THE LATER WITTGENSTEIN'S CONCEPTION OF TEACHING

Thesis for the Degree of Ph. D.
MICHIGAN STATE UNIVERSITY
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This is to certify that the

thesis entitled

The Later Wittgenstein's Conception of Teaching

presented by

Frank Mc Bride

has been accepted towards fulfillment
of the requirements for

Ph. D. degree in Philosophy of Education

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Date May 12, 1972

ABSTRACT

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By

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The thesis of this dissertation is an answer to the question: What is the later Wittgenstein's conception of teaching? In his early work the question: "How would you verify?" is employed as a tool for analysis. In his later work the question: "How would you teach a child?" occupies a somewhat similar position. But 'teaching' like 'verification' occupies a wider place in Wittgenstein's works than just as a tool for analysis. "Verification" was taken to be a constituent part of propositions, to "belong" to them. In a somewhat similar way the later Wittgenstein saw teaching as a constituent part of the "forms of life" that he speaks of. It was thought of as one, among others, of the activities that go to make up a form of life, but also, and importantly so, as an activity that has a bearing on how that form of life evolves. Representative of this view are these remarks: "I want to say: an education quite different from ours might also be the foundation for quite different concepts. . . For here life would run on differently. . ." Given such a view of the place of teaching (generally speaking) in the form of life it is not at all surprising to find Wittgenstein trying to get clear on the nature of language, and other things like rules, reading, and mathematics, by taking a look at the way these things are taught. (Along the way he says a great deal about teaching per se.)

In Chapter 1, I introduce the thesis. Chapter 2 is directed mainly to the distinction between ostensive definition and what Wittgenstein calls "ostensive teaching." A first approximation of 'training' emerges in the context of this discussion. Chapter 3 concentrates on Wittgenstein's distinction between (1) using a word in a provisional way as a preparation for the actual or "full-blown" use of language, and (2) the actual or full-blown use of language. As it turns out the distinction turns mainly on the role of naming in the various teaching operations.

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Three new teaching operations are introduced: description, explanation, and ostensive explanation-definition (that form of ostensive definition that involves the use of explanatory terms such as "that color is called . . . ."). In Chapter 4, I examine the claim that neither description nor explanation are applicable in teaching someone to employ a rule. A distinction between instrumental and non-instrumental rules is drawn. The claim is reduced to cover only the non-instrumental type of rule. These rules are said to be arbitrary and hence inexplicable. Chapter 5 involves a claim somewhat similar to that of the preceding chapter, only here the claim concerns teaching someone the technique of using a word. Two routes for establishing the claim are explored: (1) the hopeless circularity that results from trying to use one word to explain another word, and (2) the dependency of description and explanation, or any other full-blown use of language, on naming and the training that precedes naming. In Chapter 6, I explore the conditions under which a person, say a teacher, would have the right to say that someone has mastered something, say continuing a series. Two questions emerge: (1) what constitutes 'mastery?' and (2) what constitutes 'the task to be mastered?' On Wittgenstein's terms, both answers are to be found in the <u>form of life</u> where such an activity is practiced and taught. Agreement would there exist on what constitutes 'mastery' and what constitutes, say, 'continuing a series.' But note, and this reminder we should note well, for Wittgenstein: "This is not agreement in opinions but agreement in form of life."

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A THESIS

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

Department of Social and Philosophical Foundations of Education

ACKNOWLEDGMENTS

The debts that I have incurred in bringing this dissertation to completion are many and varied. George Barnett introduced me to formal philosophy. He also introduced me to the thought of Wittgenstein. He sent me across campus to study under philosophers such as Rolf George, George Kerner, and Ronald Suter, each of whom influenced me greatly. But most of all he set for me an example of philosophical and personal integrity. George Ferree shared with me his interest in and understanding of analytical philosophy. His council kept me from putting the ship on the rocks at several crucial places. George Kerner's concise criticism resulted in a much stronger thesis and a much more readable dissertation. Had it not been for the two classes that I had with him it is doubtful that I could have dealt with the material of Chapters 4 and 5, which are in some respects the heart of the thesis. Frank Blackington continued to express interest in the project and confidence in my ability to bring it to a happy conclusion, even while my doubts were most acute. My friend, William Sloan, and my friend and partner, Ms. Angela McBride, may argue over which has suffered most over these past few years. The name Wittgenstein became a household item every bit as much as the rosemary, thyme, and sage that flavored our dinners and conversations. Many of William's suggestions are incorporated in the thesis itself. Caroline Kosnik, my neighbor, now 3 years of age, was my sole subject. She willingly acquired the language and my martini olives (which she called "minow" or something that sounded that way). Daisy Bullard typed the dissertation and put a great many things in order that needed to be put that way. To each of these people I owe a debt of gratitude for having contributed to what is good in the thesis and to its completion. For what is not good, I alone bear responsibility. The Macmillan Company, Publishers of Philosophical Investigations, and The University of California Press, publishers

of Zettel (originally published by the University of California Press; reprinted by permission of the Regents of the University of California) were good enough to let me quote extensively from their respective publications.

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CHAPTER I

INTRODUCTION

The thesis of this dissertation is an answer to the question: What is the later Wittgenstein's conception of teaching? That the later Wittgenstein was concerned with 'teaching' is evidenced by the number of references to concepts such as teach and train in his later works.[1] Further support for such a claim is provided by contrasting a central question from his early work with one from his later work. In Tractatus[2] the question: How would you verify?, is employed as a tool for analysis. In Philosophical Investigations[3] and Zettel[4] the question: How would you teach the use of such an expression?, occupies a somewhat

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[1]There are more than one hundred thirty uses of these terms in Philosophical Investigations and Zettel. In some instances several successive passages are devoted to the concepts.

[2]Ludwig Wittgenstein, Tractatus Logico-Philosophicus, D. F. Pears and B. F. McGuiness, Translators, and with the Introduction by Bertrand Russell, F. R. S., (London, Routledge & Kegen Paul, 1969).

[3]Ludwig Wittgenstein, Philosophical Investigations, G. E. M. Anscombe Translator, (3d. ed., New York: The Macmillan Company, 1968).

[4]Ludwig Wittgenstein, Zettel, G. E. M. Anscombe, Translator, G. E. M. Anscombe and G. H. von Wright, Editors, (Berkeley and Los Angeles: University of California Press, 1967).*

*Note: Henceforth I shall follow the usual custom of citing passages in Philosophical Investigations by P.I. followed by the paragraph number for PART I and the page number for PART II and the footnotes of PART I. Zettel will be abbreviated by Z. followed by the paragraph number.

similar position.[5] While it is clear that 'teaching' occupies a central place in Wittgenstein's later works it is not altogether clear what the dimensions of that place might be. The question: Was he concerned with teaching per se or did he employ the concept merely as a heuristic device?, illustrates the problem. Here again, it may be helpful to draw a parallel with the approach employed in his early work. The concept of verification was not looked upon as an external implement but rather as a characteristic of propositions. This view is carried over into Wittgenstein's later work. At P. I. # 136, for example, he says:

> And what a proposition is is in one sense determined by the rules of sentence formation (in English for example) and in another sense by the use of the sign in the language-game. And the use of the words "true" and "false" may be among the constituent parts of this game; and if so it belongs to our concept 'proposition' but does not 'fit' it. As we might also say, check belongs to our concept of the king in chess (as so to speak a constituent part of it).

In a somewhat similar sense we may say that for Wittgenstein teaching was not thought of as external to the various activities that make up the form of life. Rather, it was thought of as an integral part of the form of life. In this sense teaching both determines and is determined by the form of life. This viewpoint comes out in the following remarks, taken together:

> I want to say: an education quite different from ours might also be the foundation for quite different concepts. (Z. # 387)

> For here life would run on differently . . . Here different concepts would no longer be unimaginable. In fact, this is the only way essentially different concepts are imaginable. (Z. # 388)

> Don't you understand the call "slab!" If you act upon it in such-and-such a way?--Doubtless the ostensive teaching helped bring this about; but only together with a particular training. With different training the same ostensive teaching of these words would have effected quite a different understanding.

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[5]Leonard Linsky, "Wittgenstein On Language and Some Problems of Philosophy," The Journal of Philosophy, (Vol. LIV, No. 10, May 1957), p. 291. (This question or similar ones appear more than twenty-five times in P. I. and Z.)

> "I set the brake up by connecting up rod and lever. "--Yes, given the whole of the rest of the mechanism. Only in conjunction with that is it a brake-lever, and separated from its support it is not even a lever; it may be anything, or nothing. (P. I. # 6)

> If we teach a human being such-and-such a technique by means of examples--that he then proceeds like this and not like that in a particular new case, or that in this case he gets stuck, and thus that this and not that is the natural continuation for him: this of itself is an extremely important fact of nature. (Z. # 355)

Given such a view of the place of teaching (generally speaking) in the form of life it is not at all surprising to find Wittgenstein trying to get clear on the nature of language, and other things like rules, reading, and arithmetic, by taking a look at the way these things are taught.

A brief recounting of the procedure followed in extracting and ordering relevant passages from Wittgenstein's work may throw some light on how the thesis came into being. I began by noting each use of the terms "teach," "taught," and "train" to be found in P. I. and Z. The next steps involved listing by paragraph or page number and copying these passages. In copying the passages an effort was made to include enough of the context to give some idea of how the term or terms were being used. This step resulted in a manuscript containing a serial listing of Wittgenstein's remarks on 'teach' and 'train.'[6] These passages were then transposed onto note cards. This allowed for a reordering of the passages under a variety of sub-topics, e.g. ostensive teaching, ostensive definition, teaching someone to employ a rule, and success criteria. The regrouping or reordering of the note cards involved a process perhaps similar to that engaged in by Wittgenstein, for his purposes, in P. I. and by the editors of Z., for their purposes, but here, for my purposes, in trying to get clear on Wittgenstein's conception of teaching.

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[6]See Appendixes A and B.

It may be felicitous to make explicit two limitations of the thesis that have been intimated in the discussion above: (1) The thesis is designed to be exegetic. The major claims are to the effect that Wittgenstein expressed or held a certain view about teaching and not whether or not that view is tenable. (2) Material for the study is drawn from only two of Wittgenstein's works: P. I. and Z. What I have attempted is to characterize Wittgenstein's thought in as nearly as possible its final form. It is altogether possible that what is said in other post-transitional period works such as Brown Book,[7] Lectures and Conversations on Aesthetics, Psychology and Religious Belief,[8] Remarks On the Foundations of Mathematics,[9] and On Certainty,[10] may have a bearing on the claims of this thesis. The two works used in this study were the latest in origin of those published at the time the dissertation was begun.[11]

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[7]Ludwig Wittgenstein, The Blue and Brown Books, (New York: Harper Torchbooks, Harper & Row, Publishers, 1965).

[8]Ludwig Wittgenstein, Lectures & Conversations On Aesthetics, Psychology and Religious Belief, Cyril Barrett, Editor, (Berkeley and Los Angeles: University of California Press, 1967).

[9]Ludwig Wittgenstein, Remarks on the Foundations of Mathematics, G.E.M. Anscombe, Translator, G. H. von Wright, R. Rhees, and G.E.M. Anscombe, Editors, (Cambridge, Massachusetts: The M. I. T. Press, The Massachusetts Institute of Technology, 1967).

[10]Ludwig Wittgenstein, On Certainty, Denis Paul and G.E.M. Anscombe, Translators, G.E.M. Anscombe and G. H. von Wright, Editors, (New York: J. & J. Harper Edition, Harper & Row, Publishers, 1969).

[11]K. T. Fann (Editor), Ludwig Wittgenstein: The Man and His Philosophy, (New York: Dell Publishing Co., 1967), pp. 405-406.

In the main the claims of the thesis concern distinctions among teaching operations and limitations on the application of a teaching operation.[12] The distinctions among operations include differences in kind and in some instances an ordering of two or more operations. Limitations on the application of an operation are based mainly on the possibility of success at teaching someone something in a stipulated context, e.g. teaching a child, say, to read, follow a rule, or use a word. It should be emphasized that in most cases this "someone" is a child that has not yet got the concept in question, not yet mastered the language.

There is some temptation to think of 'teaching' as a language-game and the logic of teaching as the rules for playing the teaching game. Wittgenstein does on occasion speak of a teaching situation as a "language-game."[13] It would be a mistake, though, to think of teaching in general as a language-game, at least on Wittgenstein's use of the concept. There is no doubt that some forms of teaching involve playing one or more of the language-games Wittgenstein mentions; but to construe teaching in general as a language-game would be to remove the concept of language-game to a level of generality quite remote from Wittgenstein's examples.[14]

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[12] I have decided to use the term "operation" here rather than, say "technique," for two reasons: First, 'operation' suggests a broader scope of activities than 'technique,' and secondly, and more importantly, the term "operation" has a history of employment in somewhat the way I use it. See, for example: B. Othanel Smith and Milton O. Meux, A Study of the Logic of Teaching, (Urbana, Illinois: Bureau of Educational Research, College of Education, University of Illinois, n.d.), esp. pp. 3-4.

[13] See, for example: P. I. # 143 and # 630.

[14] For a treatment of teaching in general as a language-game, see: Arno A. Bellack, Herbert M. Kliebard, Ronald T. Hyman, and Frank L. Smith, Jr., The Language of the Classroom (New York: Teachers College Press, 1966), esp. pp. 3-4.

There are six teaching operations that come under consideration: training, ostensive teaching, ostensive definition, ostensive explanation-definition, description, and explanation. These may not exhaust the list of operations that constitute teaching. They are merely the ones to which the later Wittgenstein gave his attention.

The plan of the thesis is roughly as follows: In Chapter 1, I introduce the thesis. In Chapter 2, I distinguish between training, ostensive teaching, and ostensive definition. The central role that naming plays in both the determination of these teaching operations and in the limitation on their application becomes clear. Among the claims in the chapter are these: (1) that ostensive teaching is not a form of naming, (2) that ostensive teaching functions to direct the pupil's attention, (3) that ostensive definition involves naming, (4) that training precedes ostensive definition, and (5) that an ostensive definition is ambiguous in a variety of ways. In the context of attempting to overcome a translation problem a distinction between training in general and a more restrictive type of training emerges.

In Chapter 3, Wittgenstein's distinction between the provisional or preparatory use of a word and the use of a word in language serves as the basis for distinguishing between teaching operations. Here again, as in Chapter 2, naming plays a central role. Wittgenstein's claim is that naming is a preparation for the use of language in somewhat the same sense as putting the pieces in place on the board is preparatory to playing chess. Naming is said to be like attaching a label to a thing; or, one might say, you give a name to a thing and then you can talk about it. On Wittgenstein's analysis it is not only naming that is "preparatory," but, also, any employment of words in the teaching of language. This "preparation--use dichotomy," as it is referred to, splits up the teaching operations as follows: Preparation operations: training, ostensive teaching, and ostensive definition; use operations: describing and explaining. A sixth teaching operation, "ostensive explanation-definition," is examined in light of this distinction. This operation--that form of ostensive definition that

includes explanatory words--does not fit into either category without discomfort. In a sense it stands at the crossroads, so to speak, one foot--the naming function--in the preparation camp; the other foot--the explanation part--in the use camp. There is a tendency to pull it toward the preparation side.

The major claim of Chapter 4 is that one cannot describe or explain how to employ a rule. What one can do is train someone to employ a rule. The contention is made that Wittgenstein has in mind a particular kind of rule rather than rules in general, i.e. the non-instrumental kind of rule. Such rules are likened to the rules of a game. They are said to be arbitrary and thus inexplicable. It would turn out, for example, that in trying to explain how to employ the rule, say, for moving the knight, in chess, one would state the rule.

The main theme of Chapter 5 also serves to limit the application of description and explanation. The claim here is that you can't teach the language by describing or explaining. There are two routes that can be taken in support of the contention: The first approach, referred to as the S (for Schwyzer) Route concentrates on the inescapable circularity of any attempt to explicate an illocutionary act such as "making a request."[15] The second approach, referred to as the W (for Wittgenstein) Route emphasizes the things that must precede the successful description or explanation. We will have found, for example, in Chapter 3 that naming precedes both description and explanation and that training precedes naming. If this is so, then, based on the law of transitivity, training must precede description and explanation. This may have been what Wittgenstein had in mind at Z. # 419 where he says: "Any explanation has its foundation in training."

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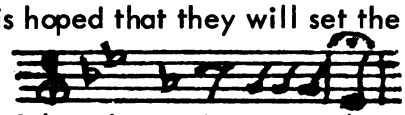
[15]Schwyzer attributes a thesis similar to that above to Wittgenstein. Schwyzer's argument is for the thesis itself, however, and not for the claim that Wittgenstein held such a view. See: Hubert Rudolph Schwyzer, The Acquisition of Concepts and the Use of Language, (Unpublished Doctoral Dissertation, University of California, Berkeley, 1968.)

Chapter 6 sets out at least some of the criteria for success at teaching, but in a stipulated setting. The setting is the typical Wittgensteinean teaching situation of one pupil, one teacher, and a well defined task. This situation is referred to as the "direct teaching situation." The question, one that Wittgenstein raised on several occasions, is this: When do we have a right to say that someone has mastered such-and-such? To help put the question into better focus two assumptions are drawn: that the pupil does not already know how to do such-and-such; and, that what the teacher does is instrumental in getting the pupil to where he can do such-and-such. Among other things, this assures that this is a teaching situation, i.e. that the pupil does not come to do such-and-such on his own, despite the teacher. After some rather extensive analysis of 'understanding' and other "can do" type concepts to get clear on what Wittgenstein means by 'mastery,' it turns out that we cannot answer the above, main, question without getting clear on the limits of the prescribed task, i.e. what it is to do such-and-such, e.g. continue a series or read. 'Continue a series' is used as the test case. The analysis of this concept reveals several levels of uncertainty or vagueness. It would seem that the only manner of disposing of this vagueness is for someone, e.g. the teacher, to make a judgement, e.g. on how often the pupil must "get it right," or on how far he must go on. But this seems to suggest that the question of mastery of continuing a series is to be decided on a subjective basis, on the basis of opinion. The way out of this is to relegate 'what it is to continue a series' to the realm of culture, part of a form of life (along with language and non-instrumental rules). We can then say that just as teachers don't decide what is an appropriate use of, say, the words "I'm sorry," neither do they decide what constitutes continuing a series. These phenomena are rooted in the culture. The answers to these questions are not matters of opinion but matters of custom. In the final analysis Wittgenstein's criteria for success at teaching are reduced to two: (1) demonstrated ability, and (2) meeting the cultural standard of mastery of the prescribed task.

Appendixes A and B bring together the complete set of Wittgenstein's explicit remarks on teaching and training found in P. I. and Z. Appendixes C and D contain a compilation of the "How would you teach a child. . .?" type passages in P. I. and Z. It should perhaps be emphasized that the appendixes are not designed as a substitute for the texts in following an interpreting the claims of the thesis. The idea in bringing these passages together here was to provide an interested reader with a readily available complete set of Wittgenstein's explicit remarks on teaching and training. This set was also, incidentally, the source of most of what is said in the thesis.

As the final remark of this introduction let me say that the initial statement quotations that appear at the beginning of Chapters 2 through 6 are not intended to serve as a full statement of the claim or claims of the chapter. Metaphorically speaking, it is hoped that they will set the theme for the chapter somewhat as Beethoven's  sets the theme for his Fifth Symphony. It may be helpful to the reader, in working his way through a chapter, to keep the main theme in mind.

CHAPTER II

OSTENSIVE DEFINITION, OSTENSIVE TEACHING, AND TRAINING

> I do not want to call this "ostensive definition" because the child cannot as yet ask what the name is. I will call it "ostensive teaching of words". (P. I. # 6)

What I want to get at here is Wittgenstein's conception of "ostensive definition" and "ostensive teaching" as distinct teaching operations. We are led to believe that the distinction turns on the role that naming plays in an ostensive definition. This is so, but it will turn out, I think, that this is not the full story: ostensive teaching has a role of its own to play. A part of the task here is to show what that role might be, along with pointing out some of the limitations on the application of both ostensive teaching and ostensive definition. A first approximation of training, as Wittgenstein conceives of it, will also emerge in the context of the discussion of this chapter.

A first step is to put the above quoted remarks into context. The "this" referred to consists of the teacher pointing to an object and at the same time uttering a word. The "child" is being given instruction in what Wittgenstein calls a "primitive form of language."[1] This primitive language is one he devised to illustrate St. Augustine's conception of language learning,[2] and, among other

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[1] I shall refer to this as language # 2, or the language of # 2.

[2] See P. I. # 1 and # 2.

things, to help get "a clear view of the aim and functioning of words." (P. I. # 5) He describes it as follows:

> The language is meant to serve as communication between a builder A and an Assistant B. A is building with building stones: there are blocks, pillars, slabs, and beams. B has to pass the stones, and that in the order in which A needs them. For this purpose they use a language consisting of the words "block", "pillar", "slab", "beam". A calls them out;--B brings the stone which he has learnt to bring at such-and-such a call.----Conceive this as a complete primitive language. (P. I. # 2)

Among the questions that need to be answered to get clear on what Wittgenstein is driving at in the initial statement quotation from above, (P. I. # 6), are these: (1) Why can't the child ask what the name is?, and (2) In what way does ostensive definition involve naming? To get a first approximation of Wittgenstein's position let us delay answering the second question and assume for the sake of argument that ostensive definition does significantly involve naming in one way or another. In the stipulated context, the language of # 2, there is an obvious answer to the first question: The child cannot ask what the name is because naming is not a part of language # 2. At P. I. # 27 Wittgenstein says: "In languages (2) and (8) there was no such thing as asking something's name. This with its correlate, ostensive definition, is, we might say, a language game on its own." The language of # 2 consist of only one language-game: ordering. In this language, given the assumption that ostensive definition involves naming, it is not only not possible to give an ostensive definition, but no such thing could exist. But I think this carries us beyond the point of Wittgenstein's illustration. He does, after all, say in P. I. # 6 that the child cannot as yet ask what the name is. This would suggest an expansion, or at least the possibility of expansion, of the language of # 2 to include naming. At any rate, I think the main point he wishes to make is this: Where the possibility of giving an ostensive definition does not exist the actions of the teacher (i.e. pointing to an object and uttering a word) constitute some other teaching operation and should be designated as such. This claim should be

insulated in some way from the "ambiguity of an ostensive definition" problem. To put this another way: It is one thing to give an ostensive definition and have it misinterpreted, but it is another thing to point to an object and utter a word when there is not even the possibility of giving an ostensive definition. In both cases the actions of the teacher could be misinterpreted, but only in the first case could we say that a definition had been misinterpreted. But to complete the interpretation of the P. I. # 6 remarks: In the situation where the child could not ask what the name is, the possibility of giving an ostensive definition does not exist and Wittgenstein does not want to call the actions of the teacher "ostensive definition." He says he will call it "ostensive teaching of words."

The above interpretation may make sense in the stipulated context, i.e. in teaching the primitive language of # 2; but Wittgenstein's interest, and ours, goes beyond these limits. The primitive language that he had devised was thought of by him as a heuristic device to help disperse the fog surrounding the workings of language. What I wish to do is extend the case beyond the language of # 2 to language in general, to the teaching of language in general. To do so it may be helpful to re-open the two questions posed initially, or similar ones, but in the broader context. Perhaps an instructive way of formulating the first question is to ask: What would it take for a child to be able to ask what the name is? At one point Wittgenstein says: "one has already to know (or be able to do) something in order to be capable of asking a thing's name." (P. I. # 30) A bit later on he says: "We may say: only someone who already knows how to do something with it can significantly ask a name." (P. I. # 31) But what is the "something" that one must know or know how to do? Here Wittgenstein relies upon the game analogy (or likeness) to illustrate his answer. He cites two examples, both involving the game of chess: (1) The case where someone has already learned the game without ever having explicitly learned or formulated the rules, perhaps by watching others play; and (2) the case where I am explaining the game to someone. In both cases the naming statement "This is the king" (or "This is called the king") is posed. Wittgenstein's claim is that in both cases the naming

statement is an explanation or definition only if the place for it was already prepared: In (1) the statement might be used to identify the king in a set of chessmen of a shape that was unfamiliar to the hearer. In this case the statement "This is the king" functions as a naming statement and may tell the person the use of the particular piece only because the person already knows how to play the game. In (2) the statement is a definition (we could say ostensive definition) only if the learner already knows what a piece in a game is, i.e. "has already played other games, or has watched other people playing 'and understood'--and similar things." (P. I. # 31) And only under these circumstances, says Wittgenstein, will he be able to ask relevantly in the course of learning the game: "What do you call this?"--That is, this piece in the game. We may generalize and say that in both cases "What he must know" is the overall role of a piece in a game. To carry the analogy back to naming, and what Wittgenstein refers to as its correlate, ostensive definition: What one must know to be able to ask a thing's name is the overall role a name plays in the language. To put this in action terms I suppose that one might say, with Wittgenstein, that one must know how to do something with a name, e.g. give something a name, ask something's name, or answer a question about something's name. But to be able to know this or do this the child would already have to be master of the language or at least a part of it. How this might come about is a large question, one that I shall take up later on.

Now, to the second question: In what way does ostensive definition involve naming? It should first of all be noted that the question assumes the correctness of the assumption made earlier: That ostensive definition involves naming. This hardly needs to be argued. The "that is called" or "this colour is called" of a typical ostensive definition already points to a name in the sense that what something is called is usually its name, or at least a name. The closest Wittgenstein comes to an outright claim that this is so is in the P. I. # 27 passage quoted above where he speaks of ostensive definition as the correlate of asking some

thing's name.[3] From his frequent descriptions of and references to ostensive definition in a naming context there can be little doubt that he took this to be a form of naming.[4] One of the most enlightening of these, for our purpose, is the discussion on the ambiguity of an ostensive definition. The claims that pertain here may help to provide an answer to the second question as posed above and at the same time point out some of the characteristics of the ostensive definition.

Wittgenstein is quite explicit about the ambiguity claim. He says at P. I.# 28, for instance, that "an ostensive definition can be variously interpreted in every case." Part of this interpretation problem concerns the overall role of the pointing-uttering-a-word action. For example, does the teacher name or give an order, or is this a part of the training in the language. Depending on the circumstances it could be any one of these or perhaps even something different, e.g. remarking. In the P. I.# 6 situation, for instance, what one may have taken for an ostensive definition turned out to be ostensive teaching, a part of the training in the language. Not only is there a problem concerning what it is altogether that the teacher is doing but there is question about the pointing, i.e. how is the child to know just what it is the teacher is pointing to? or what does pointing to, e.g. "that shape," consist in? At P. I. # 33, for example, Wittgenstein says:

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[3]The noun "correlate" may be used here in a general way, i.e. suggesting some sort of reciprocal relationship, or more formally suggesting implication. I think what Wittgenstein had in mind is the latter relationship. But not all forms of naming imply ostensive definition. It is the other way around: all forms of ostensive definition imply naming. One could give something a name without pointing or demonstrating. And there are some things that can be named but not pointed to.

[4]See for example: P. I. # 6, # 9, # 27-30, # 32-34, # 38, # 49, #362, # 380, p. 14, and p. 18.

> Suppose, however, someone were to object: "It is not true that you must already be master of a language in order to understand an ostensive definition: all you need--of course!--is to know or guess what the person giving the explanation is pointing to. That is, whether for example to the shape of the object, or to its colour, or to its number, and so on. "----And what does 'pointing to the shape', 'pointing to the colour' consist in? Point to a piece of paper.--And now point to its shape--now to its colour--now to its number (that sounds queer).--How did you do it?[5]

Still a third level of ambiguity arises out of the ambiguity of the concept of naming, i.e. inventing a name or applying a name that has been adopted. At P. I.# 27, for example, Wittgenstein says:

> That is really to say: we are brought up, trained, to ask: "What is that called?"--upon which the name is given. And there is also a language-game of inventing a name for something, and hence of saying, "This is . . . . ." and then using the new name.[6]

A fourth level of ambiguity arises out of the possibility of a name having different roles in the language, i.e. color names, object names, thing names, action or movement names, number names, etc. Wittgenstein makes this point at P. I. # 29:

> This number is called 'two'". . .--The word "number" in the definition does indeed shew this place; does shew the post at which we station the word. And we can prevent misunderstandings by saying: "This colour is called so-and-so", and so on. That is to say: misunderstandings are sometimes averted in this way. But is there only one way of taking the word "colour" or "length"?

These may not be the only ways in which an ostensive definition can be misinterpreted. What should be noted is that the last two fascets of ambiguity concern naming. It is in its role as one of the forms of naming that ostensive definition sort of inherits these kinds of ambiguity. This discussion was designed to cast some light on the nature of ostensive definition, in particular the way in which naming enters into the operation. We have found at least two ways in

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[5]A similar point is made at Z. # 11.

[6]See also p. 22 below, for some other examples of name usages.

which this may occur: (1) as an explanatory term, e.g. "This colour is called . . .," and as the name of what is being defined, e.g. "This colour is called sepia." Despite the ambiguity ostensive definition may be one of the more useful tools available to the teacher in the teaching of language. As Wittgenstein says at P. I. # 362: ". . . in the end the pupil is brought to the point of giving himself the correct ostensive definition." More will be said about naming and ostensive definition in Chapter 3.

I turn now to 'ostensive teaching.'[7] Thus far we have found out some of the things ostensive teaching is not. It is not, for example, a form of ostensive definition. It does not involve naming. And, later on, we will find that it is not a use of language but is preparatory to the use of language.[8] To say what it is not , however, is not to say what it is, i.e. how it functions or just what it is the teacher is doing. In the P. I. # 6 example the actions of the teacher are described as: ". . . pointing to the objects, directing the child's attention to them, and at the same time uttering a word, for instance, the word "slab" as he points to that shape." From this we may take a first characteristic: The pointing directs the child's attention to the object, or objects. It may be worth noting that the German term hinweisende, the counterpart of ostensive, ordinarily translates as pointing, pointing to, or showing or directing the way, whereas the English term ostensive is more inclusive. Pointing is, of course, one way of "making manifestly demonstative" (one of the definitions of ostensive). One could as well, though, merely produce an example of, e.g. by holding out in clear view or by demonstrating. Whether or not we extend 'ostensive' beyond just pointing may not be crucial to the identification and limitation of the subject

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[7]The expression "ostensive teaching" appears in only three passages in P. I. and not at all in Z.: at P. I. # 6, # 9, and # 49.

[8]This claim evolves in Chapter 3, below. See esp. pp. 23-24.

teaching operation, (or, for that matter, of ostensive definition). The point is that in Wittgenstein's examples it is so limited.

A little further on in P. I. # 6 a second perspective on the function of ostensive teaching is given: "This ostensive teaching of words can be said to establish an association between the word and the thing." We must ask, along with Wittgenstein: "But what does this mean?" We are told that it could mean that the word evokes a picture or image before the child's mind. Wittgenstein says this may occur, and that this could be the purpose of the word, but that in the language of # 2 this is not the purpose. The "actual purpose" is to get the child to act upon the word in a particular way, e.g. to bring the slab when A calls out "slab." We could speculate, and to some extent Wittgenstein does, about what is happening in the child, or his mind, when this "association" is made. But the task here is to do logic, or something like it, rather than child psychology. The only purpose possible in the language of # 2 is to bring the child to the point of participating in the language-game of ordering: "The children are brought up to perform these actions, to use these words as they do so, and to react in this way to the words of others." (P. I. # 6) Given the action tenor of Wittgenstein's "meaning equals use" equation and his "application criterion" for 'understanding' and 'learning'[9] it is only a short step from the ostensive teaching of a word in language # 2 to the ostensive teaching of words in the language in general. For here, too, the purpose of instruction in the language is, according to Wittgenstein, to bring the child to the point where he can participate in the various language-games; to where he has mastered the technique of using a word.

Another consideration concerns the relationship of ostensive teaching to training. Wittgenstein says:

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[9]See P. I. # 43 for a statement of the equation and pp. 49-51, below for discussion of the "application criterion."

> I say that it /ostensive teaching of words/ will form an important part of the training; because it is so with human beings; not because it could not be imagined otherwise. (P. I. # 6)*

And a bit further on he says:

> Doubtless the ostensive teaching helped to bring this /getting the child to act upon the call "slab" in such-and-such a way/ about; but only together with a particular training. With different training the same ostensive teaching of these words would have effected a quite different understanding. (P. I. # 6)

The first part of the claim seems to be a rather straightforward descriptive claim: e.g. this just happens to be the way it is with humans, the training of humans in an activity such as ordering characteristically involves the ostensive teaching of words. The second part of the claim is more opaque. We are told that the ostensive teaching of words together with a "particular training" brought about the desired effect, i.e. getting the child to act upon the word "slab" in such-and-such a way. The opacity turns on what this "particular training" might be like. Is this, for example, the training in general of which ostensive teaching is a part? Or, is this something else, a different kind of instruction? Or, is Wittgenstein referring here to the cultural influence, the form of life that surrounds the particular language-game in question? There are other interpretations possible. The problem of interpretation is compounded by what appear to be some irregularities in the translations that yield "training." "Abrichtung" is consistently translated as "training." This, clearly, is the kind of animal-like training Wittgenstein speaks of so frequently.[10] "Unterrichtung" is translated

*Note: Throughout, when I use the inclined brackets it will be to set off something that does not appear at that point in the text.

[10]It may be worthwhile to note that Wittgenstein departs from the standard German usage of "abrichtung." Ordinarily the term is applied only to animals (other than human). He does this advertently. At the very outset of Brown Book for instance, he says: "I am using the word "trained" in a way strictly analogous to that in which we talk of an animal being trained to do certain things.

variously as "instruction," "teaching," or "training."[11] The question is: What are the criteria for the different translations? One might expect that the context would provide the basis for one or the other rendering. If this is so, it is not apparent what these different contexts are. There is a way out of the dilemna, although not a completely satisfactory one: Wittgenstein at times uses "train," "instruct," and "teach" in a general sort of way, i.e. to speak of the kinds of things a teacher does to bring the child to, say, follow a rule or use the language.[12] There may, as well, be specific, restrictive usages of any one of these concepts. This is most notably the case with "training." For example, the uses of "training" derived from the German word "Abrichtung" are restricted to the animal-like teaching situation. Wittgenstein describes this kind of teaching variously as a teaching "by means of examples and practice," (P. I. # 208), as a teaching "by means of actions, gestures, pictures, and so on." (P. I. # 556), and as teaching by giving "the right tip." (P. I. p. 227). A significant feature of this kind of training is that it does not involve the use of language, at least not in the usual way. Wittgenstein calls this use of words provisional or preparatory to the use of language.[13] We may say, at least for our purposes here, that Wittgenstein uses

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[11]See P. I. # 6, # 9, and # 233 for examples of "Unterricht" translated as "training." See P. I. # 7, # 211, and Z. # 528 for examples of "Unterricht" translated as "instruction." See P. I. p. 208 and p. 227 for translation of "Unterricht" as "teaching."

[12]See P. I. # 208 for an example of such an application of "teach," Here what he describes does not include description or explanation. It is a clear example of what he at other times refers to as "training" or "instruction." See also P. I. p. 227, Z. # 310 and # 318.

[13]See P. I. # 7, # 26, # 49, and # 120 for mention of the provisional or preparatory use of words. In Chapter 3, below, pp. 23-24, I elaborate this distinction between the preparation for and the use of language. Neither description nor explanation can be a part of this training. Both of these involve the full-blown use of language. This is the central claim of Chapter 5.

the terms "training" in both a general and a specific way. The general usage applies to almost anything the teacher might do, to include using language, in the instruction process. The more restrictive usage applies to "Abrichtung," the animal-type training that does not involve the actual use of language. In subsequent references, unless the "in general" is appended, this latter concept of training will be in question. To return then to the interpretation problem from P. I. # 6: In the teaching situation involving language # 2 there could be no use of language. The ostensive teaching was a part of the training, the preparation for the use of language, i.e. the preparation for playing the ordering-game. The "particular training," is, I think, also a part of that training, but in this case it is a training in the whole of the rest of the culture, in the form of life that makes sense out of giving an order and obeying one. I think this is the force of the analogy that Wittgenstein tacks on to the "particular training" claim:

> I set the brake up by connecting up rod and lever."--Yes, given the whole of the rest of the mechanism. Only in conjunction with that is it a brake-lever, and separated from its support it is not even a lever; it may be anything or nothing. (P. I. # 6)

CHAPTER III

OSTENSIVE EXPLANATION-DEFINITION AND THE "PREPARATION--USE" DICHOTOMY

> . . . naming and describing do not stand on the same level: naming is a preparation for description. Naming is so far not a move in the language-game--any more than putting a piece in its place on the board is a move in chess. We may say: nothing has so far been done, when a thing has been named. (P. I. # 49)

The concept of naming plays a central role in several of the themes that Wittgenstein develops. Notable among these are his criticisms of St. Augustine's conception of language learning, Socrates' conception of language expressed in the Theaetetus, and his own conception of meaningful language from the Tractatus. Along the way he says a great deal about naming per se and about how naming enters into the teaching and acquisition of language. Some of this we have already encountered in the previous chapter. We found, for example, that the ostensive teaching of words does not involve naming. We also found that ostensive definition is a form of naming. And we are now told in the initial statement quotation above that naming is not a use of language, not a move in a language game; and that naming is a preparation for description. The main thrust of this chapter will be put at least some of this; that part that bears on teaching, into perspective. What will emerge is a claim concerning the ordering of some of the teaching operations, a fundamental distinction between kinds of teaching operations, and the identification of a new teaching operation: ostensive explanation-definition. As at least a part of the grounds for the "ordering" claim will come out in the discussion surrounding the fundamental distinction between teaching

operations, it will be best to dispose of the latter claim first. It may be helpful to emphasize that most of what is said here concerns the teaching of language.

The fundamental distinction between teaching operations that I refer to as the "preparation--use dichotomy," is based on the following claim, stated quite simply: some teaching operations involve the use of language in the usual, every-day, way and others do not. More precisely, one should speak of the use of words rather than "the use of language." For, in effect, what Wittgenstein is saying is that some of the things we do with words are a preparation for using language--the actual or full blown use of language. The two most notable of these, at least for our purposes, are teaching the language and naming.[1] To put this more directly: when we teach the language and/or name we use words in a provisional or preparatory way. To get clear on this distinction and on some of the claims that accompany it we must first get clearer on the concept of naming. What we must at the outset recognize is that names or what on the surface appear to be names have a variety of jobs to do. Wittgenstein alludes to several of these, e.g. at P. I. # 2 we have what in another context would come off as the name of a particular shape stone, e.g. "slab," being used to give an order; at P. I. # 6 and # 49 we have a word like this being used in the ostensive teaching of words; at P. I. # 27 there is mention of asking what something is called, giving the name on request, and inventing a name; in the remarks from P. I. # 28-38 there are several references to names used to define, i.e. in an ostensive definition; and at P. I. # 49 we see the name of a color used to describe. One could add to this list the use of a name as an explanation. (P. I. # 29) And this does not complete the list of the way names or what might appear to be names can be employed. Nor are all of these usages necessarily distinct. Of these usages there are three that are crucial to the teaching operation category distinction

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[1]Naming may sometimes occur in the teaching context, but not always. For example, to give a thing a name, is not, at least not necessarily, to teach.

mentioned above. These are: (1) in the ostensive teaching of a word, (2) in an ostensive definition, and (3) as a description. The crucial part is this: The first two usages do not, according to Wittgenstein, involve the actual use of language; the third one does. Let us take up each of these in order.

It will be recalled that what distinguished ostensive teaching from ostensive definition was that ostensive definition entailed naming and ostensive teaching did not.[2] The function of ostensive teaching was to direct the attention of the pupil to an object and set up some sort of an association between the word and the thing.[3] Now, according to Wittgenstein, name words used in this way may resemble language but are not a part of language:

> In instruction in the language the following process will occur: the learner names the objects; that is, he utters the word when the teacher points to a stone.--And there will be this still simpler exercise: the pupil repeats the words after the teacher----both of these being processes resembling language. (P. I. # 7)

A part of the claim of the previous chapter was that ostensive definition functions to name. At P. I. # 27 Wittgenstein speaks of ostensive definition in connection with teaching someone the name of a thing or in giving a thing a name. Both of these are, for Wittgenstein, forms of naming that precede, are preparatory to, the actual use of a word. At P. I. # 26, for example, with respect to "giving names to objects" he says:

> One thinks that learning language consists in giving names to objects. Viz, to human beings, to shapes, to colours, to pains, to moods, to numbers, etc. To repeat--naming is something like attaching a label to a thing. One can say this is preparatory to the use of a word.

And at P. I. # 49, with respect to teaching someone the use of a word, he says:

> But if he is memorizing the words and their meanings, or if he is teaching someone else the use of the words and uttering them in the course of ostensive teaching, we shall not say they are propositions [or descriptions]. In this situation the word "R", for instance, is not a description; it names an element....

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[2] See pp. 11-13, above, for a discussion of this.

[3] See p. 16 above.

He then goes on to say, also in P. I. # 49:

> For naming and describing do not stand on the same level: naming is a preparation for description. Naming is so far not a move in a language-game--any more than putting a piece in its place on the board is a move in chess. We may say: nothing has so far been done, when a thing has been named.

The assumption that remains to be taken is that describing is "a move in the language-game." The two levels that Wittgenstein speaks of here are: preparation for the use of language and the actual use of language. In a somewhat circular way he presents a case where the word "R," the same word that was used above to name, is used to describe:

> For instance, if A has to describe complexes of coloured squares to B and he uses the word "R" alone, we shall be able to say that the word is a description--a proposition.[4]

We may avoid the circularity by merely presenting another example of "R" used in a description: A and B are stone masons in process of laying an ornamental floor. A has been instructed to read off the sequence of colored squares as they appear in the plans, say, from left to right, starting with the top row progressing downward. B has been instructed to place a stone of the corresponding color at the appropriate place as A reads them off. A says: "R" or "The next stone is "R." What should be noted is that there is no teaching going on here and no naming. This is a case of using language, not preparing to use it.

The discussion has already implicated four of the six teaching operations referred to in the study. Training, of which ostensive teaching is a part, is quite obviously a member of the "preparation" category. This is, after all, the way

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[4]We need not be so alert concerning the "alone" as it appears here. Wittgenstein needs to keep things simple (singular) in his attempt to counter the view of language expressed by Socrates in the Theaetatus, i.e. that a primary element can only be named; that to describe is to compound names; that the essence of speech is the composition of names. (See P. I. # 46)

words and language are acquired.[5] Ostensive teaching and ostensive definition also belong to this category, based on the explicit statements of Wittgenstein and the arguments presented above. Description, an actual move in a language-game, belongs to the "use" category. And while it has not been argued here, explanation also belongs in the "use" category. Wittgenstein is quite explicit about this. At. P. I. # 120, for example, he says: "In giving explanations I have already to use language full-blown (not some sort of preparatory, provisional one). . . ." This leaves but one, the maverick operation, ostensive explanation-definition, to be categorized. It will turn out that it stands at the crossroads of the preparation--use dichotomy. But let us take a look at this operation: What it is, and where it belongs.

To begin with let me say that Wittgenstein did not employ the name "ostensive explanation-definition" although he frequently used the term "ostensive explanation." I use the term to avoid further confusion,[6] and because it is a form of ostensive definition. Wittgenstein did, however, recognize the distinctiveness of this operation:

> Perhaps you say: two can only be ostensively defined in this way: "This number is called 'two'". For the word "number" here shews what place in language, in grammar, we assign to the word. But this means that the word "number" must be explained before the ostensive definition can be understood. --The word "number" in the definition does indeed shew this place; does shew the post at which we station the word. (P. I. # 29)

Ostensive explanation-definition, as I use it, is that form of ostensive definition that includes the use of words other than the name, or word to be defined. For example, words such as "this," "that," "this is called," etc. The more austere form of ostensive definition involves just the pointing gesture and the utterance of the name, e.g. "dog," "chair," "yellow," "two," etc. It is by now obvious

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[5]See P. I. # 208 for a good example of this.

[6]See the latter part of this chapter, pp.27-28, for a discussion of the translation problem of the German expression "Hinweisende Erklarung."

how it is that the ostensive explanation-definition stands at the crossroads of the preparation--use dichotomy: On the one hand it involves naming--a process preparatory to the use of language; and on the other hand it includes an explanation--a process involving the full-blown use of language. For example, in the ostensive explanation-definition "This number is called two" the words "This number is called" serve to explain the overall place of the definiendum in the language. But before the definition can be understood these words must themselves be understood. And so we begin the circle: explaining one word through the use of other words. Wittgenstein asks: "And what about the last explanation in the chain?" (P. I. # 29) He does not, however, rule out the possibility of the explanation (circularity and all) being helpful to the child in bringing about an understanding of the definition. This then brings about a somewhat awkward dilemna: Has the explanation part of the definition functioned as a full-blown use of language or as a part of the training in the language, i.e. as a provisional or preparatory use of words? If the latter, then, on our previous analysis, we must say it was not an explanation. If the former, we must abandon the preparation--use distinction as it applies to explanation, or find some other way out of the paradoxical conclusion that the explanation functioned as both a preparation for the use of language and as a full-blown use of language. While we are given no explicit answer, Wittgenstein's recognition of the problems connected with such a definition points toward the "training" designation, i.e. the latter of the two alternatives presented above. These problems include: the ambiguity of the explaining terms, e.g. "number," "color," etc.; the problem of circularity referred to; and the overall ambiguity of ostensive definition.[7] We must also remember that the overall function of the ostensive explanation-definition is to name. At any rate, it is partly due to this difficulty in finding a place for this

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[7]See P. I. # 29 for a discussion of some of these problems. See also pp. 14-16, above for a discussion of the overall ambiguity of ostensive definition, as such.

operation that it is left standing at the crossroads.

There is yet one more puzzle that surrounds the operation. This concerns the basic distinction between ostensive explanation-definition and ostensive definition. The problem is connected with the translations of the German terms Erklärung and erklären into English. The translator has sometimes translated these as "definition" or "define" and sometimes as "explanation" or "explain."[8] And this despite the fact that Wittgenstein frequently uses the terms "Definition" and "definieren" in the German text.[9] The only pattern that was apparent was in consistently rendering "Erklärung" as "definition" when it appeared conjoined with "hinweisende." This then yielded "ostensive definition." All of this would not be so puzzling if it were not for the fact that on several occasions Wittgenstein used "Hinweisende Definition" in the German text. It should be pointed out, also, that "Erklärung" does not ordinarily translate as "definition," but rather as "explanation," "interpretation," "solution," or "declaration." In some instances the context may have demanded the "definition" rendering, although this is by no means apparent. The lingering question is this: Perhaps Wittgenstein wished to make a clear distinction between the austere ostensive definition and the ostensive definition utilizing additional words, i.e. the ostensive explanation-definition, as I have called it? He may have wanted to call the latter: "ostensive explanation?" On the other hand he may have used "Erklärung" and "Definition" interchangeably, although, it does not seem so.

To conclude the chapter something more explicit can now be said about the order in which the various operations occur. We have already seen how training precedes naming and how naming precedes description and explanation.

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[8]In the first fifty paragraphs of P. I. the "definition" rendering led the "explanation" rendering 20 to 7.

[9]This occurred nine times in the first fifty paragraphs of P. I. The translator consistently rendered "Definition" as "definition" and "definieren" as "define."

We also already know that ostensive teaching is a part of training and that both ostensive definition and ostensive explanation-definition are forms of naming. We can say, on the basis of what has gone before that training (this may include ostensive teaching) precedes both ostensive definition and ostensive explanation-definition. We may also say that naming (this may include ostensive definition and ostensive explanation-definition) precedes description and explanation. And we may also say that training precedes explanation (and description). Wittgenstein seems to think that "Educators ought to remember this:"[10] But this is the central theme of Chapter 5.

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[10]See Z. # 419 for the statement by Wittgenstein.

CHAPTER IV

TEACHING SOMEONE TO EMPLOY A RULE

> I cannot describe how (in general) to employ rules, except by teaching you, training you, to employ them. (Z. # 318)

Two of the more persistent themes in Wittgenstein's treatment of teaching are, roughly stated: (1) One cannot be taught to employ a rule by describing or explaining; and (2) One cannot acquire a concept by description, explanation, or any other full-blown use of language. While these two claims, and the supporting arguments, bear a marked similarity they concern two quite different phenomena, i.e. rules and concepts (or words). Rules may be, but need not be, formulated in language. I could, for example, learn how to use a bishop, in chess, (learn the rule), without reference to language, i.e. by watching others play. A concept, as I use the term here, and as Wittgenstein used it most of the time, involves the use of a word or words, i.e. is to use a word or words in some way. Wittgenstein says as much at P. I. # 383:

> We are not analyzing a phenomenon (e.g. thought) but a concept (e.g. that of thinking), and therefore the use of a word.

The connection between language and concept is also expressed in an incidental way at P. I. # 569 where he says: "Language is an instrument. Its concepts are instruments." In this chapter I shall limit my remarks to the rule claim, (1), above. In Chapter 5 I consider the acquisition of concepts claim, (2), above. In order to get clear on the claim of Z. # 318 it will be necessary to get clear (or at least clearer) on the concept of a rule. I shall contend that Wittgenstein has in mind here a particular kind of rule, not rules in general. The concept

rule is highly ambiguous, as others have noted.[1] The taxonomy of rules may be approached from a variety of perspectives, e. g. function, context, or form. Wittgenstein touches on each of these. At Z. # 320 he distinguishes rules according to function:

> Why don't I call cookery rules arbitrary, and why am I tempted to call the rules of grammar arbitrary? Because 'cookery' is defined by its end, whereas 'speaking' is not. That is why the use of language is in a certain sense autonomous, as cooking and washing are not. You cook badly if you are guided in your cooking by rules other than the right ones; but if you follow other rules than those of chess you are playing another game; and if you follow grammatical rules other than such-and-such ones, that does not mean you say something wrong, no you are speaking of something else.

At a variety of places he speaks of rules in different contexts, e.g. cookery, grammar, games, language-games, and with regard to mathematics. We have already seen in the above quoted remarks where he speaks of rules in the context of cookery, grammar, and washing. At P. I. # 567, with respect to game rules, he says:

> But, after all, the game is supposed to be defined by the rules! So, if a rule of the game prescribes that the kings are to be used for drawing lots before a game of chess, then that is an essential part of the game. What objection might one make to this? That one does not see the point of this prescription. Perhaps as one wouldn't see the point either of a rule by which each piece had to be turned round three times before one moved it. If we found this rule in a board-game we should be surprised and should speculate about the purpose of the rule. ("Was this prescription meant to prevent one from moving without due consideration?")

At P. I. # 53 he speaks of rules in connection with language-games:

> If we call such a table the expression of a rule of the language-game, it can be said that what we call a rule of a language-game may have very different roles in the game.

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[1] See, for example, B. J. Diggs, "Rules and Utilitarianism," American Philosophical Quarterly, (Vol. 1, 1964, pp. 32-44); and John Rawls, "Two Conceptions of Rules," The Philosophical Review, (Vol. LXIV, No. 1, January 1955, pp. 3-33).

And at Z. # 300 with respect to a kind of mathematical rule, he says:

> With the words "This number is the right continuation of this series" I may bring it about that for the future someone calls such-and-such the "right continuation". What 'such-and-such' is I can only show in examples. That is, I teach him to continue a series (basic series), without using any expression of the 'law of the series'; rather, I am forming a substratum for the meaning of algebraic rules or what is like them.

At least one kind of form distinction, the third basic taxonomical category, comes out in Wittgenstein's remarks at P. I. # 54. Here the distinction is between rules that are set down and those that are not set down:

> The rule may be an aid in teaching the game. The learner is told it and given practice in applying it.--Or it is an instrument of the game itself.--Or a rule is employed neither in the teaching nor in the game itself; nor is it set down in a list of rules. One learns the game by watching how others play. But we say that it is played according to such-and-such rules because an observer can read these rules off from the practice of the game--like a natural law governing the play.

It is in the distinction based on function that we find the distinctive kind of rule referred to in the claim of Z. # 318, that is: "I cannot describe how (in general) to employ a rule . . . ." In the Z. # 320 passage quoted above Wittgenstein speaks of two kinds of rules. Those defined by their end and those that are not. He suggests the rules of cookery as an example of the former kind of rule and the rules of chess and grammar as examples of the latter. "Because /he says/ 'cookery' is defined by its end, whereas 'speaking' is not." (Nor, we are to assume, is chess defined by its end.) "You cook badly if you follow rules other than the right ones but if you follow rules other than those of chess you are playing another game."[2] The old saying "No rules: no games; different rules:

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[2]This distinction is reminiscent of that made by Diggs and Rawls (Ibid.) between rules that function instrumentally and those that do not. Diggs' "instrumental rules" and Rawls' "summary rules" have an instrumental function similar to the "cookery rules" Wittgenstein speaks of. Diggs' "game rules" and Rawls' "rules of practice" have a constitutive or at least non-instrumental function similar to the "grammatical rules" or "rules of chess" Wittgenstein speaks of.

different game" would seem to apply to the latter kind of rules. An instructive example of such a rule from a different game is the three-cushion-rule in three cushion billiards: The rule is that to score a billiard a player's cue-ball must strike the rail (side or end cushions) three or more times before coming into contact with the second object ball. If the cue-ball strikes less than three rails, and yet meets all other requirements, a billiard is not scored (marked up), or if a billiard is scored either an error in scoring has been made or a different game is being played. The different game might be called straight-rail billiards or become known as "two-cushion billiards." Without this rule there would be no game as we know it now.

Rules of strategy, say in chess, are defined by their end, and function instrumentally, as are the rules of cookery Wittgenstein speaks of. The end is winning and if you follow rules of strategy other than the right ones you play chess badly. The rule of thumb functions similarly. For example, the rule of thumb: "Do not apply paint until the board is dry." The end here is, I suppose, a long lasting paint job. If one doesn't follow this rule, and perhaps other rules of thumb regarding painting, one no doubt paints badly--but one does paint.

While the point of this analysis is not to exhaust what can be said about rules in general or about rules that function instrumentally and those that do not, there is one further perspective that deserves mention. In most instances it does not make sense to act contrary to a non-instrumental rule. For example, in three cushion billiards, to mark up a billiard when the cue-ball has obviously not hit the cushion three times. Or in chess to move the knight two spaces ahead and one on the diagonal. It does not make sense because in perpetrating such an act one is no longer playing the game. There are some outside cases where it would make sense to act contrary to such a rule; if, for example, one wanted to cheat, or fool with one's partner, or perhaps incite someone to philosophical discussion (assuming this is not nonsense). But under ordinary circumstances it would seem exceedingly odd to see your opponent chalk up a billiard when his cue-ball had clearly struck only two rails. And it would be even more of a

conundrum for him to reply to your questioning him, by saying: "Yes, I know, but nevertheless: Billiard!" It is this kind of situation and this kind of "not making sense" that I have in mind here. On the other hand to act contrary to or disregard an instrumental rule may often make good sense, may often constitute good strategy. For example, in cookery, innovation often produces favorable results. In chess, to violate the rule of strategy (if it is one): "All things equal, castle to the king's side;" may produce the effect of upsetting your opponent's strategy and contributing to your victory. Acts of this sort are usually judged on the basis of the outcome. If the outcome is favorable, e.g. the soup tastes good or the game is won, then the action is condoned or applauded. If the outcome is unfavorable the action may be judged unwise, foolhardy, or something of the sort. This is not always the case, however. In a game situation an act contrary to a rule of strategy may result in defeat and yet be judged as a worthwhile risk, or gambit; for example: an unorthodox opening, in chess, against an acknowledged superior player. The main point I wish to make here is that acts contrary to an instrumental rule often make very good sense while acts contrary to a non-instrumental rule usually do not. Before getting back to Wittgenstein's claim, the reason for this discussion, I should emphasize that the whole question of the character and behavior of rules is much more complicated than I have made it out here. Questions, relevant questions, about when and in what way a rule is in force begin to tangle the shrubbery. These questions have a bearing on what constitutes a violation. Then there is the problem of one kind of rule shading into another kind of rule in certain circumstances. It would turn out, for instance, that the "instrumental--non-instrumental" distinction would be far too gross to do a great many of the jobs this making of distinctions is designed to do. The hope is that it does the job here.

I return now to my contention that in the claim of Z. # 318, the initial statement claim, Wittgenstein refers to a particular kind of rule rather than to rules in general. It is, I think, to the non-instrumental type of rule he refers. While the major considerations in support of this contention concern the function

of the different kinds of rules discussed above, there is a technical matter involving the translation of the Z. # 318 passage that may have a bearing on the interpretation. The German text reads: "Ich kann nicht beschreiben, wie eine Regel (allgemein) zu verwenden ist, als indem ich dich lehre, abrichte, eine Regel zu verwenden." The translator of Zettel has rendered this: "I cannot describe how (in general) to employ rules, except by teaching you, training you to employ rules." This rendering effects a change in number for 'rule' in both instances of its occurence. The change in number is from the singular (eine Regel) in the German text to the p;ural (rules) in the English Text. While this may not be crucial to the overall interpretation of Wittgenstein's claim it does raise some relevant considerations: It may very well be possible, for example, to describe to someone how to employ instrumental rules (taken together) or non-instrumental rules (taken together). One could speak, for example, of employing instrumental rules as a means to an end, or of appropriate circumstances for violating such rules. One could speak of the arbitrary application of non-instrumental rules, or of how when taken together their employment may constitute a practice, e.g. playing chess or speaking a language. Wittgenstein himself, in the above quoted remarks, Z. # 320 and P. I. # 54 describes the employment of different kinds of rules. To avoid this kind of possible difficulty, and because it is so in the German text, the "singular" rendition will be the basis for subsequent analysis.

In the succeeding passage, (Z. # 319), Wittgenstein says:

> I may now e.g. make a talkie of such instruction. The teacher will sometimes say "That's right." If the pupil should ask him "Why?"--he will answer nothing, or at any rate nothing relevant, not even: "Well, because we all do it like that"; that will not be the reason."

That will not be the reason because there is no reason! The kind of rule he has in mind is, in a sense, arbitrary, it has a non-instrumental function. The examples that he uses in this section of the work (Z. # 300 - # 356) are: a rule for continuing a series, the rules of chess, and the rules of grammar. At Z. # 301, for instance, with reference to a rule for continuing the series, ('law of

the series'), Wittgenstein says:

> He must go on like this without a reason. Not, however, because he cannot yet grasp the reason but because--in this system--there is no reason. ("The chain of reasons comes to an end."

And at Z. # 331:

> One is tempted to justify rules of grammar by sentences like "But there really are four primary colours". And the saying that the rules of grammar are arbitrary is directed against the possibility of this justification. . . ."

Elsewhere at P. I. # 497, he says: "The rules of grammar may be called "arbitrary", if that is to mean that the aim of the grammar is nothing but that of the language." An example of a chess rule that functions in this way might be the rule for moving the knight. A question as to why the knight moves in that way would be senseless or at least any attempt to answer the question would be irrelevant. One might object that to describe the movement of the knight, for example, is to describe how to employ a rule in chess. This is not the case, however. This would be to state the rule, not describe how to employ it.

The fact that Wittgenstein's examples are all of non-instrumental type rules does not of itself preclude the possibility of there being other kinds of rules, e.g. instrumental rules, that would meet the criteria of Z. # 318-# 319. I repeat these here to help keep the relevant points in perspective:

> I cannot describe how (in general) to employ a rule, except by teaching you, training you to employ a rule. (Z. # 318)

> I may now e.g. make a talkie of such instruction. The teacher will sometimes say "That's right." If the pupil should ask him "Why?"--he will answer nothing, or at any rate nothing relevant, not even: "Well, because we all do it like that"; that will not be the reason. (Z. # 319)

Instrumental rules do not fit the shoe, however. Instrumental rules, as the term implies, are purposive, justifiable, and employed selectively. If we made a "talkie" of instruction in the employment of such a rule, description and explanation would abound. Take for example a rule of strategy in chess, e.g. "All things equal, castle to the king's side." If the pupil were to ask "Why?" the teacher could give a variety of explanations, e.g. "The defense is then more difficult to penetrate;" or "The king's rook is in better position to attack." The

"rule of thumb" provides a non-game example of an instrumental rule: e.g. "Do not apply paint until the board is dry." The "why" question is perfectly legitimate here. The teacher can answer "Because the paint will flake," or "The finish will be uneven." There is a reason for the employment of an instrumental rule. Imagine a tool for which there had never been a purpose.

I think it is obvious from the above discussion that the claim of Z. # 318 can be extended to include explanation, along with description, as not applicable in the process of training someone to employ a non-instrumental rule. If "in this system--there is no reason," (Z. # 301, in reference to the rule of a series): there can be no explanation.

I will not elaborate here the kind of teaching, training, Wittgenstein speaks of in Z. # 318, and throughout this section of Zettel, (Z. # 300 - # 319), except to say that it involves operations preparatory to the use of language; it is a teaching by examples. Wittgenstein says, for example: "What 'such-and-such' /the right continuation of the series/ is I can only show in examples." (Z. # 300)

The claim then, in pedagogically relevant terms, is as follows: The teaching operations of describing and explaining are limited in application, i.e. they are not applicable in teaching someone to employ a non-instrumental rule.

CHAPTER V

TEACHING SOMEONE THE TECHNIQUE OF USING A WORD

> Any explanation has its foundation in training. (Educators ought to remember this.) (Z. # 419)

This reminder occurs in the context of a set of remarks aimed at ". . . making a connection between the concept of teaching and the concept of meaning." (Z. # 412) The "concept of meaning" that Wittgenstein has in mind is that of P. I. # 43: ". . . the meaning of a word is its use in the language." Here, at Z. # 418, he says: "For he must say that spontaneously once he has learnt what "red" means, i.e. has learnt the technique of using the word." What is at issue here is not the concept of meaning (I shall take that as given), but rather "the concept of teaching," i.e. the concept of teaching someone the technique of using a word. With reference to the above quotation, (Z. # 419), I think we we will find that Wittgenstein's views on teaching the language preclude the use of explanation and entail a fundamental kind of training. If this is so perhaps the afterthought, the reminder to educators, will take on an added significance.[1]

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[1]Wittgenstein's emphasis on training lends support to the "anti-rationalists" identified by Aiken in his treatise on "Analytical Philosophy and Educational Development." (See: George Barnett, (Editor), Philosophy and Educational Development, (Boston: Houghton Mifflin Company, 1966) pp. 1-21. At one point, (p. 15), he says: ". . . it may well be that certain forms of teaching can proceed only by way of example, by a process of "showing," for which there are no linguistic equivalents and for which no reasons are available. To this extent I think that logic is on the side of the anti-rationalists."

The claim that I attribute to Wittgenstein includes but goes beyond that of the Z. # 419 remark. It includes two perspectives, or parts, and might be stated as follows: (1) A child cannot be taught the technique of using a word through an application of explanation or description; and (2) A child may be taught the technique of using a word through a training process that might include the use of examples, practice, and ostensive teaching. It should be noted that in both cases the claim concerns teaching a child the technique of using a word. The assumption intended is that the child has not yet acquired a language. As Wittgenstein points out, the teaching of someone who already possesses a language, only not ours, would proceed differently than that of someone who "has not yet got the concepts," (P. I. # 208), the particular concepts one is trying to impart, e.g. "regular," "uniform," or "same."

There are at least two routes that one might take in attempting to establish the claim stated in (1), above. One is to show how linguistic activities, ("language-games"), are somehow fundamental, a part of a "form of life," and that any attempt to explicate one of these (e.g. explain or describe) will result in a hopeless circularity.[2] I shall refer to this as the S (for Schwyzer) Route. A second approach, which I shall call the W (for Wittgenstein) Route, is to show that a child could not understand an explanation or description without first having mastered the naming game. And further, that mastery of the naming game (e.g. understanding an ostensive definition) can only occur as a result of a fundamental kind of training that might involve the use of examples, practice, and possibly ostensive teaching. While identification of one approach with Schwyzer and the other with Wittgenstein is not particularly significant, Wittgenstein did give more attention to the second approach than to the first, circularity, argument.

The S. Route: Schwyzer begins with a statement of the thesis he attributes to Wittgenstein:

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[2]Roughly stated this is the thesis that Schwyzer attributes to Wittgenstein. (See p. 7, footnote # 15, above.)

One broad and complex theme in Wittgenstein's later writings, (In particular, P. I.), can, I think, be very roughly stated as follows:

The use of language is basic to our conceptual structure.

To speak is to engage in activities, to do certain things, like giving orders, reporting events, complaining of pain, telling stories, asking, thinking, cursing, greeting, praying. It is only with reference to, or against the backdrop of such activities as these--which Wittgenstein calls "language-games"--that the existence and nature of what we call words and sentences (and meanings of particular words and sentences) can be accounted for. But the existence and nature of these activities themselves is not in turn to be explained or accounted for at all.[3]

He suggests that this is the force of such remarks as:

Our mistake is to look for an explanation where we ought to look at what happens as 'proto-phenomenon'. That is, where we ought to have said: This language-game is played. (P. I. # 654)

The question is not one of explaining a language-game by means of our experience, but of noting a language game. (P. I. # 655)

Look on the language-game as the primary thing. (P. I. # 656)

Schwyzer suggests that the same point is made in the following remarks, taken together:

. . . to imagine a language means to imagine a form of life. (P. I. # 19)

Here the term "language-game" is meant to bring into prominence the fact that the speaking of language is part of an activity, or of a form of life. (P. I. # 23)

What has to be accepted, the given, is--so one could say--forms of life. (P. I., p. 226)

In answer to the question as to why Wittgenstein enjoins us not to attempt to explain language-games in terms of our experiences, or in terms of other things,

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[3]Schwyzer, Op. Cit., p. 10.

Schwyzer suggests the circularity argument:

> . . . the kinds of items we would have to mention in giving the explanation are such that, in one way or another, they depend for being what they are on what is to be explained, the language game itself. With all such explanations, the explanandum is presupposed in the explanans. [4]

Schwyzer did not pursue extensively the claim that Wittgenstein held this thesis, or that the circularity argument was his ground for holding the thesis. His, Schwyzer's, argument is for the thesis itself. He restricts his analysis to what J. L. Austin calls "illocutionary acts," and in particular the act of making a request. A word or two of explanation is in order here. Austin distinguishes three kinds of acts that are performed with words: "locutionary" acts, "illocutionary" acts, and "perlocutionary" acts.[5] I shall try to distinguish them here briefly, although such a characterization will no doubt be lacking:

A. Locutionary Acts: This is the act of saying; the saying itself. I could describe such an act in the following way: Jones said: "I warn you, don't touch that switch."

B. Illocutionary Acts: This is the act performed in saying something, i.e. having done something with these words other than merely saying. For example, in saying "I warn you, don't touch that switch," under ordinary and appropriate circumstances, Jones has performed the act of warning. What has to be said and the "ordinary and appropriate circumstances" are governed by convention. In this sense this a conventional act.

C. Perlocutionary Acts: One could say that this is the act of getting something done. By saying "I warn you, don't touch that switch," Jones may have succeeded in persuading (a perlocutionary act) someone not to touch the switch. This kind of act is governed or judged on causal grounds rather than conventional grounds. The act comes off, i.e. Jones has persuaded someone, if that person reacts

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[4] Ibid., p. 3.

[5] J. L. Austin, How To Do Things With Words, (Cambridge, Massachusetts: Harvard University Press, 1955), esp. pp. 98-107.

> to what Jones has said in the manner intended by Jones. There is something odd about my saying that I persuaded him, if he was not persuaded. Nor does it make sense, nor do I persuade, by saying "I persuade you."

While the main thrust of this elaboration is to help make Schwyzer's argument clear, (you will recall that he limits his claims to illocutionary type acts), there is one further point that bears mention here. That is that the conventions that govern the performance of illocutionary acts resemble in some ways the non-instrumental rules discussed in the previous chapter.[6] It would take us too far off the track to pursue this matter extensively here. It should perhaps be noted, though, that if the conventions governing illocutionary acts do function as non-instrumental rules they are subject to the same restrictions in mode of instruction. This could provide still a third route for examining Wittgenstein's claim, (claim (1), above), though Wittgenstein did not, himself, make the illocutionary--perlocutionary act type distinction.

Schwyzer considers three accounts of how a person who has not yet got the concept of a request might acquire it:

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[6]For example, the conventions that govern illocutionary acts are not so much instrumental as they are constitutive of something that may have an instrumental function. In a somewhat similar way the rules of a game, say of three cushion billiards, are not instrumental, but the game is, e.g. it may provide recreation, or it may test one's skill, etc. An interesting similarity emerges in a contrast of what Austin calls "infelicities," e.g. the ways in which something can go wrong so that the illocutionary act does not come off. One of these "misfires" is designated as "B.2" and described as a situation where the act is not completely carried out. This is called a "hitch" or a "non-execution." (Ibid., p. 18). This could occur, for example, in the christening of a ship ceremony where the bottle fails to break. In such a case it would seem a legitimate question: Has the ship been christened? Ordinarily the "christener" would take another whack at it to make sure. In three cushion billiards the situation is more clearly defined: If the player's cue-ball clearly has touched only two cushions he has not scored a billiard. But then, the difference here may just illustrate one of the differences between conventions and game rules: Game rules are usually more clearly and definitely laid down; conventions are often somewhat unclear and are usually not laid down, i.e. there is seldom a published guide on, say, "Apologizing in America."

A. The Humean Model: I could come to know what it is to ask for something by watching and listening to what goes on around me, by being repeatedly exposed to situations in which people ask for things.

B. Knowing from One's Own Case: I could come to know what it is to ask for something by looking into myself.

C. The Account from Rules: I could come to know what it is to ask for something by learning the rules, the conventions, that govern that activity.[7]

There is a common problem with each of these accounts that we shall come to shortly. But first, a cursory explanation of each account will help to illustrate what Schwyzer is trying to get at here and how he gets at it. The parallel Schwyzer draws with Hume is this:

> . . . that the role performed by the concept of a request--in making observation, recognition, or requests possible--is the same as the role of Hume's idea of necessary connection--in making perception of causal situations possible.[8]

In this sense, if it could come about this way, the child would come to know what a request is by repeatedly observing event A (someone's saying: "Pass the salt," for example) conjoined to event B (someone's passing the salt). It is not enough, as Schwyzer points out, that the child see event B as subsequent to event A, he must see it as the consequent of A, i.e. caused by A.

The "Knowing from One's Own Case" account takes making a request, asking, as a way of showing one's desires or intentions. This entails both knowing what it is to have desires or intentions and knowing how to show someone else that one has them. And, on this account, I know both of these from my own case.[9]

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[7]Schwyzer, Op. Cit., p. 60.

[8]Ibid., p. 74.

[9]Ibid., p. 76.

It is a short step from recognizing this in myself to noticing that other people behave in the same way.

The "Rules" account deals with a concept of rule quite similar to the non-instrumental rule alluded to in Chapter 4, above. Supposedly, these rules, as Schwyzer describes them, function to constitute the game, the convention, or the practice. Schwyzer points out that the illocutionary act of making a request is different in some ways from both a convention and a practice but is more like a practice than a convention. The question becomes: If it is a practice and if the rules can be construed as constitutive, can one, or has one, acquired the concept of requesting by learning these rules ?[10]

Schwyzer concludes in all three cases that one could not "come to know what it is" could not "acquire the concept" of what it is to make a request in the manner suggested. The major defect of each suggested approach entails a faulty conception of the very nature of requesting, and of language, or the use of language, generally. All three accounts, says Schwyzer, "regard the business of acquiring the concept of a request as simply a matter of coming to know how a certain thing is done, where it is presumed that what is done by that means is something that will look after itself."[11] In all three accounts language is thought of as serving an end, as instrumental in function. Thus, for example, promising becomes a procedure for undertaking an obligation, and requesting a "procedure for conveying the fact to someone that one wants a thing, with a view to getting that person to hand the thing one wants."[12] Each account regards requesting, for example, as a technique. Each assumes, in different ways, "that what it is a technique for is something that exists apart from it and can be known independent of knowing it."[13] Requesting becomes a means for doing something else, for

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[10] Ibid., esp. pp. 122-125.

[11] Ibid., p. 175.

[12] Ibid., pp. 175-176.

[13] Ibid., p. 178.

achieving some independent purpose. Schwyzer does not deny that there are independent ends served by language. His point is that the end or purpose that explains a given illocutionary act is not independent of the act itself.[14] The argument, briefly, and roughly, is this: A statement that explicates what it is to make a request must specify the purpose of such an utterance. But to specify this purpose is just to state in different terms that it is a case of making a request. "The purpose which an utterance counts as serving is the illocutionary act performed by its means."[15] It follows from this, says Schwyzer, that the concept of a request is not susceptible to any non-circular analysis. It is not reducible to, or constructible out of, more basic concepts. He concludes: "When we have hit upon illocutionary acts, e.g. upon the use of language that we call 'asking for things', or 'promising', we have reached bedrock."[16] That, he says, is what he set out to show.

Schwyzer's argument speaks to claim (1) attributed to Wittgenstein at the beginning of the chapter. That claim, you will recall, was this: "A child cannot be taught the technique of using a word through an application of explanation or description." In answer to a question of why not, Schwyzer's reply is: because of an inescapable circularity. Wittgenstein was aware of the circularity problem and mentions it on at least two occasions:

> But is there only one way of taking the word "colour" or "length"?--Well, they just need defining.--Defining, then, by means of other words! And what about the last definition in the chain? (Do not say: "There isn't a 'last' definition". That is just as if you chose to say: "There isn't a last house in the road; one can always build an additional one".) (P. I. # 29)

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[14] Ibid., p. 182, see footnote # 2.

[15] Ibid., p. 180.

[16] Ibid., p. 181.

> I do it, he does it after me; and I influence him by expressions of agreement, rejection, expectation, encouragement. I let him go his way, or hold him back; and so on.
>
> Imagine witnessing such teaching. None of the words would be explained by means of itself; there would be no logical circle. (P. I. # 208)

Wittgenstein did now, however, persue this line of argument extensively. It should be emphasized that while Schwyzer's argument lends support it will not suffice to substantiate all of what Wittgenstein claims, or at least what is imputed to him. As we have mentioned, Schwyzer limits his analysis to illocutionary acts. And, while these acts constitute a large and important part of language, as we have seen they are not all of language. There are other kinds of speech acts, e.g. perlocutionary acts. The question remains whether or not these and perhaps other uses of language are susceptible to any non-circular analysis. Based on the force of Schwyzer's arguments, and they seem to me to be sound, and on Wittgenstein's approach to follow, I think not.

The W. Route: I have argued elsewhere, (in Chapter 3), that in Wittgenstein's scheme naming is a preparation for describing and explaining. I have also contended, (in Chapter 2, above), that Wittgenstein claims that a child could not understand an ostensive definition without first having understood the overall role that a name plays in the language. Taken together these claims suggest that a child could not understand an ostensive definition, a description, nor an explanation without first having mastered the language-game of naming. I think this is the force of the following remarks:

> I do not want to call this "ostensive definition" because the child cannot as yet ask what the name is. I will call it "ostensive teaching of words". (P. I. # 6)

> To repeat--naming is something like attaching a label to a thing. One can say that this is preparatory to the use of a word. (P. I. # 26)

> . . . naming and describing do not stand on the same level: naming is a preparation for describing. (P. I. # 49)

To pursue this line of argument a step further: If the child cannot understand an ostensive definition, a description, nor an explanation without first having mastered

the naming game, then as such none of these teaching operations could be employed with success in teaching the child the overall role of naming in the language.[17] This is the line of argument that I think Wittgenstein had in mind at Z. # 419 and in his other frequent references to teaching through training.

The question that must now be answered is: How, then do we acquire the language? Claim (2) from the beginning of this chapter of the thesis, is an answer to this question. I repeat it here: " A child may be taught the technique of using a word through a training process that might include the use of examples, practice, and ostensive teaching." This is essentially the answer Wittgenstein gives on the more than twenty-five occasions in Philosophical Investigations and Zettel that he poses the "How would you teach . . . .?" type question.[18] Wittgenstein's statements of this answer require little elaboration. The P. I. # 208 remarks perhaps say it best:

> How do I explain the meaning of "regular", "uniform", "same" to anyone? --I shall explain these words to someone who, say, only speaks French by means of the corresponding French words. But if a person has not yet got the concepts, I shall teach him to use the words by means of examples, and by practice.--And when I do this I do not communicate less to him than I know myself.
>
> In the course of this teaching I shall shew him the same colours, the same lengths, the same shapes, I shall make him find them and produce them, and so on. I shall, for instance, get him to continue an ornamental pattern uniformly when told to do so.--And also to continue progressions. And so, for example, when given: . .. ... to go on: ....

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[17] I draw attention to "as such" to emphasize that what may appear to be one of these operations, e.g. ostensive definition, could be employed in the teaching process; but--as Wittgenstein points out in P. I. # 6--it would not function in the usual way. Rather, it would function as a part of the fundamental training that I have spoken of.

[18] See Appendixes C and D, for a listing of these. Other examples of and references to this kind of training abound, e.g. at P. I. #'s 5-9, 49, 86, 143, 208-211, 361-362, and p. 208-209; and Z. #'s 114-119, 295-319, 646, and 703.

> I do it, he does it, after me; and I influence him by expressions of agreement, rejection, expectation, encouragement. I let him go his way or hold him back; and so on.
>
> Imagine witnessing such teaching. None of the words would be explained by means of itself; there would be no logical circle. (P. I. # 208)

The teaching of language described here is similar, if not identical to the "teaching," "training," that Wittgenstein speaks of in the initial statement quotation from Chapter 4, above, with reference to rules: "I cannot describe how (in general) to employ rules, except by teaching you, training you, to employ them." (Z. # 318) This is a teaching by the use of examples, by practice, and by various other forms of training that may be peculiar to the particular thing being taught. Wittgenstein makes no attempt to give an exhaustive account of what this training might be. We may say, though, and this was the main thing we set out to show in these last two chapters, that the training does not include explanation or description, or any other full-blown use of language.

CHAPTER VI

SUCCESS CRITERIA

> . . . Let us suppose that after some efforts on the teacher's part he continues a series correctly, that is, as we do it. So now we can say he has mastered the system.--But how far need he continue the series for us to have a right to say that? Clearly you cannot state a limit here. (P. I. # 145)

Roughly, the question of this chapter is this: What are the criteria of success at teaching? And roughly stated Wittgenstein's answer to this question is this: The Pupil must demonstrate mastery of the prescribed task. Both the question and the suggested answer require considerable elaboration.

First, the question: The typical teaching situation in Wittgenstein's writings involves one teacher, one pupil (usually a child), and a prescribed task.[1] At P. I. # 143 Wittgenstein speaks of this kind of situation when he says:

> Let us now examine the following kind of language-game: when A gives an order B has to write down series of signs according to a certain formation rule."

I shall refer to this kind of teaching situation as a "direct teaching situation." The question at issue is: "What are the criteria of success at teaching some one person some particular thing?" It will be helpful, in further limiting the scope of the question, to make some assumptions. Specifically these: (1) that the pupil does not already know how to do the particular thing to be taught; and (2) that what the teacher does is instrumental in getting the pupil to do the prescribed thing. The first of these is quite obviously required: I cannot, for

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[1] See for example, P. I. # 6, # 71-72, # 143, # 208, and Z. # 116, # 310, and # 646.

example, teach someone to swim who already knows how to swim. The second assumption is somewhat more subtle in implication. In the first place it insures that this is an authentic case of teaching, i.e. that the pupil did not come to perform the prescribed task on his own. Secondly, and importantly, it entails that at least one of the teaching operations employed be appropriate to the situation. By 'appropriate' I mean: to be potentially effective; to have at least the possibility of being effective. To cite an example from our analysis of teaching operations in Chapter 1: Ostensive definition could not possibly be effective in teaching a child the technique of using a word if the child cannot as yet ask the name of a thing.[2] In a sense, though not in a crucial way for the main question of the chapter, we can say that both of the above assumptions are criteria of success at teaching, at least in the direct teaching situation under consideration here. At this point a preliminary status report on the question of the chapter and part of the answer might read as follows:

> The Question: What are the criteria of success at teaching some one person some particular thing?
>
> The Answer:
> (1) The pupil does not at the outset know how to do the thing that is to be taught.
>
> (2) What the teacher does be instrumental in getting the pupil to perform the prescribed task.

To fill out the program let us add at least a rough statement of the final two conditions:

> (3) The pupil must demonstrate mastery of the prescribed task. (I will call this "the application criterion.")
>
> (4) The pupil must have mastered the prescribed task.

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[2] See p. 11 above for a discussion of this claim. Also cf. P. I. # 6.

These latter criteria are the ones to which the later Wittgenstein gave explicit attention.[3] These, in effect, constitute his answer to the "success criteria" question. The emphasis in each is to draw attention to two related yet different facets of 'mastery.' In (3) attention is drawn to what I have called "the application criterion," i.e. mastery requires demonstrated ability to perform the prescribed task. In (4) attention is drawn to what counts as 'the prescribed task,' i.e. what constitutes the task to be mastered. Both of these come into play whenever we speak of someone mastering a particular thing. It may be helpful, on the whole less confusing, to think of criterion (3) as a facet of the concept of mastery in general, and criterion (4) as an instance of its embodiment. In what follows they are treated in this way: first, the application criterion and 'mastery,' then, mastery of a particular thing, e.g. continuing a series.

Wittgenstein did not give extensive treatment to 'mastery' as such. It was through the medium of concepts such as "understand," "learn," and "know" that he gave a fuller expression of what he meant by 'mastery.' This connection between these concepts and 'mastery' can be seen in the following remarks, taken together:

> The grammar of the word "knows" is evidently closely related to that of "can", "is able to". But also closely related to that of "understands". ('Mastery' of a technique.) (P. I. # 150)
>
> To understand a sentence means to understand a language. To understand a language means to be master of a technique. (P. I. # 199)
>
> It is only if someone can do, has learnt, is master of, such-and-such, that it makes sense to say . . . . (P. I. # p. 209)
>
> "Learning it" will mean: being made able to do it. (P. I. # 385)
>
> If I have learned to carry out a particular activity in a particular room (putting the room in order, say) and am master of this technique, it does not follow that I must be ready to describe the arrangement of the room . . . . (Z. # 119)

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[3]Much of what he says in the one-hundred paragraphs from P. I. # 143 to # 243 bears on these kind of considerations.

Of these concepts it was to "understanding" that Wittgenstein gave most extensive treatment.[4] It is in connection with this treatment of 'understanding' that he most clearly limits the application criterion. It will be assumed here that the application criterion applys to both 'understanding' and 'mastery' and that most of what he says in this vein about 'understanding' applies as well to 'mastery.' Some of the things he says are these:

> The application is still a criterion of understanding. (P. I. # 146)

> Try not to think of understanding as a 'mental process' at all.--For that is the expression that confuses you. But ask yourself: in what sort of case, in what kind of circumstances, do we say, "Now I know how to go on," . . . .
>
> In the sense in which there are processes (including mental processes) which are characteristic of understanding, understanding is not a mental process. (P. I. # 154)

> --"I mean something by the words" here means: I know that I can apply them.
>
> I may however believe I can apply them, when it turns out that I was wrong. (Z. # 297)

> From this it does not follow that understanding is the activity by which we shew that we understand. (Z. 298)

We may begin to put these remarks into perspective by taking a look at another of the persistent themes in the writings of the later Wittgenstein: his attack on mentalism, stated simply, the notion that sensations are purely private mental phenomena. This attack spilled over to a rejection of the behaviorist solution as well.[5] The behaviorist approach was to remove sensations from the realm of the mental altogether and instead identify them with observable

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[4]For example, he uses the term "understand" or a variation on it over two-hundred times in P. I. and Z. Many of these uses are incidental. A great many are not. The term "learn" or a variation on it appears approximately one hundred times.

[5]For a treatment of these rejection claims see: Alan Donagan, "Wittgenstein On Sensation," WITTGENSTEIN, The Philosophical Investigations, (George Pitcher, ed.), (Garden City, New York: Anchor Books, Doubleday & Company, Inc., 1966), pp. 324-351.

behavior. Wittgenstein's own solution, roughly stated, was to recognize both the private and the public aspects of sensation. He did not, for example, deny that a mental process of some sort might accompany, say, anger. On the other hand he required public manifestation of the sensation appropriate to the circumstances. Another way of putting this is to say that, for Wittgenstein, to make sense out of sensation concepts they must be looked at in context, in the public setting in which they occur. My point here is not to attempt a full explication of Wittgenstein's views on sensation concepts but to show how his treatment of 'understanding' accords in many respects with his treatment of these concepts. Some of these features are apparent in the above quoted remarks. For example in the P. I. # 154 remark he first exhorts us not to think of understanding as a mental process, but then allows for there being mental processes "characteristic of understanding." On the other hand, in the Z. # 297 and # 298 remarks, he cautions against the behaviorist type solution of suggesting that understanding is an activity, e.g. "the activity by which we shew that we understand." On Wittgenstein's analysis this latter "activity" is a criterion of understanding. The question of what is meant by 'criterion' may arise here.[6] For Wittgenstein, a criterion is a part of the defining characteristics of a phenomenon as contrasted with an occurrence that happens to accompany the phenomenon. This latter occurrence would be in his terms be a "symptom" not a criterion. At P. I. # 354, for example, he says:

> The fluctuation in grammar between criteria and symptoms makes it look as if there were nothing at all but symptoms. We say, for example: Experience teaches that there is rain when the barometer falls, but it also teaches that there is rain when we have certain sensations of wet and cold, or such-and-such visual impressions." In defence of this one says that these sense-impressions can deceive us. But here one fails to reflect that the fact that the false appearance is precisely one of rain is founded on a definition.

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[6]Albritton treats this question in his essay: "On Wittgenstein's Use of the Term "Criterion"." See: Rogers Albritton, (Ibid.), pp. 231-251.

While this distinction may be helpful it is nonetheless vague. It may be difficult in any given case to distinguish a criterion from a symptom. Wittgenstein was aware of this.[7] With respect to 'understanding' this may have been part of the reason for his urging us to look at the particular circumstances in which we say "now I understand" or "now I can go on." He says, for example:

> But wait--if "Now I understand the principle" does not mean the same as "The formula . . . . occurs to me" (or "I say the formula", "I write it down", etc.)--does it follow from this that I employ the sentence "Now I understand....." or "Now I can go on" as a description of a process occuring behind or side by side with that of saying the formula?
>
> If there has to be anything 'behind the utterance of the formula' it is particular circumstances, which justify me in saying I can go on--when the formula occurs to me. (P. I. # 154)

> But don't think of understanding as a 'mental process' at all.--For that is the way of speaking that is confusing you. Rather ask yourself: in what circumstances do we say "Now I can go on," if the formula has occurred to us? (Z. # 446)

Another part of the reason may have stemmed from his recognition that 'understanding' is not a single unambiguous concept.[8] In this sense the criterion for having understood, say, a picture might take a radically different form than the criterion for understanding a sentence or a musical theme. It was Wittgenstein's view that no one of these should be looked at as a paradigm. Together they make up our concept of understanding:

> We speak of understanding a sentence in the sense in which it can be replaced by another which says the same; but also in the sense in which it cannot be replaced by any other. (Any more than one musical theme can be replaced by another.)
>
> In the one case the thought in the sentence is something common to different sentences; in the other, something that is expressed only by these words in these positions. (Understanding a poem.) (P. I. # 531)

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[7] Albritton, Ibid., p. 233.

[8] See P. I. # 526-532 for a discussion of some of the different kinds of understanding. See P. I. # 182 for a discussion of the difficulty in determining criteria for understanding.

> Then has "understanding" two different meanings here?--I would rather say that these kinds of use of "understanding" make up its meaning, make up my concept of understanding.
>
> For I want to apply the word "understanding" to all this. (P. I. # 352)

It may be helpful at this juncture to present an example or two that bring together much of what has been said thus far:

> How should we counter someone who told us that with him understanding was an inner process?----How should we counter him if he said that with him knowing how to play chess was an inner process?--We should say that when we want to know if he can play chess we aren't interested in anything that goes on inside him.--And if he replies that this in fact is just what we are interested in, that is, we are interested in whether he can play chess--then we shall have to draw his attention to the criteria that would demonstrate his capacity, and on the other hand to the criteria for the 'inner states'.
>
> Even if someone had a particular capacity only when, and only as long as, he had a particular feeling, the feeling would not be the capacity. (P. I. p. 181)

And:

> Think of putting your hand up in school. Need you have rehearsed the answer silently to yourself, in order to have the right to put your hand up? And what must have gone on inside you?--Nothing need have. But it is important that you usually know an answer when you put your hand up; and that is the criterion for one's understanding of putting one's hand up.
>
> Nothing need have gone on in you; and yet you would be remarkable if on such occasions you never had anything to report about what went on in you. (Z. # 136)

To summarize, we may say that for Wittgenstein understanding is neither a mental state nor the activity by which we demonstrate that we understand. A mental state may accompany understanding but understanding is not the state. We show that we understand by engaging in an activity, but understanding is not that activity. The demonstration, the activity, is a criterion for understanding. The claim of this section of the chapter is that a similar application criterion applys to at least a large class of cases where we use the term "mastery." Put very simply, the answer to the question "When do we have a right to say Jones understands or has mastered such-and-such?" is this: When Jones has demonstrated that he can do such-and such. Let us turn now to criterion (4) to see

what might constitute "doing such-and-such."

It will be recalled that our intent was to first look at the concept of mastery in general and then take up an instance of its embodiment. This shift in emphasis becomes apparent when we substitute some thing for the "such-and-such" of the above question and answer. The example substitution here will be "continue a series." The question now becomes: When do we have a right to say that Jones understands (how to) or has mastered continuing a series? The answer becomes: When Jones has demonstrated that he can continue a series. One is tempted at this point to leave well enough alone, not to tamper with the hasp on what may (and likely will) turn out to be a Pandora's box. But not to tamper is to leave us with a vacuous answer to the question of the chapter--the success criteria at teaching question. Wittgenstein not only "tampers" but concludes that there is no clear cut answer to the question--the central question here--of what constitutes having mastered the system of continuing a series. At P. I. # 145, for example, (the initial statement quote of the chapter) he says: "But how far need he continue the series for us to have a right to say that /that he has mastered the system/? Clearly you cannot state a limit here." Let us take one of Wittgenstein's sample cases to illustrate this and other problems that stand between saying "Jones has mastered continuing a series" and having a right to say it.

At P. I. # 143 Wittgenstein describes a direct teaching situation where a teacher, A, is trying to get a pupil, B, to master the series of "the natural numbers in decimal notation," i.e. 0, 1, 2, 3, 4, . . . 9, etc. A begins by writing down series of numbers and requiring B to copy them. A may at first guide B's hand in copying the series 0 to 9; but, says Wittgenstein, "the possibility of getting him to understand will depend on his going on to write it down independently." This seemingly curious and curiously emphasized remark signals the application criterion: the pupil must learn how to copy the

numbers (i.e. make the marks) independently to show his understanding.[9] Let us suppose now that the pupil has learned to copy the figures independently. There are several ways that he might go wrong. He might, for example, copy the figures, but not in the right order, e.g. 3, 9, 7, 4, . . ., etc. Or, again, he might make mistakes, e.g. 0, 1, 2, 3, 5, 4, 7, . . ., etc. As Wittgenstein points out, "The difference between this and the first case will of course be one of frequency." In neither of these cases would we be likely to say, nor have a right to say, that A has mastered . . . . But now we come to a more problematic case. What are we to say if B make a systematic mistake, e.g. "he copies every other number, or he copies the series 0, 1, 2, 3, 4, 5, ... like this: 1, 0, 3, 2, 5, 4, ..." Wittgenstein says that in this case "we are almost tempted to say that he has understood wrong." The point is that B is demonstrating his ability to continue a series, but not in the way that we ordinarily do it. At this point an element of judgement enters the picture. Do we want to say that 'continuing a series' entails doing it the way we ordinarily do it, or are we willing to admit other systematic ways of doing it? There are several alternatives to choose from: Wittgenstein suggests that we might try to wean B from the systematic mistake "as from a bad habit," or that we might accept his way of copying and try to teach him ours as an offshoot, "a variant of his." At this juncture the point is not to set us off on a search for an answer, or to make a judgement about mastering, but to draw our attention to the fact that 'continuing a series' is beginning to develop blurred edges, i.e. what counts as continuing a series?

But our problems have only begun. By the time we reach P. I. # 145 the pupil has now come to write the series 0 to 9 to our satisfaction, one time! This will not do. This would provide A, or us, with only a short lived satisfaction.

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[9]There is no need to further belabor this point. The discussion concerning criterion (3) should suffice. There are, though, other ways of demonstrating understanding or mastery of continuing a series than writing down the numbers, e.g. use numbered cards, or perhaps by picking out the correct series from the incorrect ones in a set of series that have been written out.

No, B must, as Wittgenstein emphasizes, be often successful, not just, say, once in a hundred attempts. But how often?; that is the question.

The next step in the instruction is to teach B to continue the series into the tens or beyond.

> Let us suppose that after some efforts on the teacher's part he continues the series correctly, that is, as we do it. So now we can say he has mastered the system.--But how far need he continue the series for us to have the right to say that?" (P. I. # 145)

According to Wittgenstein you cannot state a limit here:

> Suppose I now ask: "Has he understood the system when he continues the series to the hundreth place?" Or--if I should not speak of 'understanding' in connection with our primitive language-game: Has he got the system, if he continues the series correctly so far?--Perhaps you will say here: to have got the system (or, again, to understand it) can't consist in continuing the series up to this or that number: that is only applying one's understanding. The understanding itself is a state which is the source of the correct use. (P. I. # 146)

The "source" that Wittgenstein's adversary has in mind here is an algebraic formula. Wittgenstein counters this by pointing out that we can think of more than one application for an algebraic formula and that every type of application can in turn be formulated algebraically. The problem alluded to in the first part of this criticism is that of knowing or finding out which of these applications of the formula is the correct one, i.e. the application that will yield the continuation intended by A. How does B decide this? Perhaps by intuition?:

> But this initial segment of a series obviously admitted of various interpretations (e.g. by means of algebraic expressions) and so you must first have chosen one such interpretation."--Not at all. A doubt was possible in certain circumstances. But that is not to say that I did doubt, or even could doubt. (There is something to be said, which is connected with this, about the psychological 'atmosphere' of a process.)
>
> So it must have been intuition that removed this doubt?--If intuition is an inner-voice--how do I know how I am to obey it? And how do I know that it doesn't mislead me? For if it can guide me right, it can also guide me wrong.
>
> ((Intuition an unnecessary shuffle.)) (P. I. # 213)

The second part of the claim, "that every type of application can in turn be formulated algebraically," admits every systematic mistake. How is B to know which formula is the correct one, i.e. the formula for continuing a series intended by A? As Wittgenstein says, "this does not get us further."[10] Another, major, source of Wittgenstein's displeasure with this (the algebraic formula) formulation is that it takes us back to a mentalistic conception of understanding, i.e. to understand how to continue a series is to have in mind a formula. We may add to previous arguments against this viewpoint the simple yet forceful claim that it is perfectly imaginable that the formula should occur to B and yet he could not go on, could not continue the series.[11]

Enough has been said up to this point to allow for a more careful formulation of Wittgenstein's answer to the question of criterion (4). The question, as will be recalled, was this: When do we have a right to say that someone, say Jones, understands (how to) or has mastered continuing a series. The initial rough formulation of Wittgenstein's answer to this question was this: When Jones has demonstrated that he can continue a series. The new, more careful, and informative, formulation of Wittgenstein's answer might read like this: When Jones has often demonstrated that he can continue a series as we do it. At first glance this answer does not seem to get us much further. We have not been told how often the pupil must demonstrate. We still do not know how far the pupil must go on. And the "as we do it" hardly seems an adequate answer to the big question of what constitutes continuing a series.[12] At this point, in an

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[10]With respect to the question of what constitutes continuing a series these two questions might read like this: (1) What is the correct application of the formula? (2) Which formula is the one for continuing a series.

[11]This occurs at P. I. # 152. Other objections to the "formula" approach are treated in P. I. # 147-155, # 179-184, and # 226-238. Similar objections could be raised regarding the claim that understanding a word is to have in mind the rule for its application.

[12]What may make this answer seem inadequate is the still prevalent tendency to seek essentialist answers to these kind of questions. To think, for example, that there must be some common and peculiar features that define the concept.

effort to justify this answer, one is tempted to draw attention to the inherent vagueness of the central concepts, 'mastery' and 'continuing a series.' Wittgenstein did, after all, point this out. One might conclude that the above answer is as precise as the imprecise concepts involved will allow. This may very well be so, but to leave it at this is to leave out or to miss one of Wittgenstein's main points. There is general agreement as to how often is often enough, how far is far enough, and what it is to continue a series. This viewpoint comes out in the following remarks:

> Does it make sense to say that people generally agree in their judgments of colour? What would it be like for them not to?--One man would say a flower was red which another called blue, and so on.--But what right should we have to call these people's words "red" and "blue" our 'colour-words'?'--
>
> How would they learn to use these words? And is the language-game which they learn still such as we call the use of 'names of colour'? There are evidently differences of degree here.
>
> This consideration must, however, apply to mathematics too. If there were not complete agreement, then neither would human beings be learning the technique which we learn. It would be more or less different from ours up to the point of unrecognizability. (P. I. p. 226)

And again at P. I. p. 227:

> "We all learn the same multiplication table." This might, no doubt, be a remark about the teaching of arithmetic in our schools,--but also an observation about the concept of the multiplication table. ("In a horse-race the horses generally run as fast as they can.")
>
> There is such a thing as colour-blindness and there are ways of establishing it. There is in general complete agreement in the judgments of colours made by those who have been diagnosed normal. This characterizes the concept of a judgment of colour.

There may be some question of what this agreement is like and how it came about. Wittgenstein does not want to say that human agreement, i.e. consensus among teachers, decides these questions. What he wants to say is more like this: The concepts of mastery and continuing a series are a part of our culture, of our form of life. Agreement on these issues is not agreement in opinions but in form of

life. At P. I. # 241 he says much the same thing, but with regard to 'truth.':

> "So you are saying that human agreement decides what is true and false?" --It is what people say that is true and false; and they agree in the language they use. This is not agreement in opinions but in form of life.

At P. I. # 242 the point is made with respect to language:

> If language is to be a means of communication there must be agreement not only in definitions but also (queer as this may sound) in judgments. This seems to abolish logic, but does not do so.--It is one thing to describe methods of measurement, and another to obtain and state results of measurement. But what we call "measuring" is partly determined by a certain constancy in results of measurement.

And at Z. # 430 and # 431 he takes a similar point with regard to "colour-words."

> Colour-words are explained like this: "That's red" e.g.--Our language game only works, of course, when a certain agreement prevails, but the concept of agreement does not enter into the language-game. If agreement were universal, we should be quite unacquainted with the concept of it. (Z. # 430)

> Does human agreement decide what is red? Is it decided by appeal to the majority? Were we taught to determine colour in that way? (Z. # 431)

On this kind of interpretation the "as we do it" of the second formulation of Wittgenstein's answer must be taken to mean: as it is done in this culture, in our way of life. Both the question of how often and the question of how far will be answered in the cultural context. Our final formulation of Wittgenstein's answer to the question of when we have the right to say that someone, say Jones, has mastered continuing a series, may now read: When he has demonstrated that he can continue a series in the way it is done in this culture, in this form of life. Once again we have seen how the conception of teaching is intertwined with the form of life. It may be recalled that Wittgenstein saw the form of life as given: "What has to be accepted, the given, is--so to speak--forms of life." (P. I. p. 226) As a part of these forms of life the form of education or of teaching

too must be thought of as given. But Wittgenstein would remind us in what sense it is given: ". . . because it is so with human beings, not because it could not be imagined otherwise." (P. I. # 6)

APPENDIX

APPENDIX A

Teach and Train in Philosophical Investigations

PART I:

5. If we look at the example in #1, we may perhaps get an inkling how much this general notion of the meaning of a word surrounds the working of language with a haze which makes clear vision impossible. It disperses the fog to study the phenomena of language in primitive kinds of application in which one can command a clear view of the aim and functioning of the words.

A child uses such primitive forms of language when it learns to talk. Here the teaching of language is not explanation, but training.

6. We could imagine that the language of #2 was the whole language of A and B; even the whole language of a tribe. The children are brought up to perform these actions, to use these words as they do so, and to react in this way to the words of others.

An important part of the training will consist in the teacher's pointing to the objects, directing the child's attention to them, and at the same time uttering a word; for instance, the word "slab" as he points to that shape. (I do not want to call this "ostensive definition", because the child cannot as yet ask what the name is. I will call it "ostensive teaching of words".----I say that it will form an important part of the training, because it is so with human beings; not because it could not be imagined otherwise.) This ostensive teaching of words can be said to establish an association between the word and the thing. But what does this mean? Well, it can mean various things; but one very likely thinks first of all that a picture of the object comes before the child's mind when it hears the word. But now, if this does happen--is it the purpose of the word?--Yes, it can be the purpose.--I can imagine such a use of words (of series of sounds). (Uttering a word is like striking a note on the keyboard of the imagination.) But in the language of #2 it is not the purpose of the words to evoke images. (it may, of course, be discovered that that helps to attain the actual purpose.)

But if the ostensive teaching has this effect,--am I to say that it effects an understanding of the word? Don't you understand the call "Slab!" if you act upon it in such-and-such a way?--Doubtless the ostensive teaching helped to bring this about; but only together with a particular training. With different training the same ostensive teaching of these words would have effected a quite different understanding.

"I set the brake up by connecting up rod and lever."--Yes, given the whole of the rest of the mechanism. Only in conjunction with that is it a brake-lever, and separated from its support it is not even a lever, it may be anything, or nothing.

7. In the practice of the use of language (2) one party calls out the words, the other acts on them. In instruction in the language the following process will occur: the learner names the objects: that is, he utters the word when the teacher points to the stone.--And there will be this still simpler exercise: the pupil repeats the words after the teacher----both of these being processes resembling language.

We can also think of the whole process of using words in (2) as one of those games by means of which children learn their native language. I will call these games "language-games" and will sometimes speak of a primitive language as a language-game.

9. When a child learns this language, it has to learn the series of 'numerals' a,b,c,...by heart. And it has to learn their use.--Will this training include ostensive teaching of the words?--Well, people will, for example, point to slabs and count: "a, b, c slabs".--Something more like the ostensive teaching of the words "block", "pillar", etc. would be the ostensive teaching of numerals that serve not to count but to refer to groups of objects that can be taken in at a glance. Children do learn the use of the first five or six cardinal numerals in this manner.

Are "there" and "this" also taught ostensively?--Imagine how one might perhaps teach their use. One will point to places and things--but in this case the pointing occurs in the use of the words too and not merely in learning the use.--

27. In languages (2) and (8) there was no such thing as asking something's name. This, with its correlate, ostensive definition, is, we might say, a language-game on its own. That is really to say: we are brought up, trained, to ask: "What is that called?--Upon which the name is given.

49. Here we might say--though this easily leads to all kinds of philosophical superstition--that a sign "R" or "B", etc. may be sometimes a word and sometimes a proposition. But whether it 'is a word or a proposition' depends on the situation in which it is uttered or written. For instance, if A has to describe complexes of coloured squares to B and he uses the word "R" alone, we shall be able to say that the word is a description--a proposition. But if he is memorizing the words and their meanings, or if he is teaching someone else the use of the words and uttering them in the course of ostensive teaching, we shall not say that they are propositions. In this situation the word "R", for instance, is not a description; it names an element----but it would be queer to make that a reason for saying that an element can only be named! For naming and describing do not stand on the same level: naming is a preparation for description.

51. --Well, it was presupposed that the use of the signs in the language-game would be taught in a different way, in particular by pointing to paradigms. Very well; but what does it mean to say that in the technique of using the language certain elements correspond to the signs?

53. Our language-game (48) has various possibilities; there is a variety of cases in which we should say that a sign in the game was the name of a square of such-and-such a colour. We should say so, if, for instance, we knew that the people who used the language were taught the use of the signs in such-and-such a way. Or if it were set down in writing, say in the form of a table, that this element corresponded to this sign, and if the table were used in teaching the language and were appealed to in certain disputed cases.

54. Let us recall the kinds of cases where we say that a game is played according to a definite rule.

The rule may be an aid in teaching the game. The learner is told it and given practice in applying it.--Or it is an instrument of the game itself.--Or a rule is employed neither in the teaching nor in the game itself; nor is it set down in a list of rules. One learns the game by watching how others play. But we say that it is played according to such-and-such rules because an observer can read these rules off from the practice of the game--like a natural law governing the play.

86. Imagine a language-game like (2) played with the help of a table. The signs given to B by A are now written ones. B has a table; in the first column are the signs used in the game, in the second pictures of building stones. A shews B such a written sign; B looks it up in the table, looks at the picture opposite, and so on. So the table is a rule which he follows in executing orders. --One learns to look the picture up in the table by receiving a training, and part of this training consists perhaps in the pupil's learning to pass with his finger horizontally from left to right; and so, as it were, to draw a series of horizontal lines on the table.

137. --In that sense "true" and "false" could be said to fit propositions; and a child might be taught to distinguish between propositions and other expressions by being told "Ask yourself if you can say 'is true' after it. If these words fit, it's a proposition." (And in the same way one might have said: Ask yourself if you can put the words "this is how things are:" in front of it.)

143. Let us now examine the following kind of language-game: When A gives an order B has to write down series of signs according to a certain formation rule.

. . . Perhaps it is possible to wean him from the systematic mistake (as from a bad habit). Or perhaps one accepts his way of copying and tries to teach him ours as an offshoot, a variant of his.--And here too our pupil's capacity to learn may come to an end.

145. Suppose the pupil now writes the series 0 to 9 to our satisfaction.--And this will only be the case when he is often successful, not if he does it right once in a hundred attempts.

. . . Now, however, let us suppose that after some efforts on the teacher's part he continues the series correctly, that is as we do it. So now we can say he has mastered the system.--But how far need he continue the series for us to have the right to say that? Clearly you cannot state a limit here.

156. Now compare a beginner with this reader. The beginner reads the words by laboriously spelling them out.--Some however, he guesses from the context, or perhaps he already partly knows the passage by heart. Then his teacher says that he is not really reading the words (and in certain cases that he is only pretending to read them).

157. Consider the following case. Human beings or creatures of some other kind are used by us as reading-machines. They are trained for this purpose. The trainer says of some that they can already read, of others that they cannot yet do so. Take the case of a pupil who has so far not taken part in the training; if he is shewn a written word he will sometimes produce some sort of sound, and here and there it happens 'accidentally' to be roughly right. A third person hears this pupil on such an occasion and says: "He is reading". But the teacher says: "No, his isn't reading; that was just an accident".--But let us suppose that this pupil continues to react correctly to further words that are put before him. After a while the teacher says: "Now he can read!"--But what of that first word? Is the teacher to say: "I was wrong and he did read it"--or: "He only began really to read later on"?--When did he begin to read? Which was the first word that he read?

. . . Nor can the teacher here say of the pupil: "Perhaps he was already reading when he said that word". For there is no doubt what he did.--
The change when the pupil began to read was a change in his behavior; and it makes no sense here to speak of 'a first word in his new state'.

158. But isn't that only because of our too slight acquaintance with what goes on in the brain and the nervous system? If we had a more accurate knowledge of these things we should see what connexions were established by training, and then we should be able to say when we looked into his brain: "Now he has read this word, now the reading connexion has been set up".----And it presumably must be like that--for otherwise how could we be so sure that there was such a connexion? That it is so is presumably a priori--or is it only probable? And how probable is it? Now, ask yourself: what do you know about these things?----
But if it is a priori, that means that it is a form of account which is very convincing to us.

162. Let us try the following definitions: You are reading when you derive the reproduction from the original. And by "the original" I mean the text which you read or copy; the dictation from which you write; the score from which you play; etc. etc.--Now suppose we have, for example, taught someone the Cyrillic alphabet, and told him how to pronounce each letter. Next we put a passage before him and he reads it, pronouncing every letter as we have taught him. In this case we shall very likely say that he derives the sound of a word from the written pattern by the rule that we have given him. And this is also a clear case of reading. (We might say that we had taught him the 'rule of the alphabet'.)

185. Let us return to our example (143). Now--judged by the usual criteria--the pupil has mastered the series of natural numbers. Next we teach him to write down other series of cardinal numbers and get him to the point of writing down series of the form

0, n, 2n, 3n, etc.

at an order of the form "+n"; so at the order "+1" he writes down the series of natural numbers.--Let us suppose we have done exercises and given him tests up to 1000.

189. "But are the steps then not determined by the algebraic formula?"--The question contains a mistake.

We use the expression: "The steps are determined by the formula.....". How is it used?--We may perhaps refer to the fact that people are brought by their education (training) so to use the formula $y=x^2$, that they all work out the same value for y when they substitute the same number for x. Or we may say: "These people are so trained that they all take the same step at the same point when they receive the order 'add 3". We might express this by saying: for these people the order "add 3" completely determines every step from one number to the next. (In contrast with other people who do not know what they are to do on receiving this order, or who react to it with perfect certainty, but each one in a different way.)

On the other hand we can contrast different kinds of formula, and the different kinds of use (different kinds of training) appropriate to them.

190. It may now be said: "The way the formula is meant determines which steps are to be taken." What is the criterion for the way the formula is meant? It is, for example, the kind of way we always use it, the way we are taught to use it.

194. We say, "Experience will shew whether this gives the pin this possibility of movement?, but we do not say "Experience will shew whether this is the

possibility of this movement": 'so it is not an empirical fact that this possibility is the possibility of precisely this movement'.*

We mind about the kind of expressions we use concerning these things; we do not understand them, however, but misinterpret them. When we do philosophy we are like savages, primitive people, who hear the expressions of civilized men, put a false interpretation on them and then draw the queerest conclusions from it.

197. -----Where is the connexion effected between the sense of the expression "Let's play a game of chess" and all the rules of the game?--Well, in the list of rules of the game, in the teaching of it, in the day-to-day practice of playing.

198. "But how can a rule shew me what I have to do at this point? Whatever I do is, on some interpretation, in accord with the rule."--That is not what we ought to say, but rather: any interpretation still hangs in the air along with what it interprets, and cannot give it any support. Interpretations by themselves do not determine meaning.

"Then can whatever I do be brought into accord with the rule?"--Let me ask this: what has the expression of a rule--say a sign post--got to do with my actions? What sort of connexion is there here?--Well, perhaps this one: I have been trained to react to this sign in a particular way, and now I can do so react to it.

But that is only to give a causal connexion; to tell how it has come about that we now go by the signpost; not what this going-by-the-sign really consists in. On the contrary; I have further indicated that a person goes by a sign post only in so far as there exists a regular use of sign posts, a custom.

206. Following a rule is analogous to obeying an order. We are trained to do so; we react to an order in a particular way. But what if one person reacts in one way and another in another to the order and the training? Which one is right?

Suppose you come as an explorer into an unknown country with a language quite strange to you. In what circumstances would you say that the people there gave orders, understood them, obeyed them, rebelled against them, and so on?

The common behaviour of mankind is the system of reference by means of which we interpret an unknown language.

208. Then am I defining "order" and "rule" by means of "regularity"?--How do I explain the meaning of "regular", "uniform", "same" to anyone?--I shall explain these words to someone who, say, only speaks French by means of the corresponding French words. But if a person has not yet got the concepts, I shall teach him to use the words by means of examples and by practice.--And

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*Note: I include this passage even though the terms "teach," "taught" and "train" do not appear. Here the term "shew" is in both cases derived from the German term "lehren" which ordinarily translates as "teach."

when I do this I do not communicate less to him than I know myself.

In the course of this teaching I shall Shew him the same colours, the same lengths, the same shapes, I shall make him find them and produce them, and so on. I shall, for instance, get him to continue an ornamental pattern uniformly when told to do so.--And also to continue progressions. And so, for example, when given: . .. ... to go on: ....

I do it, he does it after me; and I influence him by expressions of agreement, rejection, expectation, encouragement. I let him go his way, or hold him back; and so on.

Imagine witnessing such teaching. None of the words would be explained by means of itself; there would be no logical circle.

The expressions "and so on", "and so on ad infinitum" are also explained in this teaching. A gesture, among other things, might serve this purpose. The gesture that means "go on like this", or "and so on" has a function comparable to that of pointing to an object or a place.

We should distinguish between the "and so on" which is, and the "and so on" which is not, an abbreviated notation. "And so on ad inf." is not such an abbreviation. The fact that we cannot write down all the digits of π is not a human shortcoming, as mathematicians sometimes think.

Teaching which is not meant to apply to anything but the examples given is different from that which 'points beyond' them.

223. One does not feel that one has always got to wait upon the nod (the whisper) of the rule. On the contrary, we are not on tenderhooks about what it will tell us next, but it always tells us the same, and we do what it tells us.

One might say to the person one was training: "Look, I always do the same thing: I....."

224. The word "agreement" and the word "rule" are related to one another, they are cousins. If I teach anyone the use of the one word, he learns the use of the other with it.

232. Let us imagine a rule intimating to me which way I am to obey it; that is, as my eye travels along the line, a voice within me says: "This way!"--What is the difference between this process of obeying a kind of inspiration and that of obeying a rule? For they are surely not the same. In the case of inspiration I await direction. I shall not be able to teach anyone else my 'technique' of following the line. Unless, indeed, I teach him some way of hearkening, some kind of receptivity. But then, of course, I cannot require him to follow the line in the same way as I do.

These are not my experiences of acting from inspiration and according to a rule; they are grammatical notes.

233. It would also be possible to imagine such a training in a sort of arithmetic. Children could calculate, each in his own way--as long as they listened to their inner voice and obeyed it. Calculating in this way would be like a sort of composing.

244. How do words refer to sensations?--There doesnt seem to be any problem here; don't we talk about sensations every day, and give them names? But how is the connexion between the name and the thing named set up? This question is the same as: how does a human being learn the meaning of the names of sensations?--of the word "pain" for example. Here is one possibility: words are connected with the primitive, the natural, expressions of the sensation and used in their place. A child has hurt himself and he cries; and then adults talk to him and teach him exclamations and, later, sentences. They teach the child new pain-behavior.

"So you are saying that the word 'pain' really means crying?"--On the contrary: the verbal expression of pain replaces crying and does not describe it.

250. Why can't a dog simulate pain? Is he too honest? Could one teach a dog to simulate pain? Perhaps it is possible to teach him to howl on particular occasions as if he were in pain, even when he is not. But the surroundings which are necessary for this behavior to be real simulation are missing.

257. "What would it be like if human beings shewed no outward signs of pain (did not groan, grimace, etc.)? Then it would be impossible to teach a child the use of the word 'tooth-ache'."--Well, let's assume the child is a genius and itself invents a name for the sensation.--But then, of course, he couldn't make himself understood when he used the word.--So does he understand the name, without being able to explain its meaning to anyone?

315. Could someone understand the word "pain", who had never felt pain?--Is experience to teach me whether this is so or not?--And if we say "A man could not imagine pain without having sometime felt it"--how do we know? How can it be decided whether it is true?

351. --But a still better example would be that of the application of "above" and "below" to the earth. Here we all have a quite clear idea of what "above" and "below" mean. I see well enough that I am on top; the earth is surely beneath me. (And don't smile at this example. We are indeed all taught at school that it is stupid to talk like that. But it is much easier to bury a problem than to solve it.)

354. The fluctuation in grammar between criteria and symptoms makes it look as if there were nothing at all but symptoms. We say, for example: "Experience teaches that there is rain when the barometer falls, but it also teaches that there is rain when we have certain sensations of wet and cold, or such-and-such visual impressions." In defence of this one says that these sense-impressions can deceive us. But here one fails to reflect that the fact that the false appearance is precisely one of rain is founded on a definition.

361. What is it like to say something to oneself; what happens here?--How am I to explain it? Well, only as you might teach someone the meaning of the expression "to say something to oneself". And certainly we learn the meaning of that as children.--Only no one is going to say that the person who teaches it to us tells us 'what takes place'.

362. Rather it seems to us as though in this case the instructor imparted the meaning to the pupil--without telling him it directly; but in the end the pupil is brought to the point of giving himself the correct ostensive definition. And this is where our illusion is.*

375. How does one teach anyone to read to himself? How does one know if he can do so? How does he himself know that he is doing what is required of him?

378. "Before I judge that two images which I have are the same, I must recognize them as the same." And when that has happened how am I to know that the word "same" describes what I recognize? Only if I can express my recognition in some other way, and if it is possible for someone else to teach me that "same" is the correct word here.

For if I need a justification for using a word, it must also be one for someone else.

441. By nature and by a particular training, a particular education, we are disposed to give spontaneous expression to wishes in certain circumstances. (A wish is, of course, not such a 'circumstance'.) In this game the question whether I know what I wish before my wish is fulfilled cannot arise at all. And the fact that some event stops my wishing does not mean that it fulfills it. Perhaps I should not have been satisfied if my wish had been satisfied.

On the other hand the word "wish" is also used in this way: "I don't know myself what I wish for." ("For wishes themselves are a veil between us and the thing wished for.")

Suppose it were asked "Do I know what I long for before I get it?" If I have learned to talk, then I do know.

464. My aim is: to teach you to pass from a piece of disguised nonsense to something that is patent nonsense.

556. (b) The two words have the same function in language-games, except for this one difference, which is just a trivial convention. The use of the two words is taught in the same way, by means of the same actions, gestures, pictures and so on; and in explanations of the words the difference in the ways they are used

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*Note: The word "instructor" is here derived from the German word "Lehrer" which can as well be translated as "teacher".

is appended as something incidental, as one of the capricious features of the language. For this reason we shall say that "X" and "Y" have the same meaning.

630. Examine these two language-games:

(a) Someone gives someone else the order to make particular movements with his arm, or to assume particular bodily positions (gymnastics instructor and pupil). And here is a variation of this language-game: the pupil gives himself orders and then carries them out.

(b) Someone observes certain regular processes--for example, the reactions of different metals to acids--and thereupon makes predictions about the reactions that will occur in certain particular cases.

There is an evident kinship between these two language-games, and also a fundamental difference. In both one might call the spoken words "predictions". But compare the training which leads to the first technique with the training for the second one.

692. Is it correct for someone to say: "When I gave you this rule, I meant you to.....in this case"? Even if he did not think of this case at all as he gave the rule? Of course it is correct. For "to mean it" did not mean: to think of it. But now the problem is: how are we to judge whether someone meant such-and-such?--The fact that he has, for example, mastered a particular technique in arithmetic and algebra, and that he taught someone else the expansion of a series in the usual way, is such a criterion.

693. "When I teach someone the formation of the series....I surely mean him to write....at the hundredth place."--Quite right; you mean it. And evidently without necessarily even thinking of it. This shews you how different the grammar of the verb "to mean" is from that of "to think". And nothing is more wrong-headed than calling meaning a mental activity! Unless, that is, one is setting out to produce confusion. (It would also be possible to speak of an activity of butter when it rises in price, and if no problems are produced by this it is harmless.)

PART II:

p. 178 Religion teaches that the soul can exist when the body has disintegrated. Now do I understand this teaching?--Of course I understand it----I can imagine plenty of things in connexion with it. And haven't pictures of these things been painted? And why should such a picture be only an imperfect rendering of the spoken doctrine? Why should it not do the same service as the words? And it is the service which is the point.

If the picture of thought in the head can force itself upon us, then why not much more that of thought in the soul?

The human body is the best picture of the human soul.

p. 184 People who on waking tell us certain incidents (that they have been in such-and-such places, etc.). Then we teach them the expression "I dreamt", which precedes the narrative. Afterwards I sometimes ask them "did you dream anything last night?" and am answered yes or no, sometimes with an account of a dream, sometimes not. That is the language-game. (I have assumed here that I do not dream myself. But then, nor do I ever have the feeling of an invisible presence; other people do, and I can question them about their experience.)

p. 185 What is the criterion for my learning the shape and colour of an object from a sense-impression?

What sense-impression? Well, this one; I use words or a picture to describe it.

And now: what do you feel when your fingers are in this position?--"How is one to define a feeling? It is something special and indefinable." But it must be possible to teach the use of the words!

What I am looking for is the grammatical difference.

p. 187 If you trained someone to emit a particular sound at the sight of something red, another at the sight of something yellow, and so on for other colours, still he would not yet be describing objects by their colours. Though he might be a help to us in giving a description. A description is a representation of a distribution in a space (in that of time, for instance).

If I let my gaze wander around a room and suddenly it lights on an object of a striking red colour, and I say "Red!"--that is not a description.

p. 190-191 The language-game of reporting can be given such a turn that a report is not meant to inform the hearer about its subject matter but about the person making the report.

It is so when, for instance, a teacher examines a pupil. (You can measure to test the ruler.)

p. 198. The concept of a representation of what is seen, like that of a copy, is very elastic, and so together with it is the concept of what is seen. The two are intimately connected. (Which is not to say that they are alike.)

How does one tell that human beings see three-dimensionally?--I ask someone about the lie of the land (over there) of which he has a view. "Is it like this?" (I shew him with my hand)--"Yes."--"How do you know?"--"It's not misty, I see it quite clear."--He does not give reasons for the surmise. The only thing that is natural to us is to represent what we see three-dimensionally; special practice and training are needed for two-dimensional representation whether in drawing or in words. (The queerness of children's drawings.)

p. 200 Here we are in enormous danger of wanting to make fine distinctions.--It is the same when one tries to define the concept of a material object in terms of 'what is really seen'.--What we have rather to do is to accept the everyday language-game, and to note false accounts of the matter as false. The primitive language-game which children are taught needs no justification; attempts at justification need to be rejected.

p. 208-209 You could teach someone the idea of the black cross on a ground of different colour without shewing him anything but crosses painted on sheets of paper. Here the 'background' is simply the surrounding of the cross.

The aspects A are not connected with the possibility of illusion in the same way as are the three-dimensional aspects of the drawing of a cube or step.

I can see the schematic cube as a box;--but can I also see it now as a paper, now as a tin, box?--What ought I to say, if someone assured me he could?--I can set a limit to the concept here.

Yet think of the expression "felt" in connexion with looking at a picture. ("One feels the softness of that material.") (Knowing in dreams. "And I knew that ...was in the room."

How does one teach a child (say in arithmetic) "Now take these things together!" or "Now these go together"? Clearly "taking together" and "going together" must originally have had another meaning for him than that of seeing in this way or that.--And this is a remark about concepts, not about teaching methods.

One kind of aspect might be called 'aspects of organization'. When the aspect changes parts of the picture go together which before did not.

In the triangle I can see now this as apex, that as base--now this as apex, that as base.--Clearly the words "Now I am seeing this as the apex" cannot so far mean anything to a learner who has only just met the concepts of apex, base, and so on.--But I do not mean this as an empirical proposition.

"Now he's seeing it like this", now like that" would only be said of someone capable of making certain applications of the figure quite freely.

The substratum of this experience is the mastery of a technique.

But how queer for this to be the logical condition of someone's having such-and-such an experience! After all, you don't say that one only 'has toothache' if one is capable of doing such-and-such.--From this it follows that we cannot be dealing with the same concept of experience here. It is a different though related concept.

It is only if someone can do, has learnt, is master of, such-and-such, that it makes sense to say he has had this experience.

And if this sounds crazy, you need to reflect that the concept of seeing is modified here. (A similar consideration is often necessary to get rid of a feeling of dizziness in mathematics.)

We talk, we utter words, and only later get a picture of their life.

p. 212 Now it is easy to recognize cases in which we are interpreting. When we interpret we form hypotheses, which may prove false.--"I am seeing this figure as a ....." can be verified as little as (or in the same sense as) "I am seeing bright red". So there is a similarity in the use of "seeing" in the two contexts. Only do not think you knew in advance what the "state of seeing" means here! Let the use teach you the meaning.

We find certain things about seeing puzzling, because we do not find the whole business of seeing puzzling enough.

p. 220 The close relationship between 'saying inwardly' and 'saying' is manifested in the possibility of telling out loud what one said inwardly, and of an outward action's accompanying inward speech. (I can sing inwardly, or read silently, or calculate in my head, and beat time with my hand as I do so.)

"But saying things inwardly is surely a certain activity which I have to learn! " Very well; but what is 'doing' and what is 'learning' here?

Let the use of words teach you their meaning.

(Similarly one can often say in mathematics: let the proof teach you what was being proved.)

"So I don't really calculate, when I calculate in my head?"--After all, you yourself distinguish between calculation in the head and perceptible calculation! But you can only learn what 'calculating in the head' is by learning what 'calculating' is; you can only learn to calculate in your head by learning to calculate.

p. 227 Of course, in one sense mathematics is a branch of knowledge,--but still it is also an activity. And 'false moves' can only exist as the exception. For if what we now call by what name became the rule, the game in which they were false moves would have been abrogated.

"We all learn the same multiplication table." This might, no doubt, be a remark about the teaching of arithmetic in our schools.--but also an observation about the concept of multiplication table. ("In a horse-race the horses generally run as fast as they can.")

. . . Is there such a thing as 'expert judgment' about the genuiness of expressions of feeling?--Even here, there are those whose judgment is 'better' and those whose judgment is 'worse'.

Corrector prognoses will generally issue from the judgments of those with better knowledge of mankind.

Can one learn this knowledge? Yes; some can. Not, however, by taking a course in it, but through 'experience'.--Can someone else be a man's teacher in this? Certainly. From time to time he gives him the right tip.--This is what 'learning' and 'teaching' are like here.--What one acquires here is not a technique; one learns correct judgments. There are also rules; but they do not form a system, and only experienced people can apply them right. Unlike calculating-rules.

What is most difficult here is to put this indefiniteness, correctly and unfalsified, into words.

APPENDIX B

Teach and Train in Zettel

108. Suppose it were a question of buying and selling creatures (anthropoid brutes) which we use as slaves. They cannot learn to talk, but the cleverer among them can be taught to do quite complicated work; and some of these creatures work 'thinkingly', others quite mechanically. For a thinking one we pay more than for one that is merely mechanically clever.

115. But I can teach a person the use of the word! For a description of those circumstances is not needed for that.

116. I just teach him the word under particular circumstances.

164. For how can it be explained what 'expressive playing' is? Certainly not by anything that accompanies the playing.--What is needed for the explanation? One might say: a culture.--If someone is brought up in a particular culture--and then reacts to music in such-and-such a way, you can teach him the use of the phrase 'expressive playing".

186. Misunderstanding--non-understanding. Understanding is effected by explanation; but also by training.

187. Why can't a cat be taught to retrieve? Doesn't it understand what one wants? And what constitutes understanding or failure to understand here?

282. "It intimates this or that to me, irresponsibility" means: I cannot teach you how I follow the line. I do not presuppose that you will follow it as I do, even when you do follow it.

300. With the words "This number is the right continuation of this series" I may bring it about that for the future someone calls such-and-such the "right continuation." What 'such-and-such' is I can only show in examples. That is, I teach him to continue a series (basic series), without using any expression of the 'law of the series'; rather, I am forming a substratum for the meaning of algebraic rules or what is like them.

309. We copy the numerals from 1 to 100, say, and this is the way we infer, think.

I might put it this way: If I copy the numerals from 1 to 100--how do I know that I shall get a series of numerals that is right when I count them? And here what is a check on what? Or how am I to describe the important empirical fact here? Am I to say experience teaches that I always count the same way? Or that none of the numerals gets lost in copying? Or that the numerals remain on the paper as they are, even when I don't watch them? Or all these facts? Or am I to say that we simply don't get into difficulties? Or that almost always everything seems all right to us?

This is how we think. This is how we act. This is how we talk about it.

310. Imagine you had to describe how humans learn to count (in the decimal system, for example). You describe what the teacher says and does and how the pupil reacts to it. What the teacher says and does will include, e.g. words and gestures which are supposed to encourage the pupil to continue a sequence; and also expressions such as "Now he can count". Now should the descriptions which I give of the process of teaching and learning include, in addition to the teacher's words, my own judgment: the pupil can count now, or: now the pupil has understood the numeral system? If I do not include such a judgment in the description--is it incomplete? And if I do include it, am I going beyond pure description?--Can I refrain from that judgment, giving as my ground: "That is all that happens"?

318. I cannot describe how (in general) to employ rules, except by teaching you, training you to employ rules.

319. I may now e.g. make a talkie of such instruction. The teacher will sometimes say "That's right." If the pupil should ask him "Why?"--he will answer nothing, or at any rate nothing relevant, not even: "Well, because we all do it like that"; that will not be the reason.

352. Do I want to say, then, that certain facts are favourable? and does experience teach us this? It is a fact of experience that human beings alter their concepts, exchange them for others when they learn new facts; when in this way what was formerly important to them becomes unimportant, and vice versa. (It is discovered e.g. that what formerly counted as a difference in kind, is really only a difference in degree.)

355. But doesn't anything physical correspond to it? I do not deny that. (And suppose it were merely our habituation to these concepts, to these language-games? But I am not saying that it is so.) If we teach a human being such-and-such a technique by means of examples,--that he then proceeds like this in this case he gets stuck, and thus that this and not that is the 'natural' continuation for him: this of itself is an extremely important fact of nature.

383. Imagine that the people of a tribe were brought up from early youth to give no expression of feeling of any kind. They find it childish, something to be got rid of. Let the training be severe. 'Pain" is not spoken of; especially not in the form of a conjecture "Perhaps he has got...." If anyone complains he is ridiculed or punished. There is no such thing as the suspicion of shamming. Complaining is so to speak already shamming.

389. Someone might surely be taught e.g. to mime pain (not with the intention of deceiving). But could this be taught to just anyone? I mean: someone might well learn to give certain crude tokens of pain, but without ever spontaneously giving a finer imitation out of his own insight. (Talent for languages.) (A clever dog might perhaps be taught to give a kind of whine of pain but it would never get as far as conscious imitation.)

411. Imagine that a child was quite specially clever, so clever that he could at once be taught the doubtfulness of the existence of all things. So he learns from the beginning: "That is probably a chair."

And now how does he learn the question: "Is it also really a chair?"--

412. Am I doing child psychology?--I am making a connexion between the concept of teaching and the concept of meaning.

413. One man is a convinced realist, another a convinced idealist and teaches his children accordingly. In such an important matter as the existence or non-existence of the external world they don't want to teach their children anything wrong.

What will the children be taught? To include in what they say: "There are physical objects" or the opposite?

If someone does not believe in fairies, he does not need to teach his children "There are no fairies": he can omit to teach them the word "fairy". On what occasion are they to say: "There are. . ." or "There are no. . ."? Only when they meet people of the contrary belief.

414. But the idealist will teach his children the word "chair" after all, for of course he wants to teach them to do this and that, e.g. to fetch a chair. Then where will the difference between what the idealist-educated children say and realist ones? Won't the difference only be one of battle cry?

416. "So does he have to begin by being taught a false certainty?"

There isn't any question of certainty or uncertainty yet in their language-game. Remember: they are learning to do something.

418. To begin by teaching someone "That looks red" makes no sense. For he must say that spontaneously once he has learnt what 'red' means, i.e. has learnt the technique of using the word.

419. Any explanation has its foundation in training. (Educators ought to remember this.)

421. When he first learns the names of colours--what is taught him? Well, he learns e.g. to call out "red" on seeing something red.--But is that the right description; or ought it to have gone: "He learns to call 'red' what we too call 'red'"?--Both descriptions are right.

What differentiates this from the language-game "How does it strike you?"

But someone might be taught colour-vocabulary by being made to look at white objects through coloured spectacles. What I teach him however must be a capacity. So he can now bring something red at an order; or arrange objects according to colour. But then what is something red?

422. Why doesn't one teach a child the language-game "It looks red to me" from the first? Because it is not yet able to understand the rather fine distinction between seeming and being?

424. The language-game that we teach him then is: "It looks to me..., it looks to you..." In the first language-game a person does not occur as perceiving subject.

426. The inward glance at the sensation--what connexion is this supposed to set up between words and sensation; and what purpose is served by this connexion? Was I taught that when I learned to use this sentence, to think this thought? (Thinking it really was something I had to learn.)

This is indeed something further that we learn, namely to turn our attention on to things and on to sensations. We learn to observe and to describe observations. But how am I taught this; How is my 'inner activity' checked in this case? How will it be judged whether I really have paid attention?

431. Does human agreement decide what is red? Is it decided by appeal to the majority? Were we taught to determine colour in that way?

432. For I describe the language-game "Bring something red" to someone who can himself already play it. Others I might at most teach. (Relativity.)

526. If someone behaves in such-and-such a way under such-and-such circumstances, we say that he is sad. (We say it of a dog too). To this extent it cannot be said that the behaviour is the cause of the sadness: it is its symptom. Nor would it be beyond cavil to call it the effect of sadness.--If he says it of himself (that he is sad) he will not in general give his sad face as a reason. But what about this: "Experience has taught me that I get sad as soon as I start sitting about sadly, etc." This might have two different meanings. Firstly: "As soon as, following a slight inclination, I set out to carry and conduct myself in such-and-such a way, I get into a state in which I have to persist in this behaviour". For it might be that toothache got worse by groaning.--Secondly, however, that proposition might contain a speculation about the cause of human sadness; the content being that if you could somehow or other

produce a certain bodily states, you would make the man sad. But here arises the difficulty that we should not call a man sad, if he looked and acted sad in all circumstances. If we taught such a one the expression "I am sad" and he constantly kept on saying this with an expression of sadness, these words, like the other signs, would have lost their normal sense.

530. The slaves also say: "When I heard the word 'bank' it meant . . . to me." Question: What technique of using language is the background for their saying this? For everything depends on that. What have we taught them, what use for the word "mean"? And what, if anything at all, do we gather from their utterance? For if we can do nothing with it, still it might interest us as a curiosity.

537. You say you attend to a man who groans because experience has taught you that you yourself groan when you feel such-and-such. But as you don't in fact make any such inference, we can abandon the justification by analogy.

571. Couldn't you imagine a further surrounding in which this too could be interpreted as pretence? Must not any behavior allow of such an interpretation?

But what does it mean to say that all behaviour might always be pretence? Has experience taught us this? How else can we be instructed about pretence? No, it is a remark about the 'concept pretence' But then this concept would be unusable, for pretending would have no criteria in behaviour.

646. When we learn as children to use the words "see", "look", "image", voluntary actions and orders play a part in this training. But a different one for each of the three words. The language-game "Look" and "Form an image of..."--how am I ever to compare them?--If we want to train someone to react to the order "Look..." and to understand the order "Form an image of..." we must obviously teach him quite differently. Reactions which belong to the latter language-game do not belong to the former. There is of course a close tie-up of these language-games; but a resemblance?--Bits of one resemble bits of the other, but the resembling bits are not homologous.

APPENDIX C

The "How would you teach a child . . .?"

Type Passages in Philosophical Investigations

PART I:

9. When a child learns this language, it has to learn the series of 'numerals a, b, c, ... by heart. And it has to learn their use.--Will this training include ostensive teaching of the words?

35. Only think how differently we learn the use of the words "to point to that thing", and on the other hand "to point to the colour, not the shape", "to mean the colour", and so on.

71. And this is just how one might explain to someone what a game is.

77. In such a difficulty always ask yourself: How did we learn the meaning of this word ("good" for instance)? From what sort of examples in what language games?

137. --In that sense "true" and "false"could be said to fit propositions; and a child might be taught to distinguish between propositions and other expressions by being told "Ask yourself if you can say 'is true' after it.

179. Think how we learn to use the expressions "Now I know how to go on", "Now I can go on" and others; in what family of language-games we learn their use.

190. What is the criterion for the way the formula is meant? It is, for example, the kind of way we always use it, the way we are taught to use it.

208. How do I explain the meaning of "regular", "uniform", "same" to anyone?

244. But how is the connexion between the name and the thing named set up? This question is the same as: how does a human being learn the meaning of the names of sensations?--of the word "pain" for example.

250. Why can't a dog simulate pain? Is he too honest.? Could one teach a dog to simulate pain?

361. What is it like to say something to oneself; what happens here?--How am I to explain it? Well, only as you might teach someone the meaning of the expression "to say something to oneself". And certainly we learn the meaning of that as children.--Only no one is going to say that the person who teaches it to us tells us 'what takes place'.

375. How does one teach anyone to read to himself? How does one know if he can do so? How does he himself know that he is doing what is required of him?

376. 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?

656. It might be asked: How did human beings ever come to make the verbal utterances which we call reports of past wishes or past intentions?

PART II:

p. 208. How does one teach a child (say in arithmetic) "Now take these things together!" or "Now these go together"?

p. 218. "At these words he occurred to me."--What is the primitive reaction with which the language-game begins--which can then be translated into these words? How do people get to use these words?

p. 226. How would they learn to use these words? And is the language-game which they learn still such as we call the use of 'names of colour'? There are evidently differences of degree here.

p. 228. Ask yourself: How does a man learn to get a 'nose' for something? And how can this nose be used?

APPENDIX D

The "How would you teach a child . . .?" Type Passages in Zettel

39. Well--it is difficult to imagine how a human being learns this use of words. It is so very subtle.

42. And how does a child learn to use the expression "I was just on the point of throwing then?" And how do we tell that he was then really in that state of mind then which I call "being on the point of"?

154. One needs to imagine how the use of this word is learnt, and in what circumstances we should say that the word really stands in place of that sentence.

170. You must ask how we learnt the expression "Isn't that glorious!" at all.

310. Imagine you had to describe how humans learn to count (in the decimal system, for example). You describe what the teacher says and does and how the pupil reacts to it.

325. How did I arrive at the concept 'sentence' or 'language'?

399. Has the verb "to dream" a present tense? How does a person learn to use this?

411. Imagine that a child was quite specially clever, so clever that he could at once be taught the doubtfulness of the existence of all things. So he learns from the beginning: "That is probably a chair."

And now how does he learn the question: "Is it also really a chair?"

422. Why doesn't one teach a child the language game "It looks red to me" from the first? Because it is not yet able to understand the rather fine distinction between seeming and being?

426. This is indeed something further that we learn, namely to turn our attention on to things and on to sensations. We learn to observe and to describe observations. But how am I taught this; how is my 'inner activity' checked in this case? How will it be judged whether I really have paid attention?

545. Suppose someone explains how a child learns the use of the word "pain" in the following way:

646. When we learn as children to use the words "see", "look", "image", voluntary actions and orders play a part in this training. But a different one for each of the three words. The language-game "Look" and "Form an image of..."--how am I ever to compare them?--If we want to train someone to react to the order "Look..." and to understand the order "Form an image of..." we must obviously teach him quite differently.

664. Nor can it be said to communicate the past to us. For even supposing that memory were an audible voice that spoke to us--how could we understand it? If it tells us e.g. "Yesterday the weather was fine", how can I learn what "yesterday" means?

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