced.

46. To build a more adequate representation, we must first note that just as chess language contains the word 'bishop' which is correlated (in different ways) with (a) ♗-shaped pieces wood, and (b) the expression '♗-shaped piece of wood', without itself containing either wood of any shape or the word 'wood',—so a syntactical ML can contain an expression appropriately correlated with (a) the sound *redd* as used in OL game playing contexts, and (b) the expression 'the sound *redd*' without itself containing either the sound *redd* or the word *'redd'*. Thus, the ML expression meaning the word 'red' might be 'α'. This expression would be a point of entry into ML, as 'bishop' is a point of entry into chess language.[3] Now, we saw that the chess rule game gains application by being built onto non-chess language (thus making a more inclusive game). The chess-word 'bishop' is correlated in this inclusive game by a syntactical move with the non-chess expression '♗-shaped piece of wood'—though not in Texas—and is also correlated with ♗-shaped pieces of wood (in chess playing contexts) in a language entry transition (the ♗-shaped pieces of wood are seen *as bishops*). A parallel situation obtains in the case of the syntactical metalanguage we are considering. Suppose that the OL word for the sound *redd* is 'abra', then we may diagram the chess language and metalanguage cases as in diagrams (B) and (C).

47. Notice that the non-rule language in which the positions and moves are specified by the rule language ML, is identical with (it need only be translatable into, as when Germans brood meta-linguistically about English) OL, the game for which ML is the rule game, whereas in the case of chess, the non-chess language in which pieces of wood are described is obviously not identical with the game of chess, the game for which chess language is the rule game. We must beware of putting this by saying that ML is part of the language game for which it is the rules. We can however say that just as chess language is built onto non-chess language to make a more inclusive language game, so syntactical language

[3] Just as the term "bishop," which occurs in the language of both Texas and ordinary chess, can be correctly said to have a common meaning—indeed, to mean the bishop role, embodied in the one case by pieces of wood, and in the other by, say, Chevrolets, and which Frenchmen would refer to as *le role de l'evecque*—so "α," on the above assumptions, can correctly be said to mean a certain linguistic role, a role which is embodied in different linguistic materials,—in English by the sound *redd*, and in German by the sound *roat*. For a discussion of linguistic roles thus conceived, see my "Quotation Marks, Sentences and Propositions," *Philosophy and Phenomenological Research*, 10, 1950, pp. 515–525; also "The Identity of Linguistic Expressions and the Paradox of Analysis," *Philosophical Studies*, 1, 1950, pp. 24–31.



* More realistically: 'Move M_b! or . . . or Move M_n!'

Key:

- ----→ inter-game move
- ——→ intra-game move
- → → → is exemplified by
- ~~~→ language entry
- ·····→ language departure

Diagram B

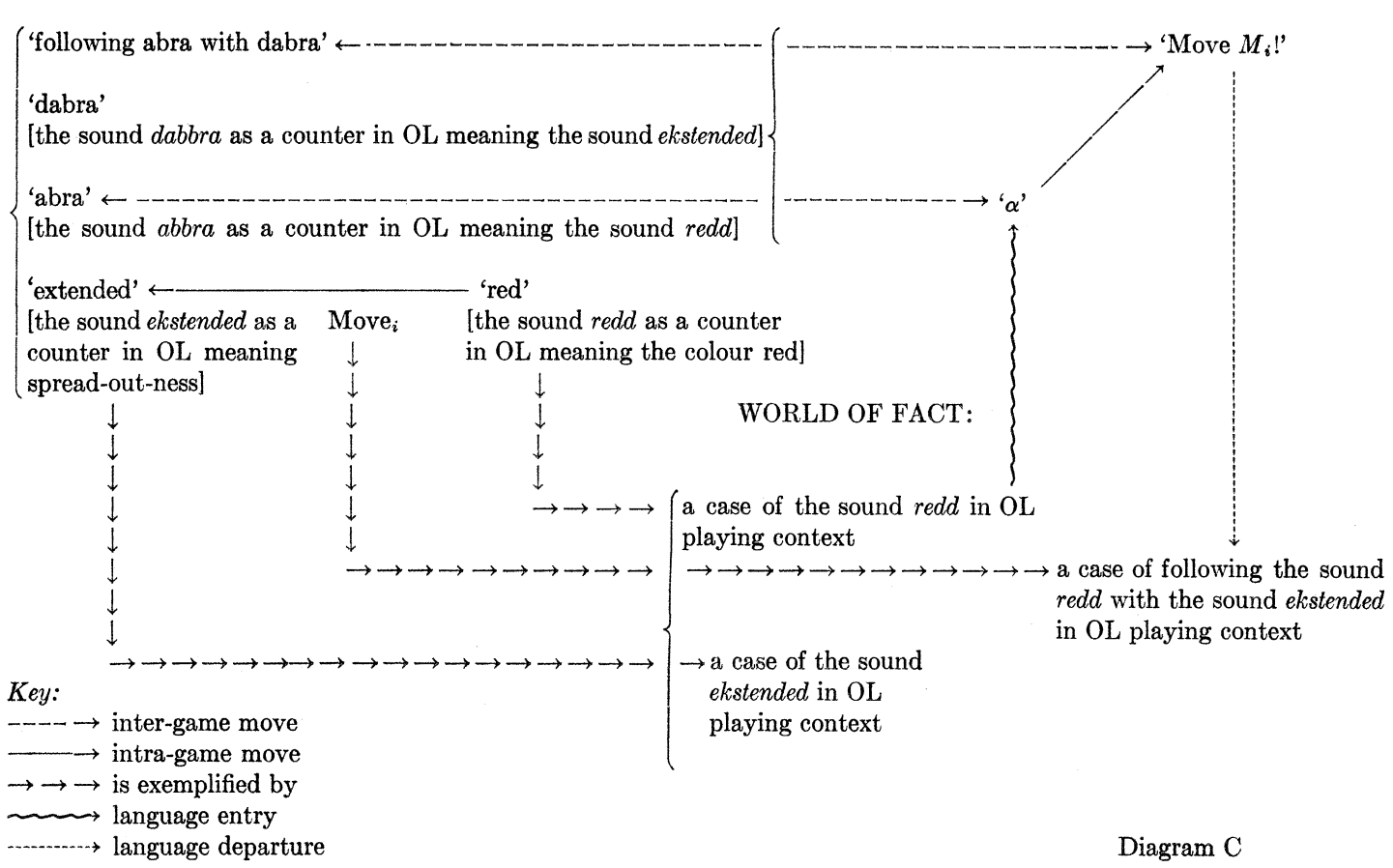


Diagram C

is built onto nonsyntactical language to make a more inclusive language game. That the inclusive game permits the effective formulation of rules the obedience to which is the playing of the less inclusive game, whereas the inclusive language game, in the case of chess, permits the effective formulation of rules the obeying of which is the playing, not of the less inclusive game, but the game of chess, loses its air of paradox, once it is remembered that when the rules of nonsyntactical English are formulated in German, the parallel with chess is restored. And it is scarcely cause for puzzle or paradox that nonsyntactical German (on which the German builds ML) is translatable into nonsyntactical English.

48. But it is not the purpose of this paper to follow up all the important and difficult topics involved in clarifying the status of metalanguages and the nature of the meta-meta- . . . -hierarchy. Our concern is with the most general implications of the conception of a language as a game. Let us therefore turn to a second comment on the analysis proposed in 38. Let us note that it must not be supposed that in order to play a game at the level of rule *obeying* behavior, one must first learn to play it at the level of mere pattern governed behavior. As we have pointed out before, not all learning to play games can be learning to obey rules, but given that one has learned a language adequate to the purpose, one can learn to play (e.g. chess or poker directly as a mode of rule obeying behavior). By "a language adequate to the purpose" I mean, for example that one must be able to respond to certain pieces of cardboard as having 10 diamond-shaped spots printed on it, before one can learn to apply the rule language of poker. Learning to play a game at the rule obeying level does presuppose that the patterns and activities involved belong to the organism's repertoire of available discriminations and manipulations. Notice also that the vocabulary and syntax of action enjoining contexts is, to a large extent, common to the rule languages of the many games we play, a fact which facilitates the learning of new games.

49. In the third place, it should be emphasized that the phrase 'rule obeying behavior' is not restricted in its application to behavior in which one makes moves in a game *via* making moves in its rule metagame. There is a sense in which it is quite legitimate to say that Jones is obeying the rules of chess, even though he is not actually making moves in the rule language, and yet deny that Smith, who has learned to play merely at the level of pattern governed behavior and hence is also not making moves in the metagame, is obeying rules. For there are many true subjunctive statements we could make about Jones and the rule language which we could not make about Smith. In this paper, however, I have limited my discussion of rule obeying to the more pedestrian cases, oversimplifying in order to focus attention on fundamentals. For a sensitive and illuminating account of the complex logical devices built into ordinary language about human behavior, the reader is referred to Gilbert Ryle's *The Concept of Mind.*

50. In concluding this paper, I shall make a few remarks about what we have called 'action enjoining contexts'. In the first place, it should be emphasized that while action words occur in motivating contexts such as '. . . !' and '. . . ought to . . .,' sentences containing action words may motivate without occurring in a motivating context. Thus, given a certain organic state (hunger), if I occupy

the position 'There is an edible object within grasp' I may proceed to grasp the object with my hand and eat it. In such cases we speak of acting "on impulse". Or, in other cases, "from desire" "from pathological love" (Kant) etc., as contrasted with "obeying a command" "following a rule" or "acting conscientiously".

51. We have, in effect, distinguished between three ways in which the thought of an action which I can perform here and now can be related to the doing of it. I may do the action because I desire to do it (either for its own sake, or for the sake of its consequences), or because I am commanded to do it, or because I think I ought to do it. It is only in the latter two cases that "action-tropic" mechanisms of language are involved. Learning the use of imperatives and normatives involves not only learning the intra-linguistic moves or "logical grammar" of these expressions, but also (subject to qualifications to be developed immediately below) acquiring the tendency to move from occupying the position 'Let me do A!' or 'I ought now to do A' to the doing of A. As we have already pointed out, they are positions from which we have learned to make language departure transitions.

52. As for the qualifications, in the first place, it is clear that we can speak at most of a tendency. Even if I "assent to" or "concur in" the command 'Sellars, do A!' I may yet fail to do A because of an intense dislike of either A or its consequences. And the same is notoriously true where the position occupied is 'I ought to do A'. Furthermore, when Jones says to me 'You do A!' I may not even come to occupy the position 'Let me do A!'. I may "reject" his command. I may do this even though I actually go on to do A, say because I like doing A. To do an action which satisfies a command is not the same as to obey a command —though the term 'obey' is used with sufficient vagueness for the distinction between doing A which in point of fact fulfils a command and doing A because it was commanded to be easily overlooked.

53. But if 'I ought to do A now' and 'Let me do A!' are both action enjoining or "prescriptive" positions, having a common tendency to bring about my doing of A, is there any genuine—more than "merely verbal"—difference between them? Indeed, Carnap once claimed that ethical statements are disguised commands, and it is by no means unusual to find laymen and philosophers alike referring to certain normative statements as moral imperatives. Yet before one can find it plausible and illuminating to classify normatives not only *with* imperatives (constituting with them two species of action enjoining or prescriptive discourse) but as being themselves a species of imperative, one must first come to terms with the fact that normatives have an essential property which is not shared by what grammar recognizes as the category of imperatives. If normatives are to be a species of imperative in some "rationally reconstructed" sense, then presumably this property will be the "specific difference."

54. Singular normatives are "implicitly universal." As a rough approximation we may say that in some sense of 'implies', 'Jones ought to do A in C' implies 'Everybody ought to do A in C'. (As a parallel it may be noted that singular causal statements are also "implicitly universal" though it is even more difficult

to tickle out the sense in which singular causal statements "imply" universal ones.) Certainly there seems to be something like a contradiction, or, in any event, some kind of logical absurdity, in saying 'Jones ought to do A in C but it is not the case that people (or chess players) generally ought to do A in C'. Of course, A (the action) and C (the circumstances) must be properly specified. 'Jones ought to fetch a glass of water when Cynthia cries' does not imply 'Everybody ought to fetch a glass of water when Cynthia cries'.

55. Now this seems to mean that in order for a language to contain singular normatives, it must contain universal normatives among its primitive sentences. These universal normatives will be of at least two kinds (a) unrestricted—which is at least part of what we mean by "moral" and is explained by its contrast with (b) restricted, e.g. 'All *chess-players* ought to . . . .' or 'All users of ML ought to . . .', where the obligation is laid down for the context of a special game, rather than the general "game" of living. This suggests that the difference between normatives and imperatives is to be accounted for *not* by supposing that normatives are not imperatives, but by supposing that normatives are a special class of "imperatives"—imperatives which signalize a commitment to a corresponding universal imperative.

56. May we not compare 'Jones ought to do A in C' to 'Jones do thou A in C!' where we are to suppose that the archaic 'do thou!' signalizes a commitment to 'Everyman do ye A in C!' and hence differs from 'Jones, do A in C!' which involves no such commitment. If after finding this comparison illuminating, one wishes to say that normatives are *really* implicitly universal imperatives, I would not object too strenuously.

57. We must now confront a challenge which has been dogging our heels since our brief discussion of material moves and the laws of nature in sections—to—above. "According to your account," the challenge begins, "our consciousness of the ways of things is a matter of the 'material moves' of the language game in which we speak about the world. In other words, you claim that to know that all occasions of kind A are occasions of kind B is a matter of one's language containing the move from 'x is A' to 'x is B.' It is along these lines that you account for the fact that we back up our assertion that an occasion is of kind B by *giving a reason*, namely that it is of kind A. On the other hand, when you describe the process whereby we come to adopt the language of which this move is a part, you give an *anthropological*, a (very schematic) *causal* account of how languages comes to be used, and, presumably changed, in which you stress evolutionary analogies and cite the language of the bee hive. Do you not imply that there is no such thing as *giving a reason* for (or against) the decision to include a certain material move in the syntactical structure of ones language?" This challenge takes us to the very heart of an issue central to modern philosophy since Hume, namely, the reason-ability of our 'beliefs' in (particular) laws of nature.

58. The mention of Hume inspires another critic to brandish quite a different cudgel. "By making the material moves in which an empirical predicate participates constitutive of its being the predicate it is, as the moves of a bishop

constitute its being a bishop, are you not, in effect, joining the ranks of those long scattered legions who thought that to *have* (clear) *concepts* is to *know causes*? But in your nominalistic version, in which natural selection takes the place of divine *illuminatio* as reality's dominion over human concepts, different peoples with different languages would "know" different causes. There would be as many "truths" as languages . . . . in short, no truth at all!"

59. Now it must be granted that as soon as an attempt is made to rephrase our discussion in terms of "understanding," and "knowing," not to mention "meaning" and "truth" one begins to feel acutely uncomfortable. Thus, suppose we sought to express what we have hitherto formulated as

(i) "All A is B" is unconditionally assertable (in L)

or

(ii) "All A is B" (in L) corresponds to the material move from 'x is A' to 'x is B' which holds in L.

by saying

(iii) "All A is B" (in L) is true *ex vi terminorum*.

Clearly, we would be on the threshold of paradox. For suppose that there are two groups of language users, G-1 and G-2, using languages L-1 and L-2 respectively. And suppose that L-1 and L-2 are radically different in that they involve two different systems of material moves—that is, they cannot be regarded as different embodiments of the same "pieces" and "positions", as automobiles and counties on the one hand, and pieces of ivory and wooden squares on the other, can be alternative embodiments of the pieces and positions of chess. In short, L-1 and L-2 are not mutually translatable. Now, if we were to adopt mode of formulation (iii), we should have to say that each of these languages contained a set of universal sentences which were not only "lawlike" but *true*, indeed, true *ex vi terminorum*. And if G-2 abandoned L-2, acquiring some other language in its place, we should have to say that it was abandoning a set of true law-like sentences about the world. And even though in doing so it was acquiring another set of true lawlike sentences, can it ever be *reasonable* to abandon true sentences?

60. But while we may legitimately conclude from this that it is often inappropriate to use mode of formulation (iii) where (i) and (ii) are appropriate, it would be a mistake to suppose that (iii) is never correct. In general, when I commit myself to

(iv) S is a true sentence (of L).

I am committing myself to asserting either S itself (if I am a user of L) or a translation of S into the language I do use. Thus, if the position sketched in this paper is sound, it is only if I myself use L, or a language which stands to L as chess played with cadillacs for *kings* and counties as *squares* stands to chess embodied in more usual materials, that I can make a correct use of (iii).

Consequently, it could not be correct for me to say that G-2 switched from one set of *true* lawlike sentences to another, nor to say of my group that it has switched from one set of true lawlike sentences to another.

61. A closely related point concerns such expressions as "Jones knows that all A is B" or "They knew that All A is B". It should be clear in the light of the above (given the general epistemological orientation of this paper) that a correct use by me of either of these sentences presupposes that in the one case Jones, and in the other case 'they' use either the same language which I myself speak, or a language which is "another embodiment of the same game." Where this condition is not fulfilled, we must abandon indirect discourse and make explicit reference to the language used by the individual or group of which we are speaking.

62. We have already pointed out that statements of the form

"..." means____(in L)

are incorrectly assimilated to relation statements. They do not say of an expression (in L) and an entity that they stand in the "meaning relation." They belong to semantical discourse, which is no more describing discourse, than is prescriptive discourse.[4] They convey, but do not assert, the information that "..." plays the role in L which "____" plays in the language in which the semantical statement occurs. Thus, if the argument of this paper is correct, it can only be correct to make statements of the form

(v) "β" means B (in L)

where the language (say L') which one is using as a metalanguage (and which therefore contains the appropriate semantical vocabulary) is, in its nonsemantical part, to which "B" belongs, another embodiment of the same game—i.e. the same system of formal and material moves—as L, to which "β" belongs. And a statement of this form is *true*, if and only if "β" stands to "B" as another embodiment of the same "piece".

63. Everyone would admit that the notion of a language which enables one to state matters of fact, but doesn't permit argument, explanation, in short *reason-giving*, in accordance with the principles of *formal logic*, is a chimera. It is essential to the understanding of scientific reasoning to realize that the notion of a language which enables one to state empirical matters of fact, but contains no material moves is equally chimerical. The classical "fiction" of an inductive leap which takes its point of departure from an observation base undefiled by any notion as to how things hang together is not a fiction but an absurdity. The problem is not "is it reasonable to include material moves in our language?" but rather "*Which* material moves is it reasonable to include?"

64. Thus, there is no such thing as a problem of induction if one means by this a problem of how to justify the leap from the safe ground of the mere description

[4] For a more elaborate discussion of semantical statements and the disastrous consequences to philosophy of assimilating them to relation statements, see my "Is there a Synthetic A Priori?" *Philosophy of Science*, 20, 1953, pp. 121–138, especially pp. 134 ff.

of particular situations, to the problematical heights of asserting lawlike sentences and offering explanations. The skeptics' notion that any move beyond a language which provides only for the tautologous transformation of observation statements is a "venture of faith" is sheer nonsense. An understanding of the role of material moves in the working of a language is the key to the rationale of scientific method. And since, as we have seen, this role can be characterized both as constituting the concepts of the language, and as providing for inferences, explanations and reasons relating to statements formulated in terms of these concepts, it is clear that to be in a position to ask the question "Is it ever reasonable to assert one matter of fact on the basis of another matter of fact?" is to be in a position to answer with an unequivocal "yes!"

65. Thus, once we realize that the problem is not "Is it reasonable to include material moves in our language?" but rather "*Which* material moves is it reasonable to include?" we also see that the problem is not "Is it reasonable to give 'explanations' of matters of fact?" but "*Which* explanations of matters of fact is it reasonable to give?" It comes home to us that the problem concerns the grounds on which a decision to use—that is, to teach ourselves—*this* language rather than *that*, can be justified. And to play the language game in which we can be confronted by the need for such a decision, is to know what would constitute a good reason for making it in one way rather than another.

66. Viewed from within a *used* conceptual framework, with a sufficiently rich metalinguistic apparatus, observations belong to the *ordo rerum*. It is only when we reflect on the nature of a decision to change conceptual frames that it strikes us anew that the making of an observation is the impact of the nonconceptual on the conceptual. The *metalinguistic* position "U (meaning *that p*) was an observation utterance," which entails "p was the case", rests on no privileged access to the world. A sufficiently rich conceptual frame enables the one who uses it to recite the story of its achievements, and to support with reasons the claim that they *are* achievements. *But reasons are always positions within a frame.* We may conclude that x was an observation judgment; but observation judgments are not conclusions.

67. But this means, of course, that no giving of reasons for adopting a language game can appeal to premises outside all language games. The *data* of the positivist must join the *illuminatio* of Augustine. In other words, instead of justifying nomologicals by an appeal to observation statements the predicates of which would have conceptual meaning independently of any commitment to laws, the problem is rather that of deciding *which* conceptual meaning our observation vocabulary is to have, our aim being so to manipulate the three basic components of a world picture, (a) observed objects and events, (b) unobserved objects and events and (c) nomological connections, so as to achieve a world picture with a maximum of "explanatory coherence." In this reshuffle, no item is sacred. On the other hand, it is obviously reasonable to preserve the achievement status of as many observation claims as possible, for the more we preserve, the more the world picture we select is "based on observational evidence."[5]

[5] In a footnote to page 195 of a paper on "Particulars," *Philosophy and Phenomenological Research*, 13, 1952, I wrote, "If, as I am claiming, the sentences which formulate what

68. The difference between observation predicates and theoretical constructs is not that the former have a conceptual status independent of material moves (implicit definition) whereas the latter are implicitly defined predicates in a system which is 'interpreted' by a 'dictionary' which ties certain expressions in the theory with empirical constructs. Rather, the conceptual status of theoretical and non-theoretical expressions alike is a matter of material (as well as formal) moves.

69. When we adopt a theoretical sub-language, we characteristically hold it at arms length. That is to say, instead of simply enriching our non-theoretical ("background") language with new material moves relating existing terms to a new vocabulary, as we should if we simply decided to take—and taught ourselves to take—"gas" and "congeries of molecules" as synonymous, we put raisable drawbridges "coordinating" (moves) between the theoretical and the non-theoretical vocabularies. We use these drawbridges when we play the scientific game—compare the move from "x is wood of such and such shape" to "x is a knight" in chess-playing contexts—and their status can only be understood in the light of the total rationale of the scientific enterprise. The coordinating moves (inferences) which connect an island of theory with the highways of non-theoretical discourse on the mainland (themselves by no means immune to revision) must not be confused with the language entry transitions (*not* inferences) which give observation words their observation status.

70. The boundary between "empirical constructs" and "theoretical constructs" is no iron curtain, fixed for all time. In principle, any theoretical sub-language is a candidate for adoption into non-theoretical or background discourse, and we can imagine scientific contingencies which would make it reasonable to do so. The temptation to freeze this boundary arises from being convinced on (faulty) epistemological grounds that factual meaning is primarily the property of observation predicates, that "in the last analysis" there is (ought to be?) a fixed set of observation predicates ("sense data predicates"), and that any factual *primitive* which is not an observation term belongs (is?) on an island of theory connected by coordinating drawbridges with empirical constructs.

71. But philosophically more interesting are those cases where we decide to introduce new material moves into *non-theoretical* discourse. Thus, suppose that "ϕ" and "ψ" are empirical constructs and that their conceptual meaning is

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we regard as the laws of the world in which we live are true *ex vi terminorum*, then how can it be rational to abandon such a sentence? What role could observational evidence play in the "establishing" of sentences which are to be true *ex vi terminorum*?

"The inductive establishing of laws is misconceived if it is regarded as a process of supplementing observation sentences formulated in a language whose basic conceptual meanings are plucked from "data" and immune from revision "Hume's Principle"). The rationality of "induction" is, rather, the rationality of adopting that framework of material rules of inference (meanings—even for observation predicates) and, within this framework, those (sketchy) statements of unobserved matters of fact (world picture) which together give maximum probability to our observation utterances *interpreted as sentences in the system*. Only if we do this do we adopt (and this is, of course, an analytic proposition) that world picture which is "most probable on the basis of our observations."

constituted, as we have argued, by their role in a network of material (and formal) moves. Suppose that these moves do not include the move from "x is ϕ" to "x is ψ". Now suppose that we begin to discover (using this frame) that many ϕ's are ψ and that we discover no exceptions. At this stage the sentence "All ϕ's are ψ" looms as an "hypothesis," *by which is meant that it has a problematical status with respect to the categories of explanation.* In terms of these categories we look to a resolution of this problematical situation along one of the following lines.

(a) We discover that we can derive "All ϕ's are ψ" from already accepted nomologicals. (Compare the development of early geometry.)

(b) We discover that we can derive "If C, then all ϕ's are ψ" from already accepted nomologicals, where C is a circumstance we know to obtain.

(c) We decide to adopt—and teach ourselves—the material move from "x is ϕ" to "x is ψ". In other words, we accept "All ϕ's are ψ". as an unconditionally assertable sentence of L, and reflect this decision by using the modal sentence "ϕ's are *necessarily* ψ". This constitutes, of course, an enrichment of the conceptual meanings of "ϕ" and "ψ".

72. But it may be long before we arrive at a *decision*, and in the interim (always supposing that no exceptions turn up), we will say "it is probable that all ϕ is ψ." The important thing is to realize that instead of "probable hypothesis" or "mere inductive generalization" being a *terminal* category, it is an interim category. And if we were to say (as it is often sensible to say) "It is probable that ϕ's are necessarily ψ," we should be giving notice that we expected a resolution of the problematic situation along the lines of either (a) or (c) above.

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