Lectures on Philosophy

[Due to the limitations of HTML, I have used the following characters to represent symbols of mathematical logic: » for "is a super set of", « for "is a subset of", ~ for "not", Œ for "there is", v for "or", . for "and"]

1 I am going to exclude from our discussion questions which are answered by experience. Philosophical problems are not solved by experience, for what we talk about in philosophy are not facts but things for which facts are useful. Philosophical trouble arises through seeing a system of rules and seeing that things do not fit it. It is like advancing and retreating from a tree stump and seeing different things. We go nearer, remember the rules, and feel satisfied, then retreat and feel dissatisfied.

2 Words and chess pieces are analogous; knowing how to use a word is like knowing how to move a chess piece. Now how do the rules enter into playing the game? What is the difference between playing the game and aimlessly moving the pieces? I do not deny there is a difference, but I want to say that knowing how a piece is to be used is not a particular state of mind which goes on while the game goes on. The meaning of a word is to be defined by the rules for its use, not by the feeling that attaches to the words.

"How is the word used?" and "What is the grammar of the word?" I shall take as being the same question.

The phrase, "bearer of the word", standing for what one points to in giving an ostensive definition, and "meaning of the word" have entirely different grammars; the two are not synonymous. To explain a word such as "red" by pointing to something gives but one rule for its use, and in cases where one cannot point, rules of a different sort are given. All the rules together give the meaning, and these are not fixed by giving an ostensive definition. The rules of grammar are entirely independent of one another. Two words have the same meaning if they have the same rules for their use.

Are the rules, for example, $\sim \sim p = p$ for negation, responsible to the meaning of a word? No. The rules constitute the meaning, and are not responsible to it. The meaning changes when one of its rules changes. If, for example, the game of chess is defined in terms of its rules, one cannot say the game changes if a rule for moving a piece were changed. Only when we are speaking of the history of the game can we talk of change. Rules are arbitrary in the sense that they are not responsible to some sort of reality-they are not similar to natural laws; nor are they responsible to some meaning the word already has. If someone says the rules of negation are not arbitrary because negation could not be such that $\sim\sim p = \sim p$, all that could be meant is that the latter rule would not correspond to the English word "negation". The objection that the rules are not arbitrary comes from the feeling that they are responsible to the meaning. But how is the meaning of "negation" defined, if not by the rules? $\sim \sim p = p$ does not follow from the meaning of "not" but constitutes it. Similarly, p.p »q. » .q does not depend on the meanings of "and" and "implies"; it constitutes their meaning. If it is said that the rules of negation are not arbitrary inasmuch as they must not contradict each other, the reply is that if there were a contradiction among them we should simply no longer call certain of them rules. "It is part of the grammar of the word 'rule' that if 'p' is a rule, 'p.~p' is not a rule."

3 Logic proceeds from premises just as physics does. But the primitive propositions of physics are results of very general experience, while those of logic are not. To distinguish between the propositions of physics and those of logic, more must be done than to produce predicates such as *experiential* and *self-evident*. It must be shown that a grammatical rule holds for one and not for the other.

4 In what sense are laws of inference laws of thought? Can a reason be given for thinking as we do? Will this require an answer outside the game of reasoning? There are two senses of "reason": reason for, and cause. These are two different orders of things. One needs to decide on a criterion for something's being a reason before reason and cause can be distinguished. Reasoning is the calculation actually done, and a reason goes back one step in the calculus. A reason is a reason only inside the game. To give a reason is to go through a process of calculation, and to ask for a reason is to ask how one arrived at the result. The chain of reasons comes to an end, that is, one cannot always give a reason for a reason. But this does not make the reasoning less valid. The answer to the question, Why are you frightened?, involves a hypothesis if a cause is given. But there is no hypothetical element in a calculation.

To do a thing for a certain reason may mean several things. When a person gives as his reason for entering a room that there is a lecture, how does one know that is his reason? The reason may be nothing more than just the one he gives when asked. Again, a reason may be the way one arrives at a conclusion, e.g., when one multiplies 13 x 25. It is a calculation, and is the justification for the result 325. The reason for fixing a date might consist in a man's going through a game of checking his diary and finding a free time. The reason here might be said to be included in the act he performs. A cause could not be included in this sense.

We are talking here of the grammar of the words "reason" and "cause": in what cases do we say we have given a reason for doing a certain thing, and in what cases, a cause? If one answers the question "Why did you move your arm?" by giving a behaviouristic explanation, one has specified a cause. Causes may be discovered by experiments, but experiments do not produce reasons. The word "reason" is not used in connection with experimentation. It is senseless to say a reason is found by experiment. The alternative, "mathematical argument or experiential evidence?" corresponds to "reason or cause?"

5 Where the class defined by f can be given by an enumeration, i.e., by a list, (x)fx is simply a logical product and (Œx)fx a logical sum. E.g., (x)fx.=.fa.fb.fc, and (Œx)fx.=.fa v fb v fc. Examples are the class of primary colours and the class of tones of the octave. In such cases it is not necessary to add "and a, b, c, . . . are the only f's" The statement, "In this picture I see all the primary colours", means "I see red and green and blue . . .", and to add "and these are all the primary colours" says neither more nor less than "I see all . . ."; whereas to add to "a, b, c are people in the room" that a, b, c are all the people in the room says more than "(x)x is a person in the room", and to omit it is to say less. If it is correct to say the general proposition is a shorthand for a logical product or sum, as it is in some cases, then the class of things named in the product or sum is defined in the grammar, not by properties. For example, *being a tone of the octave* is not a quality of a note. The tones of an octave are a list. Were the world composed of "individuals" which were given the names "a", "b", "c", etc., then, as in the case of the tones, there would be no proposition "and these are all the individuals".

Where a general proposition is a shorthand for a product, deduction of the special proposition fa from (x)fx is straightforward. But where it is not, how does fa follow? "Following" is of a special sort, just as the logical product is of a special sort. And although (Œx)fx.fa. =.fa is

analogous to p v q.p. =.p, fa "follows" in a different way in the two cases where (Œx)fx is a shorthand for a logical sum and where it is not. We have a different calculus where (Œx)fx is not a logical sum fa is not deduced asp is deduced in the calculus of T's and F's from p v q.p. I once made a calculus in which *following* was the same in all cases. But this was a mistake.

Note that the dots in the disjunctions v fb v fc v . . . have different grammars: (1) "and so on" indicates laziness when the disjunction is a shorthand for a logical sum, the class involved being given by an enumeration, (2) "and so on" is an entirely different sign with new rules when it does not correspond to any enumeration, e.g., "2 is even v 4 is even v 6 is even . . .", (3) "and so on" refers to positions in visual space, as contrasted with positions correlated with the numbers of the mathematical continuum. As an example of (3) consider "There is a circle in the square". Here it might appear that we have a logical sum whose terms could be determined by observation, that there is a number of positions a circle could occupy in visual space, and that their number could be determined by an experiment, say, by coordinating them with turns of a micrometer. But there is no number of positions in visual space, any more than there is a number of drops of rain which you see. The proper answer to the question, "How many drops did you see?", is *many*, not that there was a number but you don't know how many. Although there are twenty circles in the square, and the micrometer would give the number of positions coordinated with them, visually you may not see twenty.

6 I have pointed out two kinds of cases (I) those like "In this melody the composer used all the notes of the octave", all the notes being enumerable, (2) those like "All circles in the square have crosses". Russell's notation assumes that for every general proposition there are names which can be given in answer to the question "*Which* ones?" (in contrast to, "*What*

sort?"). Consider (Œx)fx, the notation for "There are men on the island" and for "There is a circle in the square".

Now in the case of human beings, where we use names, the question "Which men?" has meaning. But to say there is a circle in the square may not allow the question "Which?" since we have no names "a", "b", etc. for circles.

In some cases it is senseless to ask "Which circle?", though "What sort of circle is in the square-a red one?, a large one?" may make sense. The questions "which?" and "What sort?" are muddled together [so that we think both always make sense].

Consider the reading Russell would give of his notation for "There is a circle in the square": "There is a thing which is a circle in the square". What is the *thing*? Some people might answer: the *patch* I am pointing to. But then how should we write "There are three patches"? What is the substrate for the property of being a patch? What does it mean to say "All things are circles in the square", or "There is not a thing that is a circle in the square" or "All patches are on the wall"? What are the *things*? These sentences have no meaning. To the question whether a meaning mightn't be given to "There is a thing which is a circle in the square" I would reply that one might mean by it that one out of a lot of shapes in the square was a circle. And "All patches are on the wall" might mean something if a contrast was being made with the statement that some patches were elsewhere.

7 What is it to look for a hidden contradiction, or for the proof that there is no contradiction? "To look for" has two different meanings in the phrases "to look for something at the North Pole", "to look for a solution to a problem". One difference between an expedition of discovery to the North Pole and an attempt to find a mathematical solution is that with the

former it is possible to describe beforehand what is looked for, whereas in mathematics when you describe the solution you have made the expedition and have found what you looked for. The description of the proof is the proof itself, whereas to find the thing at the North Pole it is not enough to describe it. You must make the expedition. There is no meaning to saying you can describe beforehand what a solution will be like in mathematics except in the cases where there is a known method of solution. Equations, for example, belong to entirely different games according to the method of solving them.

To ask whether there is a hidden contradiction is to ask an ambiguous question. Its meaning will vary according as there is, or is not, a method of answering it. If we have no way of looking for it, then "contradiction" is not defined. In what sense could we describe it? We might seem to have fixed it by giving the result, a not= a. But it is a result only if it is in organic connection with the construction. To find a contradiction is to construct it. If we have no means of hunting for a contradiction, then to say there might be one has no sense. We must not confuse what we can do with what the calculus can do.

8 Suppose the problem is to find the construction of a pentagon. The teacher gives the pupil the general idea of a pentagon by laying off lengths with a compass, and also shows the construction of triangles, squares, and hexagons. These figures are coordinated with the cardinal numbers. The pupil has the cardinal number 5, the idea of construction by ruler and compasses, and examples of constructions of regular figures, but not the law. Compare this with being taught to multiply. Were we taught all the results, or weren't we? We may not have been taught to do 61 x 175, but we do it according to the rule which we have been taught. Once the rule is known, a new instance is worked out easily. We are not given all the multiplications in the enumerative sense, but we are given *all* in one sense: any multiplication can be carried out according to rule. Given the

law for multiplying, any multiplication can be done. Now in telling the pupil what a pentagon is and showing what constructions with ruler and compasses are, the teacher gives the appearance of having defined the problem entirely. But he has not, for the series of regular figures is a law, but not a law within which one can find the construction of the pentagon. When one does not know how to construct a pentagon one usually feels that the result is clear but the method of getting to it is not. But the result is not clear. The constructed pentagon is a new idea. It is something we have not had before. What misleads us is the similarity of the pentagon constructed to a measured pentagon. We call our construction the construction of the pentagon because of its similarity to a perceptually regular five-sided figure. The pentagon is analogous to other regular figures; but to tell a person to find a construction analogous to the constructions given him is not to give him any idea of the construction of a pentagon. Before the actual construction he does not have the idea of the construction.

When someone says there must be a law for the distribution of primes despite the fact that neither the law nor how to go about finding it is known, we feel that the person is right. It appeals to something in us. We take our idea of the distribution of primes from their distribution in a finite interval. Yet we have no clear idea of the distribution of primes. In the case of the distribution of even numbers we can show it thus: 1, **2**, 3, **4**, 5, **6**, . . ., and also by mentioning a law which we could write out algebraically. In the case of the distribution of primes we can only show: 1, **2**, **3**, 4, **5**, 6, **7**, . . . Finding a law would give a new idea of distribution just as a new idea about the trisection of an angle is given when it is proved that it is not possible by straight edge and compasses. Finding a new method in mathematics changes the game. If one is given an idea of proof by being given a series of proofs, then to be asked for a new proof is to be asked for a new idea of proof.

Suppose someone laid off the points on a circle in order to show, as he imagined, the trisection of an angle. We would not be satisfied, which means that he did not have our idea of trisection. In order to lead him to admit that what he had was not trisection we should have to lead him to something new. Suppose we had a geometry allowing only the operation of bisection. The impossibility of trisection in this geometry is exactly like the impossibility of trisecting an angle in Euclidean geometry. And this geometry is not an incomplete Euclidean geometry.

9 Problems in mathematics are not comparable in *difficulty*; they are entirely *different* problems. Suppose one was told to prove that a set of axioms is free from contradiction but was supplied with no method of doing it. Or suppose it was said that someone had done it, or that he had found seven 7's in the development of *pi*. Would this be understood? What would it mean to say that there is a proof that there are seven 7's but that there is no way of specifying where they are? Without a means of finding them the concept of *pi* is the concept of a construction which has no connection with the idea of seven 7's. Now it does make sense to say "*There are seven 7's in the first 100 places*", and although "There are seven 7's in the development" does not mean the same as the italicised sentence, one might maintain that it nevertheless makes sense since it follows from something which does make sense. Even though you accepted this as a rule, it is only *one* rule. I want to say that if you have a proof of the existence of seven 7's which does not tell you where they are, the sentence for the existence theorem has an entirely different meaning than one for which a means for finding them is given. To say that a contradiction is hidden, where there is nevertheless a way of finding it, makes sense, but what is the sense in saying there is a hidden contradiction when there is no way? Again, compare a proof that an algebraic equation of nth degree has n roots, in connection with which

there is a method of approximation, with a proof for which no such method exists. Why call the latter a proof of existence?

Some existence proofs consist in exhibiting a particular mathematical structure, i.e., in "constructing an entity". If a proof does not do this, "existence proof" and "existence theorem" are being used in another sense. Each new proof in mathematics widens the meaning of "proof". With Fermat's theorem, for example, we do not know what it would be like for it to be proved.

What "existence" means is determined by the proof. The end-result of a proof is not isolated from the proof but is like the end surface of a solid. It is organically connected with the proof which is its body.

In a construction as in a proof we *seem* first to give the result and then find the construction or proof. But one cannot point out the result of a construction without giving the construction. The construction is the end of one's efforts rather than a means to the result. The result, say a regular pentagon, only matters insofar as it is an incitement to make certain manipulations. It would not be useless. For example, a teacher who told someone to find a colour beyond the rainbow would be expressing himself incorrectly, but what he said would have provided a useful incitement to the person who found ultra-violet.

10 If an atomic proposition is one which does not contain *and*, or, or apparent variables, then it might be said that it is not possible to distinguish atomic from molecular propositions. For p may be written as p.p or ~ ~p, and fa as fa v fa or as (Œx)fx.x = a. But "and", "or", and the apparent variables are so used that they can be eliminated from these expressions by the rules. So we can disregard these purportedly molecular expressions. The word "and", for example, is differently used in cases where it can be eliminated from those in which it cannot. Whether a

proposition is atomic, i.e., whether it is not a truth-function of other propositions, is to be decided by applying certain methods of analysis laid down strictly. But when we have no method, it makes no sense to say there may be a hidden logical constant. The question whether such a seemingly atomic proposition as "It rains" is molecular, that it is, say, a logical product, is like asking whether there is a hidden contradiction when there is no method of answering the question. Our method might consist in looking up definitions. We might find that "It's rotten weather", for example, means "It is cold and damp". Having a means of analysing a proposition is like having a method for finding out whether there is a 6 in the product 25 x 25, or like having a rule which allows one to see whether a proposition is tautologous.

Russell and I both expected to find the first elements, or "individuals", and thus the possible atomic propositions, by logical analysis. Russell thought that subject-predicate propositions, and 2-term relations, for example, would be the result of a final analysis. This exhibits a wrong idea of logical analysis: logical analysis is taken as being like chemical analysis. And we were at fault for giving no examples of atomic propositions or of individuals. We both in different ways pushed the question of examples aside. We should not have said "We can't give them because analysis has not gone far enough, but we'll get there in time". Atomic propositions are not the result of an analysis which has yet to be made. We can talk of atomic propositions if we mean those which on their face do not contain "and", "or", etc., or those which in accordance with methods of analysis laid down do not contain these. There are no hidden atomic propositions.

11 In teaching a child language by pointing to things and pronouncing the words for them, where does the use of a proposition start? If you teach him to touch certain colours when you say the word "red", you have evidently not taught him sentences. There is an ambiguity in the use of the

word "proposition" which can be removed by making certain distinctions. I suggest defining it arbitrarily rather than trying to portray usage. What is called understanding a sentence is not very different from what a child does when he points to colours on hearing colour words. Now there are all sorts of language-games suggested by the one in which colour words are taught: games of orders and commands, of question and answer, of questions and "Yes" and "No." We might think that in teaching a child such language games we are not teaching him a language but are only preparing him for it.

But these games are complete; nothing is lacking. It might be said that a child who brought me a book when I said "The book, please" would not understand this to mean "Bring me a book", as would an adult. But this full sentence is no more complete than "book". Of course "book" is not what we call a sentence. A sentence in a language has a particular sort of jingle. But it is misleading to suppose that "book" is a shorthand for something longer which might be in a person's mind when it is understood. The word "book" might not lack anything, except to a person who had never heard elliptic sentences, in which case he would need a table with the ellipses on one side and sentences on the other.

Now what role do truth and falsity play in such language-games? In the game where the child responds by pointing to colours, truth and falsity do not come in. If the game consists in question and answer and the child responds, say, to the question "How many chairs?", by giving the number, again truth and falsity may not come in, though it might if the child were taught to reply "Six chairs agrees with reality". If he had been taught the use of "true" and "false" instead of "Yes" and "No", they would of course come in. Compare how differently the word "false" comes into the game where the child is taught to shout "red" when red appears and the game where he is to guess the weather, supposing now that we use the word "false" in the following circumstances: when he shouts "green" when

something red appears, and when he makes a wrong guess about the weather. In the first case the child has not got hold of the game, he has offended against the rules; in the second he has made a mistake. The two are like playing chess in violation of the rules, and playing it and losing.

In a game where a child is taught to bring colours when you say "red", etc., you might say that "Bring me red" and "I wish you to bring me red" are equivalent to "red"; in fact that until the child understands "red" as information about the state of mind of the person ordering the colour he does not understand it at all. But "I wish you to bring me red" adds nothing to *this* game. The order "red" cannot be said to describe a state of mind, e.g., a wish, unless it is part of a game containing descriptions of states of mind. "I wish . . ." is part of a larger game if there are two people who express wishes. The word "I" is then not replaceable by "John". A new multiplicity means having another game.

I have wanted to show by means of language-games the vague way in which we use "language", "proposition", "sentence". There are many things, such as orders, which we may or may not call propositions; and not only one game can be called language. Language-games are a clue to the understanding of logic. Since what we call a proposition is more or less arbitrary, what we call logic plays a different role from that which Russell and Frege supposed. We mean all sorts of things by "proposition", and it is wrong to start with a definition of a proposition and build up logic from that. If "proposition" is defined by reference to the notion of a truth-function, then arithmetic equations are also propositions-which does not make them the same as such a proposition as "He ran out of the building". When Frege tried to develop mathematics from logic he thought the calculus of logic was the calculus, so that what followed from it would be correct mathematics. Another idea on a par with this is that all mathematics could be derived from cardinal arithmetic. Mathematics and

logic were one building, with logic the foundation. This I deny; Russell's calculus is one calculus among others. It is a bit of mathematics.

12 It was Frege's notion that certain words are unique, on a different level from others, e.g., "word", "proposition", "world". And I once thought that certain words could be distinguished according to their philosophical importance: "grammar", "logic", "mathematics". I should like to destroy this appearance of importance. How is it then that in my investigations certain words come up again and again? It is because I am concerned with language, with troubles arising from a particular use of language. The characteristic trouble we are dealing with is due to our using language automatically, without thinking about the rules of grammar. In general the sentences we are tempted to utter occur in practical situations. But then there is a different way we are tempted to utter sentences. This is when we look at language, consciously direct our attention on it. And then we make up sentences of which we say that they also ought to make sense. A sentence of this sort might not have any particular use, but because it sounds English we consider it sensible. Thus, for example, we talk of the flow of time and consider it sensible to talk of its flow, after the analogy of rivers.

13 If we look at a river in which numbered logs are floating, we can describe events on land with reference to these, e.g., "*When* the 105th log passed, I ate dinner". Suppose the log makes a bang on passing me. We can say these bangs are separated by equal, or unequal, intervals. We could also say one set of bangs was twice as fast as another set. But the equality or inequality of intervals so measured is entirely different from that measured by a clock. The phrase "length of interval" has its sense in virtue of the way we determine it, and differs according to the method of measurement. Hence the criteria for equality of intervals between passing logs and for equality of intervals measured by a clock are different. We cannot say that two bangs two seconds apart differ only in degree from

those an hour apart, for we have no feeling of rhythm if the interval is an hour long. And to say that one rhythm of bangs is faster than another is different from saying that the interval between these two bangs passed much more slowly than the interval between another pair.

Suppose that the passing logs seem to be equal distances apart. We have an experience of what might be called the velocity of these (though not what is measured by a clock). Let us say the river moves uniformly in this sense. But if we say *time* passed more quickly between logs 1 and 100 than between logs 100 and 200, this is only an analogy; really nothing has passed more quickly. To say time passes more quickly, or that time flows, is to imagine *something* flowing. We then extend the simile and talk about the direction of time. When people talk of the direction of time, precisely the analogy of a river is before them. Of course a river can change its direction of flow, but one has a feeling of giddiness when one talks of time being reversed. The reason is that the notion of flowing, of *something*, and of the direction of the flow is embodied in our language.

Suppose that at certain intervals situations repeated themselves, and that someone said time was circular. Would this be right or wrong? Neither. It would only be another way of expression, and we could just as well talk of a circular time. However, the picture of time as flowing, as having a direction, is one that suggests itself very vigorously.

Suppose someone said that the river on which the logs float had a beginning and will have an end, that there will be 100 more logs and that will be the end. It might be said that there is an *experience* which would verify these statements. Compare this with saying that time ceases. What is the criterion for its ceasing or for its going on? You might say that time ceases when "Time River" ceases. Suppose we had no substantive "time", that we talked only of the passing of logs. Then we could have a measurement of time without any substantive "time". Or we could talk of

time coming to an end, meaning that the logs came to an end. We could in *this* sense talk of time coming to an end.

Can time go on apart from events? What is the criterion for time involved in "Events began 100 years ago and time began 200 years ago"? Has time been created, or was the world created in time? These questions are asked after the analogy of "Has this chair been made?", and are like asking whether order has been created (a "before" and "after"). "Time" as a substantive is terribly misleading. We have got to make the rules of the game before we play it. Discussion of "the flow of time" shows how philosophical problems arise. Philosophical troubles are caused by not using language practically but by extending it on looking at it. We form sentences and then wonder what they can mean. Once conscious of "time" as a substantive, we ask then about the creation of time.

14 If I asked for a description of yesterday's doings and you gave me an account, this account could be verified. Suppose what you gave as an account of yesterday happened *tomorrow*. This is a possible state of affairs. Would you say you *remembered* the future? Or would you say instead that you remembered the past? Or are both statements senseless?

We have here two independent orders of events (1) the order of events in our memory. Call this memory time. (2) the order in which information is got by asking different people, 5 - 4 - 3 o'clock. Call this information time. In information time there will be past and future with respect to a particular day. And in memory time, with respect to an event, there will also be past and future. Now if you want to say that the order of information is memory time, you can. And if you are going to talk about both information and memory time, then you can say that you remember the past. If you remember that which *in information time* is future, you can say "I remember the future".

15 It is not *a priori* that the world becomes more and more disorganised with time. It is a matter of experience that disorganisation comes at a later rather than an earlier time. It is imaginable, for example, that by stirring nuts and raisins in a tank of chocolate they become unshuffled. But it is not a matter of experience that equal distributions of nuts and raisins *must* occur when they are swished about. There is no experience of something necessarily happening. To say that if equal distribution does not occur there *must* be a difference in weight of the nuts and raisins, even though these have not been weighed, is to assume some other force to explain the unshuffling. We tend to say that there must be some explanation if equal distribution does not occur. Similarly, we say of a planet's observed eccentric behaviour that there must be some planet attracting it.

This is analogous to saying that if two apples were added to two apples and we found three, one must have vanished. Or like saying that a die must fall on one of six sides. When the possibility of a die's falling on edge is excluded, and not because it is a matter of experience that it falls only on its sides, we have a statement which no experience will refute-a statement of grammar. Whenever we say that something *must* be the case we are using a norm of expression. Hertz said that wherever something did not obey his laws there must be invisible masses to account for it. This statement is not right or wrong, but may be practical or impractical. Hypotheses such as "invisible masses", "unconscious mental events" are norms of expression. They enter into language to enable us to say there *must* be causes. (They are like the hypothesis that the cause is proportional to the effect. If an explosion occurs when a ball is dropped, we say that some phenomenon must have occurred to make the cause proportional to the effect. On hunting for the phenomenon and not finding it, we say that it has merely not yet been found.) We believe we are dealing with a natural law *a priori*, whereas we are dealing with a norm of expression that we ourselves have fixed.

Whenever we say that something must be the case we have given an indication of a rule for the regulation of our expression, as if one were to say "Everybody is really going to Paris. True, some don't get there, but all their movements are preliminary".

The statement that there must be a cause shows that we have got a rule of language. Whether all velocities can be accounted for by the assumption of invisible masses is a question of mathematics, or grammar, and is not to be settled by experience. It is settled beforehand. It is a question of the adopted norm of explanation. In a system of mechanics, for example, there is a system of causes, although there may be no causes in another system. A system could be made up in which we would use the expression "My breakdown had no causes". If we weighed a body on a balance and took the different readings several times over, we could either say that there is no such thing as absolutely accurate weighing *or* that each weighing is accurate but that the weight changes in an unaccountable manner. If we say we are not going to account for the changes, then we would have a system in which there are no causes. We ought not say that there are no causes in nature, but only that we have a system in which there are no causes. Determinism and indeterminism are properties of a system which are fixed arbitrarily.

16 We begin with the question whether the toothache someone else has is the same as the toothache I have. Is his toothache merely outward behaviour? Or is it that he has the same as I am having now but that I don't know it since I can only say of another person that he is manifesting certain behaviour? A series of questions arises about personal experience. Isn't it thinkable that I have a toothache in someone else's tooth? It might be argued that *my* having toothache requires my mouth. But the experience of my having toothache is the same wherever the tooth is that is aching, and whoever's mouth it is in. The locality of pain is not given by naming a possessor. Further, isn't it imaginable that I live all my life

looking in a mirror, where I saw faces and did not know which was my face, nor how my mouth was distinguished from anyone else's? If this were in fact the case, would I say I had toothache in *my mouth*? In a mirror I could speak with someone else's mouth, in which case what would we call me? Isn't it thinkable that I change my body and that I would have a feeling correlated with someone's else's raising his arm?

The grammar of "having toothache" is very different from that of "having a piece of chalk", as is also the grammar of "I have toothache" from "Moore has toothache". The sense of "Moore has toothache" is given by the criterion for its truth. For a statement gets its sense from its verification. The use of the word "toothache" when I have toothache and when someone else has it belongs to different games. (To find out with what meaning a word is used, make *several* investigations. For example, the words "before" and "after" mean something different according as one depends on memory or on documents to establish the time of an event.) Since the criteria for "He has toothache" and "I have toothache" are so different, that is, since their verifications are of different sorts, I might seem to be denying that he has toothache. But I am not saying he really hasn't got it. Of course he has it: it isn't that he behaves as if he had it but really doesn't. For we have criteria for his really having it as against his simulating it. Nevertheless, it is felt that I should say that I do not know he has it.

Suppose I say that when he has toothache he has what I have, except that I know it indirectly in his case and directly in mine. This is wrong. Judging that he has toothache is not like judging that he has money but I just can't see his billfold. Suppose it is held that I must judge indirectly since I can't feel *his* ache. Now what sense is there to this? And what sense is there to "I can feel my ache"? It makes sense to say "His ache is worse than mine", but not to say "I feel my toothache" and "Two people can't have the same pain". Consider the statement that no two people can

ever see the same sense datum. If being in the same position as another person were taken as the criterion for someone's seeing the same sense datum as he does, then one could imagine a person seeing the same datum, say, by seeing through someone's head. But if there is no criterion for seeing the same datum, then "I can't know that he sees what I see" does not make sense. We are likely to muddle statements of fact which are undisputed with grammatical statements. Statements of fact and grammatical statements are not to be confused.

The question whether someone else has what I have when I have toothache may be meaningless, though in an ordinary situation it might be a question of fact, and the answer, "He has not", a statement of fact. But the philosopher who says of someone else, "He has not got what I have", is not stating a fact. He is not saying that in fact someone else has not got toothache. It might be the case that someone else has it. And the statement that he has it has the meaning given it, that is, whatever sense is given by the criterion. The difficulty lies in the grammar of "*having* toothache". Nonsense is produced by trying to express in a proposition something which belongs to the grammar of our language. By "I can't feel his toothache" is meant that I can't try. It is the character of the logical cannot that one can't try. Of course this doesn't get you far, as you can ask whether you can try to try. In the arguments of idealists and realists somewhere there always occur the words "can", "cannot", "must". No attempt is made to prove their doctrines by experience. The words "possibility" and "necessity" express part of grammar, although patterned after their analogy to "physical possibility" and "physical necessity".

Another way in which the grammars of "I have toothache" and "He has toothache" differ is that it does not make sense to say "I seem to have toothache", whereas it is sensible to say "He seems to have toothache". The statements "I have toothache" and "He has toothache" have different verifications; but "verification" does not have the same meaning in the

two cases. The verification of my having toothache is having it. It makes no sense for me to answer the question, "How do you know you have toothache?", by "I know it because I feel it". In fact there is something wrong with the question; and the answer is absurd. Likewise the answer, "I know it by inspection". The process of inspection is looking, not seeing. The statement, "I know it by looking", *could* be sensible, e.g., concentrating attention on one finger among several for a pain. But as we use the word "ache" it makes no sense to say that I look for it: I do not say I will find out whether I have toothache by tapping my teeth. Of "He has toothache" it is sensible to ask "How do you know?", and criteria can be given which cannot be given in one's own case. In one's own case it makes no sense to ask "How do I know?" It might be thought that since my saying "He seems to have toothache" is sensible but not my saying a similar thing of myself, I could then go on to say "This is so for him but not for me". Is there then a private language I am referring to, which he cannot understand, and thus that he cannot understand my statement that I have toothache? If this is so, it is not a matter of experience that he cannot. He is prevented from understanding, not because of a mental shortcoming but by a fact of grammar. If a thing is *a priori* impossible, it is excluded from language.

Sometimes we introduce a sentence into our language without realising that we have to show rules for its use. (By introducing a third king into a chess game we have done nothing until we have given rules for it.) How am I to persuade someone that "I feel my pain" does not make sense? If he insists that it does he would probably say "I make it a rule that it makes sense". This is like introducing a third king, and I then would raise many questions, for example, "Does it make sense to say I have toothache but don't feel it?" Suppose the reply was that it did. Then I could ask how one knows that one has it but does not feel it. Could one find this out by looking into a mirror and on finding a bad tooth know that one has a

toothache? To show what sense a statement makes requires saying how it can be verified and what can be done with it. Just because a sentence is constructed after a model does not make it part of a game. We must provide a system of applications.

The question, "What is its verification?", is a good translation of "How can one know it?". Some people say that the question, "How can one know such a thing?", is irrelevant to the question, "What is the meaning?" But an answer gives the meaning by showing the relation of the proposition to other propositions. That is, it shows what it follows from and what follows from it. It gives the grammar of the proposition, which is what the question, "What would it be like for it to be true?", asks for. In physics, for example, we ask for the meaning of a statement in terms of its verification.

I have remarked that it makes no sense to say "I seem to have toothache", which presupposes that it makes sense to say I can or cannot, doubt it. The use of the word "cannot" here is not at all like its use in "I cannot lift the scuttle". This brings us to the question: What is the criterion for a sentence making sense? Consider the answer, "It makes sense if it is constructed according to the rules of grammar". Then does this question mean anything: What must the rules be like to give it sense? If the rules of grammar are arbitrary, why not let the sentence make sense by altering the rules of grammar? Why not simply say "I make it a rule that this sentence makes sense"?

17 To say what rules of grammar make up a propositional game would require giving the characteristics of propositions, their grammar. We are thus led to the question, What is a proposition? I shall not try to give a general definition of "proposition", as it is impossible to do so. This is no more possible than it is to give a definition of the word "game". For any line we might draw would be arbitrary. Our way of talking about

propositions is always in terms of specific examples, for we cannot talk about these more generally than about specific games. We could begin by giving examples such as the proposition "There is a circle on the blackboard 2 inches from the top and 5 inches from the side". Let us represent this as "(2,5)". Now let us construct something that would be said to make no sense: "(2,5,7)". This would have to be explained (and you could give it sense), or else you could say it is a mistake or a joke. But if you say it makes no sense, you can explain why by explaining the game in which it has no use. Nonsense can look less and less like a sentence, less and less like a part of language. "Goodness is red" and "Mr. S came to today's redness" would be called nonsense, whereas we would never say a whistle was nonsense. An arrangement of chairs *could* be taken as a language, so that certain arrangements would be nonsense. Theoretically you could always say of a symbol that it makes sense, but if you did so you would be called upon to explain its sense, that is, to show the use you give it, how you operate with it. The words "nonsense' and "sense" get their meaning only in particular cases and may vary from case to case. We can still talk of *sense* without giving a clear meaning to "sense", just as we talk of winning or losing without the meaning of our terms being absolutely clear.

In philosophy we give rules of grammar wherever we encounter a difficulty. To show what we do in philosophy I compare playing a game by rules and just playing about. We might feel that a complete logical analysis would give the complete grammar of a word. But there is no such thing as a completed grammar. However, giving a rule has a use if someone makes an opposite rule which we do not wish to follow. When we discover rules for the use of a known term we do not thereby complete our knowledge of its use, and we do not tell people how to use the term, as if they did not know how. Logical analysis is an antidote. Its importance is to stop the muddle someone makes on reflecting on words.

18 To return to the differing grammars of "I have toothache" and "He has toothache", which show up in the fact that the statements have different verifications and also in the fact that it is sensible to ask, in the latter case, "How do I know this?", but not in the former. The solipsist is right in implying that these two are on different levels. I have said that we confuse "I have a piece of chalk" and "He has a piece of chalk" with "I have an ache" and "He has an ache". In the case of the first pair the verifications are analogous, although not in the case of the second pair. The function "x has toothache" has various values, Smith, Jones, etc. But not *I. I* is in a class by itself. The word "I" does not refer to a possessor in sentences about having an experience, unlike its use in "I have a cigar". We could have a language from which "I" is omitted from sentences describing a personal experience. {Instead of saying "I think" or "I have an ache" one might say "It thinks" (like "It rains"), and in place of "I have an ache", "There is an ache here". Under certain circumstances one might be strongly tempted to do away with the simple use of "I". We constantly judge a language from the standpoint of the language we are accustomed to, and hence we think we describe phenomena incompletely if we leave out personal pronouns. It is as though we had omitted pointing to something, since the word "I" seems to point to a person.

But we can leave out the word "I" and still describe the phenomenon formerly described. It is not the case that certain changes in our symbolism are really omissions. One symbolism is in fact as good as the next; no one symbolism is necessary.

19 The solipsist who says "Only my experiences are real" is saying that it is *inconceivable* that experiences other than his own are real. This is absurd if taken to be a statement of fact. Now if it is logically impossible for another person to have toothache, it is equally so for me to have toothache. To the person who says "Only I have real toothache" the reply should be: "If only you can have real toothache, there is no sense in saying

'Only I have real toothache'. Either you don't need 'I' or you don't need 'real' . . . 'I' is no longer opposed to anything. You had much better say 'There is toothache'." The statement, "Only I have real toothache," either has a commonsense meaning, or, if it is a grammatical proposition, it is meant to be a statement of a rule. The solipsist wishes to say, "I should like to put, instead of the notation 'I have real toothache' 'There is toothache' ". What the solipsist wants is not a notation in which the ego has a monopoly, but one in which the ego vanishes.

Were the solipsist to embody in his notation the restriction of the epithet "real" to what we should call his experiences and exclude "A has real toothache" (where A is not he), this would come to using "There is real toothache" instead of "Smith (the solipsist) has toothache". Getting into the solipsistic mood means not using the word "I " in describing a personal experience. Acceptance of such a change is tempting] because the description of a sensation does not contain a reference to either a person or a sense organ. Ask yourself, How do I, the person, come in? How, for example, does a person enter into the description of a visual sensation? If we describe the visual field, no person necessarily comes into it. We can say the visual field has certain internal properties, but its being *mine* is not essential to its description. That is, it is not an intrinsic property of a visual sensation, or a pain, to belong to someone. There will be no such thing as *my* image or someone else's. The locality of a pain has nothing to do with the person who has it: it is not given by naming a possessor. Nor is a body or an organ of sight necessary to the description of the visual field. The same applies to the description of an auditory sensation. The truth of the proposition, "The noise is approaching my right ear", does not require the existence of a *physical* ear; it is a description of an auditory experience, the experience being logically independent of the existence of my ears. The audible phenomenon is in an auditory space, and the subject who hears has nothing to do with the human body.

Similarly, we can talk of a toothache without there being any teeth, or of thinking without there being a head involved. Pains have a space to move in, as do auditory experiences and visual data. The idea that a visual field belongs essentially to an organ of sight or to a human body having this organ is not based on *what* is seen. It is based on such facts of experience as that closing one's lids is accompanied by an event in one's visual field, or the experience of raising one's arm towards one's eye. It is an experiential proposition that an eye sees. We can establish connections between a human body and a visual field which are very different from those we are accustomed to. It is imaginable that I should see with my body rather than with my eyes, or that I could see with someone else's eyes and have toothache in his tooth. If we had a tube to our eyes and looked into a mirror, the idea of a perceiving organ could be dispensed with. Were all human bodies seen in a mirror, with a loudspeaker making the sounds when mouths moved, the idea of an ego speaking and seeing would become very different.

20 The solipsist does not go through with a notation from which either "I" or "real" is deleted. He says "Only my experiences are real", or "Only I have real toothache", or "The only pain that is real is what I feel". This provokes someone to object that surely his pain is real. And this would not really refute the solipsist, any more than the realist refutes the idealist. The realist who kicks the stone is correct in saying it is real if he is using the word "real" as opposed to "not real". His rejoinder answers the question, "Is it real or hallucinatory?", but he does not refute the idealist who is not deterred by his objection. They still seem to disagree. Although the solipsist is right in treating "I have toothache" as being on a different level from "He has toothache", his statement that he has something that no one else has, and that of the person who denies it, are equally absurd. "Only my experiences are real" and "Everyone's experiences are real" are equally nonsensical.

21 Let us turn to a different task. What is the criterion for "This is my body"? There is a criterion for "This is my nose": the nose would be possessed by the body to which it is attached. There is a temptation to say there is a soul to which the body belongs and that my body is the body that belongs to me. Suppose that all bodies were seen in a mirror, so that all were on the same level. I could talk of A's nose and Any nose in the same way. But if I singled out a body as mine, the grammar changes. Pointing to a mirror body and saying "This is my body" does not assert the same relation of possession between me and my body as is asserted by "This is A's nose" between A's body and A's nose. What is the criterion for one of the bodies being mine? It might be said that the body which moved when I had a certain feeling will be mine. (Recall that the "I" in "I have a feeling" does not denote a possessor.) Compare "Which of these is my body?" with "Which of these is A's body?", in which "my" is replaced by "A's". What is the criterion for the truth of the answer to the latter? There is a criterion for this, which in the case of the answer to "Which is mine?" there is not. If all bodies are seen in a mirror and the bodies themselves become transparent but the mirror images remain, my body will be where the mirror image is. And the criterion for something being my nose will be very different from its belonging to the body to which it is attached. In the mirror world, will deciding which body is mine be like deciding which body is A's? If the latter is decided by referring to a voice called "A" which is correlated to the body, then if I answer "Which is my body?" by referring to a voice called Wittgenstein, it will make no sense to ask which is my voice.

There are two kinds of use of the word "I" when it occurs in answer to the question "Who has toothache?". For the most part the answer "I" is a sign coming from a certain body. If when people spoke, the sounds always came from a loudspeaker and the voices were alike, the word "I" would have no use at all: it would be absurd to say "I have toothache". The

speakers could not be recognised by it.) Although there is a sense in which answering "I" to the question, "Who has toothache?", makes a reference to a body, even to this body of mine, my answer to the question whether I have toothache is not made by reference to any *body*. I have no need of a criterion. My body and the toothache are independent. Thus one answer to the question "Who?" is made by reference to a body, and another seems not to be, and to be of a different kind.

22 Let us turn to the view, which is connected with "All that is real is my experience", namely, solipsism of the present moment: "All that is real is the experience of the present moment". (Cf. Wm. James' remark "The present thought is the only thinker", which makes the subject of thinking equivalent to the experience.) We may be inclined to make our language such that we will call only the present experience "experience". This will be a solipsistic language, but of course we must not make a solipsistic language without saying exactly what we mean by the word which in our old language meant "present". Russell said that remembering cannot prove that what is remembered actually occurred, because the world might have sprung into existence five minutes ago, with acts of remembering intact. We could go on to say that it might have been created one minute ago, and finally, that it might have been created in the present moment. Were this latter the situation we should have the equivalent of "All that is real is the present moment". Now if it is possible to say the world was created five minutes ago, could it be said that the world perished five minutes ago? This would amount to saying that the only reality was five minutes ago.

Why does one feel tempted to say "The only reality is the present"? The temptation to say this is as strong as that of saying that only *my* experience is real. The person who says only the present is real because past and future are not here has before his mind the image of something moving. past < present < future .This image is mispast present future leading, just as the blurred image we would draw of our visual field is misleading

inasmuch as the field has no boundary. That the statement "Only the present experience is real" seems to mean something is due to familiar images we associate with it, images of things passing us in space. When in philosophy we talk of the present, we seem to be referring to a sort of Euclidean point. Yet when we talk of present *experience* it is impossible to identify the present with such a point. The difficulty is with the word "present". There is a grammatical confusion here. A person who says the present experience alone is real is not stating an empirical fact, comparable to the fact that Mr. S. always wears a brown suit. And the person who objects to the assertion that the present alone is real with "Surely the past and future are just as real" somehow does not meet the point. Both statements mean nothing.

By examining Russell's hypothesis that the world was created five minutes ago I shall try to explain what I mean in saying that it is meaningless. Russell's hypothesis was so arranged that nothing could bear it out or refute it. Whatever our experience might be, it would be in agreement with it. The point of saying that something has happened derives from there being a criterion for its truth. To lay down the evidence for what happened five minutes ago is like laying down rules for making measurements. The question as to what evidence there can be is a grammatical one. It concerns the sorts of actions and propositions which would verify the statement. It is a simple matter to make up a statement which will agree with experience because it is such that no proposition can refute it, e.g., "There is a white rabbit between two chairs whenever no observations or verifications are being carried out." Some people would say that this statement says more than "There is no white rabbit between the chairs", just as some would say it means something to say the world was created five minutes ago. When such statements are made they are somehow connected with a picture, say, a picture of creation. Hence it is that such sentences seem to mean something. But they are otiose, like

wheels in a watch which have no function although they do not look to be useless.

I shall try to explain further what I mean by these sentences being meaningless by describing figures on two planes, one on plane I, which is to be projected, and the other, on plane II, the
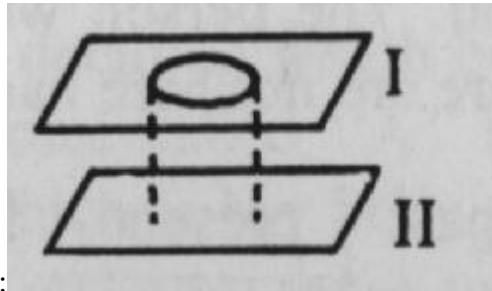

projection:

Now suppose the mode of projecting a circle on plane I was not orthogonal. In consequence, to say "There is a circle in plane II" would not be quite the same as saying that there is a circle in plane I. For a range of angles through which the circle is projected, the figures on plane II are all *more or less* circular. But now suppose the rays of light effecting the projection were allowed to vary through *any* range of angles. Then what meaning has it to say there are circles in plane II? When we give the method of projection such freedom, assertions about the projection become meaningless, though we still keep the picture of a circle in mind.

Russell's assertion about the creation of the world is like this. The fact that there is a picture on plane I does not make a verifiable projection on plane II. We are accustomed to certain pictures being projected in a given way. But as soon as we leave this mode of projection, statements do not have their usual significance. When I say "That means nothing" I mean that you have altered your mode of projection. That it seems to mean something is due to an image of well-known things.

23 The words "thinkable" and "imaginable" have been used in comparable ways, what is imaginable being a special case of what is

thinkable, e.g., a proposition and a picture. Now we can replace a visual image by a painted picture, and the picture can be described in words. Pictures and words are intertranslatable, for example, as A(5,7), B(2,3). A proposition is like, or something like, a picture. Let us limit ourselves to propositions describing the distribution of objects in a room. The distribution could be pictured in a painting. It would be sensible to say that a certain system of propositions corresponds to those painted and that other propositions do not correspond to pictures, for example,
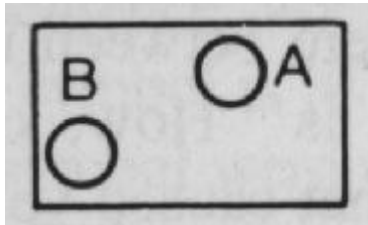
that someone whistles. Suppose we call the imaginable what can be painted, and the thinkable only what is imaginable. This would limit the word "thinkable" to the paintable. Now of course one can extend the way of picturing, for example, to someone whistling:

This is a new way of picturing, for a "rising" note is different from a vertical rise in space. With this new way we can imagine more, i.e., *think* more. People who make metaphysical assertions such as "Only the present is real" pretend to make a picture, as opposed to some other picture. I deny that they have done this. But how can I prove it? I cannot say "This is not a picture of anything, it is unthinkable" unless I assume that they and I have the same limitations on picturing. If I indicate a picture which the words suggest and they agree, then I can tell them they are misled, that

the imagery in which they move does not lead them to such expressions. It cannot be denied that they have made a picture, but we can say they have been misled. We can say "It makes no sense in this system, and I believe this is the system you are using'?. If they reply by introducing a new system, then I have to acquiesce.

My method throughout is to point out mistakes in language. I am going to use the word "philosophy" for the activity of pointing out such mistakes. Why do I wish to call our present activity philosophy, when we also call Plato's activity philosophy? Perhaps because of a certain analogy between them, or perhaps because of the continuous development of the subject. Or the new activity may take the place of the old because it removes mental discomforts the old was supposed to.

24 With regard to a proposition about the external world or to a proposition of mathematics it is frequently asked "How do you know it?" There is an ambiguity here between reasons and causes. The interpretation we do *not* want is "How, causally, did you reach the result?" It does not matter what caused you to get the result; this is irrelevant. The important thing is to determine *what* you know when you are knowing it. To illustrate the distinction between reason and cause, let us take the question, How does one know the molecules of a gas are in motion? The answer might be psychological, for example, that you will see them if you have had enough to eat. If the kinetic theory were wrong, then no experience at all need correspond to it; but at the same time *there would be* a criterion for movement of molecules in a gas. The inventor of the theory would say "I am going to take such-and-such as a criterion". What is taken as a reason for belief in a theory is thus not a matter of experience but a matter of convention. If I believe the theory after taking clear soup, this is a cause of my belief, not a reason. When I am asked for a reason for the belief, what is expected, as part of the answer, is *what* I believe.

The different ways of verifying "It rained yesterday" help to determine the meaning. Now a distinction should be made between "being the meaning of" and "determining the meaning of". That I remember its raining yesterday helps determine the meaning of "It rained yesterday", but it is not true that "It rained yesterday" *means* "I remember that . . ." We can distinguish between primary and secondary criteria of its raining. If someone asks "What is rain?", you can point to rain falling, or pour some water from a watering can. These constitute primary criteria. Wet pavements constitute a secondary criterion and determine the meaning of "rain" in a less important way.

Two questions have been raised, which need to be answered now. (I) How could the meaning of a sentence about the past be given by a sentence about the present? (2) The verification of a proposition about the past is a set of propositions involving present and future tenses. If the verification gives the meaning, is part of the meaning left out? My reply is to deny that the verification gives the meaning. It merely *determines* the meaning, i.e., determines its use, or grammar.

25 When we understand a statement we often have certain characteristic experiences connected with it and with the words it contains. But the meaning of a symbol in our language is not the feelings it arouses nor the momentary impression it makes on us. The sense of a sentence is neither a succession of feelings nor one definite feeling. If you want to know the meaning of a sentence, ask for its verification. I stress the point that the meaning of a symbol is its place in the calculus, the way it is used. Of course if the symbol were used differently there might be a different feeling, but the feeling is not what concerns us. To know the meaning of a symbol is to know its use.

We can regard understanding a symbol, when we take its meaning in at a glance, as intuitive. Or understanding it may be discursive: knowing its

meaning by knowing its use. Knowing the use of a sign is not a certain state lasting a certain time. (If we say knowing how to play chess is a certain state of mind, we have to say it is a hypothetical state.)

Attending to the way the meaning of a sentence is explained makes clear the connection between meaning and verification. Reading that Cambridge won the boat race, which verifies "Cambridge won", is obviously not the meaning, but it is connected with it. "Cambridge won" is not a disjunction, "I saw the race or I read the result or . . ." It is more complicated. Yet if we ruled out any one of the means of verifying the statement we would alter its meaning. It would upset our grammar if we excluded as a verification something that always accompanied winning. And if we did away with all means of verifying it we would destroy the meaning. It is clear that not every sort of verification is actually used to verify "Cambridge won", nor would just *any* verification give the meaning. The different verifications of the boat race being won have different places in the grammar of "boat race being won".

There is a mistaken conception of my view concerning the connection between meaning and verification which turns the view into idealism. This is that a *boat race = the idea of a boat race*. The mistake here is in trying to explain something in terms of something else. It lies back of Russell's definition of number, which we expect to tell us *what* a number *is*. The difficulty with these explanations in terms of something else is that the something else may have an entirely different grammar. Consider the word "chair". If there could be no visual picture of a chair, the word would have a different meaning. That one can see a chair is essential to the meaning of the word. But a visual picture of a chair is not a chair. What would it mean to sit on the visual picture of a chair? Of course we can explain what a chair is by showing pictures of it. But that does not mean that a chair is a complex of views. The tendency is to ask "What is a chair?"; but I ask how the word "chair" is used.

An intimately connected consideration concerns the words "time" and "length". People have felt that time is independent of the way it is measured. This is to forget what one would have to do to explain the word.

Time is what is measured by a clock. To verify "The concert lasted an hour" you must tell how you measured time. It is a misunderstanding about both time and length that they are independent of measurement. If we have many ways of measuring which do not contradict, we do not assume any one way of measuring in explaining these words. The measuring which is connected with the meaning of a term is not exact, though in physics we do sometimes specify the temperature of the measuring rod. If, for example, we try to make the notion of a "precise time" more exact, we do not push it back far, for the striking of a clock at "precisely 4:30" takes time. And "to be *here* at precisely 4:30" is also not precise: should one be opening the door or be inside? Likewise with "having the same colour". The verification of "These have the same colour" may be that one can't see a colour transition when they are put side by side, or that one can't tell the difference when they are apart, or that one can't tell one from the other when one is substituted for the other. These ways of testing give different meanings for "having the same colour".

26 If the meaning of a word is determined by the rules for its use, does this mean that its meaning is the list of rules? No. Nor is the meaning, as is sometimes the case with the bearer, *something* one can point to. The use of money and the use of words are analogous. Money is not always used to buy things which can be pointed to, e.g., when it buys permission to sit in a theatre, or a title, or one's life.

The ideas of meaning and sense are obsolete. Unless "sense" is used in such sentences as "This has no sense" or "This has the same sense as that", we are not concerned with sense.

In some cases it is not clear whether a statement is experiential or grammatical. How far is giving the verification of a proposition a grammatical statement about it? So far as it is, it can explain the meaning of its terms. Insofar as it is a matter of experience, as when one names a symptom, the meaning is not explained.

27 There is a problem connected with our talk of meaning: Does such talk indicate that I think meaning to be the subject matter of philosophy? Are we talking about something of more general importance than chairs, etc., so that we can take it that questions of meaning are the central questions of philosophy? Is meaning a metalogical idea? No. For there are problems in philosophy that are not concerned with the meaning of "meaning", though perhaps with the meaning of other words, e.g., "time". The word "meaning" has no higher place than these. What gives it a different place is that our investigations are about language and about puzzles arising from the use of language. "Grammar", "proposition", "meaning" thus figure more often than other words, though investigation concerning the word "meaning" is on the same level as a grammatical investigation of the word "time".

Of course there isn't a philosophical grammar and ordinary English grammar, the former being more complete since it includes ostensive definitions such as the correlation of "white" with several of its applications, Russell's theory of descriptions, etc. These are not to be found in ordinary grammar books; but this is not the important difference. The important difference is in the aims for which the study of grammar are pursued by the linguist and the philosopher. One obvious difference is that the linguist is concerned with history, and with literary qualities,

neither of which is of concern to us. Moreover, we construct languages of our own so as to solve certain puzzles which the grammarian is not interested in, e.g., puzzles arising from the expression "Time flows". We shall have to justify calling our comments on such a sentence grammar. If we say time flows in a different sense than water does, explaining this by an ostensive definition, we have indicated a way of explaining the word.

And we have left the realm of what is generally called grammar. Our object is to get rid of certain puzzles. The grammarian has no interest in these; his aims and the philosopher's are different. We are pulling ordinary grammar to bits.

28 Let us look at the grammar of ethical terms, and such terms as "God", "soul", "mind", "concrete", "abstract". One of the chief troubles is that we take a substantive to correspond to a thing. Ordinary grammar does not forbid our using a substantive as though it stood for a physical body. The words "soul" and "mind" have been used as though they stood for a thing, a gaseous thing. 'what is the soul?" is a misleading question, as are questions about the words "concrete" and "abstract", which suggest an analogy with solid and gaseous instead of with a chair and the permission to sit on a chair. Another muddle consists in using the phrase "another *kind*" after the analogy of "a different *kind* of chair", e.g., that transfinite numbers are another kind of number than rationals, or unconscious thoughts a different kind of thought from conscious ones. The difference in the case of the latter pair is not analogous to that between a chair we see and a chair we don't see. The word "thought" is used differently when prefaced by these adjectives. What happens with the words "God" and "soul" is what happens with the word "number". Even though we give up explaining these words ostensively, by pointing, we don't give up explaining them in substantival terms. The reason people say that a number is a scratch on the blackboard is the desire to point to something.

No sort of process of pointing is connected with explaining "number", any more than it is with explaining "permission to sit in a seat at the theatre".

Luther said that theology is the grammar of the word "God". I interpret this to mean that an investigation of the word would be a grammatical one. For example, people might dispute about how many arms God had, and someone might enter the dispute by denying that one could talk about arms of God. This would throw light on the use of the word. What is ridiculous or blasphemous also shows the grammar of the word.

29 Changing the meaning of a word, e.g., "Moses", when one is forced to give a different explication, does not indicate that it had no meaning before. The similarity between new and old uses of a word is like that between an exact and a blurred boundary. Our use of language is like playing a game according to the rules. Sometimes it is used automatically, sometimes one looks up the rules. Now we get into difficulties when we believe ourselves to be following a rule. We must examine to see whether we are. Do we use the word "game" to mean what all games have in common? It does not follow that we do, even though we were to find something they have in common. Nor is it true that there are discrete groups of things called "games". What is the reason for using the word "good"? Asking this is like asking why one calls a given proposition a solution to a problem. It can be the case that one trouble gives way to another trouble, and that the resolution of the second difficulty is only connected with the first. For example, a person who tries to trisect an angle is led to another difficulty, posed by the question "Can it be done?" Proof of the impossibility of a trisection takes the place of the first investigation; the investigation has changed. When there is an argument about whether a thing is good, the discussion shows what we are talking about. In the course of the argument the word may begin to get a new grammar. In view of the way we have learned the word "good" it would be astonishing if it had a general meaning covering all of its applications. I

am not saying it has four or five different meanings. It is used in different contexts because there is a transition between similar things called "good", a transition which continues, it may be, to things which bear no similarity to earlier members of the series. We cannot say "If we want to find out the meaning of 'good' let's find what all cases of good have in common". They may not have anything in common. The reason for using the word "good" is that there is a continuous transition from one group of things called good to another.

30 There is one type of explanation which I wish to criticise, arising from the tendency to explain a phenomenon by *one* cause, and then to try to show the phenomenon to be "really" another. This tendency is enormously strong. It is what is responsible for people saying that punishment must be one of three things, revenge, a deterrent, or improvement. This way of looking at things comes out in such questions as, Why do people hunt?, Why do they build high buildings? Other examples of it are the explanation of striking a table in a rage as a remnant of a time when people struck to kill, or of the burning of an effigy because of its likeness to human beings, who were once burnt. Frazer concludes that since people at one time were burnt, dressing up an effigy for burning is what remains of that practice. This may be so; but it need not be, for this reason. The idea which underlies this sort of method is that *every* time what is sought is *the* motive. People at one time thought it useful to kill a man, sacrifice him to the god of fertility, in order to produce good crops. But it is not true that something is always done because it is useful. At least this is not the sole reason. Destruction of an effigy may have its own complex of feelings without being connected with an ancient practice, or with usefulness. Similarly, striking an object may merely be a natural reaction in rage. A tendency which has come into vogue with the modern sciences is to explain certain things by evolution. Darwin seemed to think that-an emotion got its importance from one thing only, utility. A baby bares its

teeth when angry because its ancestors did so to bite. Your hair stands on end when you are frightened because hair standing on end served some purpose for animals.

The charm of this outlook is that it reduces importance to utility.

31 Let us change the topic to a discussion of *good*. One of the ways of looking at questions in ethics about *good* is to think that all things said to be good have something in common, just as there is a tendency to think that all things we call games have something in common. Plato's talk of looking for the essence of things was very like talk of looking for the *ingredients* in a mixture, as though qualities were ingredients of things. But to speak of a mixture, say of red and green colours, is not like speaking of a mixture of a paint which has red and green paints as ingredients. Suppose you say "*Good* is a quality of human actions and events". This is apparently an intelligible sentence. If I ask "How does one know an action has this quality?", you might tell me to examine it and I would find out. Now am I to investigate the movements making up the action, or are they only symptoms of goodness? If they are a symptom, then there must be some independent verification, otherwise the word "symptom" is meaningless. Now there is an important question which arises about goodness: Can one know an action in all its details and yet not know whether it is good? A similar question arises about beauty. Consider the beauty of a face. If all its shapes and colours are determined, is its beauty determined also? Or are these merely symptoms of beauty, which is to be determined otherwise? You may say that beauty is an indefinable quality, and that to say a particular face is beautiful comes to saying it has the indefinable quality. Is our scrutiny intended to find out whether a face has this indefinable quality, or merely to find out what the face is like? If the former, then the indefinable quality can be attributed to a particular arrangement of colours. But it need not be, and we must have some independent verification. If no separate investigation is required,

then we only mean by a beautiful face a certain arrangement of colours and shapes.

32 The attribute beauty has been analysed as what all beautiful things have in common. Consider one such property, agreeableness. I call attention to the fact that in studying the laws of harmony in a harmony text there is no mention of "agreeableness"; psychology drops out. To say *Lear* is agreeable is to say something nondescriptive. And to many things this adjective is wholly inapplicable. Hence there is no basis for building up a calculus. The phrase "beautiful colour", for example, can have a hundred meanings, depending on the occasion on which we use it.

Very often the adjectives we use are those applicable to the face of a person. This is the case with "beautiful" and "ugly". Consider how we learn such words. We do not as children discover the quality of beauty or ugliness in a *face* and find that these are qualities a *tree* has in common with it. The words "beautiful" and "ugly" are bound up with the words they modify, and when applied to a face are not the same as when applied to flowers and trees. We have in the latter a *similar* "game". For example, the adjective "stupid" is inapplicable to coals, except as you see a face in them. By a face being stupid we may mean it is the sort of face that really belongs to a stupid person; but usually not. Instead, it is a character of the particular expression of a face. This is not to say it is a character of the distribution of lines and colours. If it were, then one might ask how to find out whether the distribution is stupid. Is stupidity *part* of the distribution? The word "stupid" as applied to hands is still another game. The same is the case with "beautiful". It is bound up with a particular game. And similarly in ethics: the meaning of the word "good" is bound up with the act it modifies.

How can one know whether an action or event has the quality of goodness? And can one know the action in all of its details and not know

whether it is good? That is, is its being good something that is independently experienced? Or does its being good follow from the thing's properties? If I want to know whether a rod is elastic I can find out by looking through a microscope to see the arrangement of its particles, the nature of their arrangement being a symptom of its elasticity, or inelasticity. Or I can test the rod empirically, e.g., see how far it can be pulled out. The question in ethics, about the goodness of an action, and in aesthetics, about the beauty of a face, is whether the characteristics of the action, the lines and colours of the face, are like the arrangement of particles: a *symptom* of goodness, or of beauty. Or do they constitute them? a cannot be a symptom of b unless there is a possible independent investigation of b. If no separate investigation is possible, then we mean by "beauty of face" a certain arrangement of colours and spaces. Now no arrangement is beautiful in itself. The word "beauty" is used for a thousand different things. Beauty of face is different from that of flowers and animals. That one is playing utterly different games is evident from the difference that emerges in the discussion of each. We can only ascertain the meaning of the word "beauty" by seeing how we use it.

33 What has been said of "beautiful" will apply to "good" in only a slightly different way. Questions which arise about the latter are analogous to those raised about beauty: whether beauty is inherent in an arrangement of colours and shapes, i.e., such that on describing the arrangement one would know it is beautiful, or not; or whether this arrangement is a symptom of beauty from which the thing's being beautiful is *concluded*.

In an actual aesthetic controversy or inquiry several questions arise: (1) How do we use such words as "beautiful"? (2) Are these inquiries psychological? Why are they so different, and what is their relation to psychology? (3) What features makes us say of a thing that it is the ideal, e.g., the ideal Greek profile?

Note that in an aesthetic controversy the word "beautiful" is scarcely ever used. A different sort of word crops up: "correct", "incorrect", "right", "wrong". We never say "This is beautiful enough". We only use it to say, "Look, how beautiful", that is, to call attention to something. The same thing holds for the word "good".

34 Why do we say certain changes bring a thing nearer to an ideal, e.g., making a door lower, or the bass in music quieter. It is not that we want in different cases to produce the same effect, namely, an agreeable feeling. What made the ideal Greek profile into an ideal, what quality? Actually what made us say it is the ideal is a certain very complicated role it played in the life of people. For example, the greatest sculptors used this form, people were taught it, Aristotle wrote on it. Suppose one said the ideal profile is the one occurring at the height of Greek art. What would this mean? The word "height" is ambiguous. To ask what "ideal" means is the same as asking what "height" and "decadence" mean. You would need to describe the instances of the ideal in a sort of serial grouping. And the word is always used in connection with one particular thing, for there is nothing in common between roast beef, Greek art, and German music. The word "decadence" cannot be explained without specific examples, and will have different meanings in the case of poetry, music, and sculpture. To explain what decadence in music means you would need to discuss music in detail. The various arts have some analogy to each other, and it might be said that the element common to them is *the ideal*. But this is not the meaning of "the ideal". The ideal is got from a specific game, and can only be explained in some specific connection, e.g., Greek sculpture. There is no way of saying what all have in common, though of course one may be able to say what is common to two sculptures by studying them. In the statement that their beauty is what approaches the ideal, the word "ideal" is not used as is the word "water", which stands for something that can be pointed to. And no aesthetic investigation will

supply you with a meaning of the word "ideal" which you did not have before.

When one describes changes made in a musical arrangement as being directed to bringing the arrangement of parts nearer to an ideal, the ideal is not before us like a straight line which is set before us when we try to draw it. (When questioned about what we are doing we might cite another tune which we thought *not* to be as near the ideal.) Some people say we have an ideal before our minds in the same way we have a memory image when we recognise a colour. It *may* happen that you have a picture in mind with which the colour recognised is compared, but this is rare. To see how the ideal comes in, say in making the bass quieter, look at what is being done and at one's being dissatisfied with the music as it is. Can one call this "action" of making the bass quieter an investigation? No, not in the sense of scientific investigation. No truth is found, except the psychological fact that I am satisfied with the result.

In what sense is aesthetic investigation a matter of psychology? The first thing we might say of a beautiful arrangement of colours-a flower, a meadow, or a face-is that it gives us pleasure. In saying these all give pleasure we speak as if the pleasure differed in degree rather than that the pleasures were of a different sort. Pain and pleasure do not belong on one scale, any more than the scale from boiling hot to ice cold is one of degree. They differ in kind. When a man jumps out of the window rather than meet the police he is not choosing the "*more* agreeable". Of course there are cases where we do weigh pleasures, as in choosing between cinemas. But this is not always the case. And it happens only sometimes that when we do not choose the lesser pain or the greater pleasure we choose what will produce these in the long run. One might think that it is entirely a matter of psychology whether something is good or beautiful, that in comparing musical arrangements, for example, one is making a psychological experiment to determine which produces the more pleasing

effect. If this were true then the statement that beauty is what gives pleasure is an experiential one.

But what people who say this wish to say is that it is not a matter of experience that beauty is what gives pleasure. Their statement is really a sort of tautology.

In aesthetic investigation the thing we are not interested in is *causal connections*, whereas in psychology we are. This is the *main point* of difference. To the question "*Why* is this beautiful?" we are accustomed to being satisfied with answers which cite *causes* instead of *reasons*. To name causal connections is to give an hypothesis. Giving a cause does not remove the aesthetic puzzle one feels when asked what makes a thing beautiful. It is useful to remind yourself of the answers given to the opposite question, "What is wrong with this poem or melody?", for the answer to the first question is of the same kind. The answer to "What is wrong with this melody?" is like the statement, "This is too loud", not like the statement that it produces sulphur in the blood.

The sort of experiment we carry on to discover people's likes and dislikes is not aesthetics. If it were, then you could say aesthetics is a matter of taste. In aesthetics the question is not "Do you like it?" but "Why do you like it?" Whenever we get to the point where the question is one of taste, it is no longer aesthetics. In aesthetic discussion what we are doing is more like solving a mathematical problem. It is not a psychological one. Aesthetic discussion is something that goes on inside the range of likes and dislikes. It goes on before any question of taste arises. A statement about a visual or auditory impression, as against what causes it, need not be psychological. That a sorrowful face becomes more sorrowful as the mouth turns downward is not a statement of psychology. In aesthetics we are not interested in causal connections but in description of a thing.

35 What is the justification for a feature in a work of art? I disagree with the answer "Something else would produce the wrong effect". Is it that you are satisfied, once something is found which removes the difficulty? What reasons can one give for being satisfied? The reasons are further descriptions. Aesthetics is descriptive. What it does is to *draw one's attention* to certain features, to place things side by side so as to exhibit these features. To tell a person "This is the climax" is like saying "This is the man in the puzzle picture". Our attention is drawn to a certain feature, and from that point forward we see that feature. The reasons one gives for feeling satisfied have nothing to do with psychology. These, the aesthetic reasons, are given by placing things side by side, as in a court of law. If one gave *psychological* reasons for choosing a simile, those would not be reasons in aesthetics. They would be causes, not reasons. Stating a cause would be offering a hypothesis. Insofar as the remedy for the disagreeable feeling of top-heaviness of a door is like a remedy for a headache, a question concerning what remedy to prescribe is not a question of aesthetics. The aesthetic reason for feeling dissatisfied, as opposed to its cause, is not a proposition of psychology. A good example of a *cause* for dissatisfaction which I might have, say, with the way someone is playing a waltz, is that I have seen the waltz danced and know how it should be played. This does not give a reason for my dissatisfaction. The person who plays it, and I, have a different ideal of the waltz, and to give the reason for my dissatisfaction demands a *description*. Similarly, if a composition is felt to have a wrong ending.

36 I wish to remark on a certain sort of connection which Freud cites, between the foetal position and sleep, which looks to be a causal one but which is not, inasmuch as a psychological experiment cannot be made. His explanation does what aesthetics does: puts two factors together.

Another matter which Freud treats psychologically but whose investigation has the character of an aesthetic one is the nature of jokes.

The question, "What is the nature of a joke?", is like the question, "What is the nature of a lyric poem?" I wish to examine in what way Freud's theory is a hypothesis and in what way not. The hypothetical part of his theory, the subconscious, is the part which is not satisfactory. Freud thinks it is part of the essential mechanism of a joke to conceal something, say, a desire to slander someone, and thereby to make it possible for the subconscious to express itself. He says that people who deny the subconscious really cannot cope with post-hypnotic suggestion, or with waking up at an unusual hour of one's own accord. When we laugh without knowing why, Freud claims that by psychoanalysis we can find out. I see a muddle here between a cause and a reason. Being clear why you laugh is not being clear about a cause. If it were, then agreement to the analysis given of the joke as explaining why you laugh would not be a means of detecting it. The success of the analysis is supposed to be shown by the person's agreement.

   There is nothing corresponding to this in physics. Of course we can give causes for our laughter, but whether those are in fact the causes is not shown by the person's agreeing that they are. A cause is found experimentally. The psychoanalytic way of finding why a person laughs is analogous to an aesthetic investigation. For the correctness of an aesthetic analysis must be agreement of the person to whom the analysis is given. The difference between a reason and a cause is brought out as follows: the investigation of a reason entails as an essential part one's agreement with it, whereas the investigation of a cause is carried out experimentally. "What the patient agrees to can't be a hypothesis as to the *cause* of his laughter, but only that so and-so was the *reason* why he laughed." Of course the person who agrees to the reason was not conscious at the time of its being his reason. But it is a way of speaking to say the reason was subconscious. It may be expedient to speak in this way, but the subconscious is a hypothetical entity which gets its meaning from the

verifications these propositions have. What Freud says about the subconscious sounds like science, but in fact it is just *a means of representation* New regions of the soul have not been discovered, as his writings suggest. The display of elements of a dream, for example, a hat (which may mean practically anything) is a display of similes. As in aesthetics, things are placed side by side so as to exhibit certain features. These throw light on our way of looking at a dream; they are reasons for the dream. But his method of analysing dreams is not analogous to a method for finding the causes of stomach-ache. It is a confusion to say that a reason is a cause seen from the inside. A cause is not seen from within or from without. It is found by experiment. In enabling one to discover the reasons for laughter psychoanalysis provides merely a representation of processes.