

The Philosophy
of Wittgenstein

George Pitcher

PRINCETON UNIVERSITY

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At the turn of the century, the Absolute Idealism of F. H. Bradley (1846-1924) reigned supreme in British philosophy. Bradley taught that both reality and knowledge are unified systems: every fact is connected with every other, and none can exist in isolation from all the rest. Since reality is essentially one, no truth can be completely understood in isolation from the one System of Truth; in order to know one thing, a person must know everything. Before Bradley was even in his grave, Wittgenstein had turned his august monistic philosophy exactly on its head.

4 The Picture Theory

Wittgenstein says that an elementary proposition consists of names only. But if that is the case, a difficulty immediately arises. How can an elementary proposition say or state anything? How can it tell us anything? A mere list of names cannot state a fact, and therefore cannot be true or false, as propositions are. What, for example, could the list "Socrates, Aristotle, Athens, living" possibly assert?

There is another puzzling feature of language connected with propositions. A person can understand what a proposition means even if he has never run across it before, even if it has never been explained to him what its sense is. For example, it is unlikely that anyone has previously heard this proposition: "There are now fourteen young apes playing with an African ant eater on my living-room floor." And yet everyone who understands English knows what the proposition means, provided the meanings of the constituent words are known to him. The old familiar words can convey a new sense to us. This may seem like a trivial fact, but it decidedly is not; it is only something that we are used to because we meet examples of it every day. It is an extraordinary fact which demands some explanation. Out of the blue, an entirely new proposition is presented, a new combination of words is uttered, and I know at once what is meant. No one need have told me: I just "see" what it means in some way or other that needs accounting for. (Notice, by the way, that this fact provides another reason for denying that propositions are names of the facts they describe; for I cannot know the meaning of a name without having been told, or in some other way having previously learnt it.)

This puzzling feature of language is of the highest importance for its usefulness and flexibility. Think how limited language would be, and indeed how limited we would be, if each sentence had its own special meaning which was no function of the meaning of its constituent words. There would then be a stock of things that it was possible to say in the language, just as now there is a stock of words in the language which are available for use; whenever a person wanted to say anything, he could only say one or another of the standard things. Imagine an example of such a language. Suppose that by convention certain flags mean certain things—a blue flag means "It's raining in the mountains," a red flag "It's raining on the beach," a brown flag "There is snow in the mountains," and so on. No one could understand what these flags mean simply by looking at the flags themselves; the meaning of each flag would have to be explained to a person before he could know what it was, or he would have to gather what it means from the behavior of the language users. There would be no such thing as coming across a flag with a new color and knowing at once by inspection what it meant. Whenever anyone wished to say something, all he could do would be to display one of the flags, thus expressing one of the predetermined propositions. New flags could be introduced, thus enlarging the stock of sayable things, but it would be at best a tedious process with highly limited possibilities of expression. The human mind might be able to make some progress under these conditions, but a ceiling would soon be reached; it would be excessively difficult after a certain point to remember what any more sentences meant and virtually impossible to invent sentences with complex or subtle meanings. In such a language, the invention of a new sentence would be an infrequent and notable event; in our language, it is a commonplace occurrence—and not a matter of *invention* at all.

Wittgenstein places great importance on this feature of our language. In fact, he sometimes actually goes too far in this, as in the following passage:

4.027

It belongs to the essence of a proposition that it should be able to communicate a *new* sense to us.

Here, as elsewhere, Wittgenstein confuses proposition with propositional sign. It is not a proposition, but a propositional sign—a sentence—which communicates a sense to the hearer (reader), for that is all

that the hearer hears (reader sees). Propositions may have new senses, but they cannot be said to communicate them. I say Wittgenstein goes too far here because I think it is perfectly possible to have a language in which propositional signs cannot immediately communicate new senses—e.g., the flag language just discussed. On the other hand, it could plausibly be argued, in favor of Wittgenstein, that unless a system of signs had elements that were combinable in different ways—i.e., unless it had a syntax—it would not constitute a language. (Can the birds, for example, be said to have and to use a language?) If this claim be correct, then what I have called a "flag language" would not be a language at all and T 4.027 would not go too far, for what it says is true of language with a syntax—i.e. (if the claim is valid), all languages.

Be that as it may, in our language we can express new propositions by using the old words, and our hearers can usually understand the new sense at once, without any previous acquaintance with it, without any explanation. Wittgenstein thought that there is only one possible way of explaining this vital and puzzling feature of language: the proposition must be a picture of the situation it describes and asserts to exist (or not to exist). Understanding the sense of a proposition is knowing what situation it describes. Just by looking at a proposition, I can tell what situation it describes. I can "read it off" from the proposition itself, even if the proposition is quite new to me and no one has explained its sense to me. But how could I thus "read off" the situation from the proposition itself, unless the proposition were some sort of representation, or picture, of the situation?

4.021

A proposition is a picture of reality: for if I understand a proposition, I know the situation that it represents. And I understand the proposition without having had its sense explained to me.

This is an extremely plausible solution to the problem. A picture has just the features which we noted a proposition has. It represents some situation beyond itself, and I can tell which situation it is merely by looking at the picture. No one need explain to me what situation it depicts; I can "read it off" from the picture itself. A picture *shows* us what it represents; similarly,

4.022(1)

A proposition *shows* its sense.

It is true that a proposition does not at once appear to be a picture of a situation. Ordinary pictures look like what they represent, and a proposition certainly does not look like a situation. But Wittgenstein is not asserting that a proposition is an ordinary—that is, spatial—picture of the situation it describes; it is rather a “logical picture” of it (T 4.03[3]). In order for one thing, A, to be a logical picture of another, B, three conditions must be met: (1) there must be a one-to-one correspondence between the components of A and those of B; (2) to every feature of the structure or form of A there must correspond a feature of the structure or form of B; and (3) there must be rules of projection connecting the components of A and those of B. Rules of projection are rules whereby given A (or B), B (or A) can be reconstructed from it. A good example is the rules connecting a musical score and an actual performance of it; given either the score or the performance, the other can be reconstructed from it. Wittgenstein uses this example.

4.0141 There is a general rule by means of which the musician can obtain the symphony from the score, and which makes it possible to derive the symphony from the groove on the gramophone record, and, using the first rule, to derive the score again. That is what constitutes the inner similarity between these things which seem to be constructed in such entirely different ways. And that rule is the law of projection which projects the symphony into the language of musical notation. It is the rule for translating this language into the language of gramophone records.

Remembering Wittgenstein's lifelong interest in music, one might guess that this example is what suggested to him the idea that a proposition is a picture of the fact it describes. But that is not the case.

Wittgenstein told me how the idea of language as a picture of reality occurred to him. He was in a trench on the East Front, reading a magazine in which there was a schematic picture depicting the possible sequence of events in an automobile accident. The picture there served as a proposition; that is, as a description of a possible state of affairs. It had this function owing to a correspondence between the parts of the picture and things in reality. It now occurred to Wittgenstein that one might reverse the analogy and say that a proposition serves as a picture, by virtue of a similar correspondence between its parts and the world. The way in which the parts of the proposition

are combined—the *structure* of the proposition—depicts a possible combination of elements in reality, a possible state of affairs.¹

The first vague suggestion of this idea may well have been planted in Wittgenstein's mind by certain doctrines of Hertz's *Principles of Mechanics*; in discussing the picture theory, Wittgenstein explicitly refers to them.

4.04 In a proposition there must be exactly as many distinguishable parts as in the situation that it represents.

The two must possess the same logical (mathematical) multiplicity. (Compare Hertz's *Mechanics* on dynamical models.)

Here is one of the passages from Hertz that Wittgenstein was referring to:

The relation of a dynamical model to the system of which it is regarded as the model, is precisely the same as the relation of the images which our mind forms of things to the things themselves. For if we regard the condition of the model as the representation of the condition of the system, then the consequents of this representation, which according to the laws of this representation must appear, are also the representation of the consequents which must proceed from the original object according to the laws of this original object. The agreement between mind and nature may therefore be likened to the agreement between two systems which are models of one another, and we can even account for this agreement by assuming that the mind is capable of making actual dynamical models of things, and of working with them.²

It is, indeed, more appropriate to say that Wittgenstein's view of the proposition is that it is a model of the situation it represents, than to say that it is a picture of it. Wittgenstein occasionally uses the term 'model' in this connection.

4.01(2) A proposition is a model of reality as we imagine it.

¹ G. H. von Wright, "Biographical Sketch," reprinted in Malcolm, *Memoir*, pp. 7-8. The following entry occurs in the *Notebooks 1914-1916*: "In the proposition a world is as it were put together experimentally. (As when in the law-court in Paris a motor-car accident is represented by means of dolls, etc.)" (*NB*, entry for 29.9.14). The editors of the *Notebooks* suggest that the date of this entry indicates that the incident referred to by von Wright could not very well have taken place in a trench on the East Front. (*NB*, p. 7n.)

² Heinrich Hertz, *The Principles of Mechanics*, trans. D. E. Jones and J. T. Walley, sect. 428. The term in the original German text which the translators have rendered as 'images' is 'Bilder'—i.e., pictures.

The wording of T 4.031(1) also suggests the analogy of a model.

4.031(1) In a proposition a situation is, as it were, constructed by way of experiment.

But perhaps the best way to state Wittgenstein's position is to say that the proposition is a projection (as the term is used, for example, in projective geometry) of the situation it describes. Wittgenstein uses that term as well, but it is usually the propositional sign that he speaks of as being a projection of the situation.

3.11(1) We use the perceptible sign of a proposition (spoken or written, etc.) as a projection of a possible situation.

In any case, the example of a musical score is particularly instructive; most people are familiar with at least the general principle involved, and the analogy it provides is an especially close one. The individual note marks mean certain sounds, just as individual words mean certain objects. As the piece may never be performed, so the proposition may be false; and as one knows from looking at the score what the piece would sound like if it were performed, so one knows what would be the case if the proposition were true. (T 4.022[2], 4.024[1].) And just as one can read a new score without a special explanation, since he knows the general rules of projection of music, so one can understand a new proposition without its sense being explained, since he knows the general rules of projection of language.

One important feature of Wittgenstein's picture theory of propositions should be borne in mind, if we are to realize that certain apparent objections to it are not really damaging. It might be objected, for example, that the theory is incompatible with other things Wittgenstein has said. If a proposition is a picture of a fact, then every word or phrase in it must directly stand for something, as every note in the musical score directly stands for a particular sound; and so in the proposition "The author of *Waverley* is Scotch," the phrase 'the author of *Waverley*' must directly represent some object. But according to the theory of definite descriptions, accepted by Wittgenstein, this is not the case. Furthermore, it is absurd to suggest that in the proposition "The average American male likes baseball," the subject phrase directly names an object, as the picture theory would require it to. These and other objections to the picture theory are at once swept away by Wittgenstein's insistence that propositions *as ordinarily expressed* are not, in that form, pictures of the situations

they describe.³ In the strictest sense, it is only elementary propositions, those consisting entirely of names, that are pictures of situations. But when any other kind of proposition is completely analyzed into elementary propositions—i.e., when its true nature as a truth-function of elementary propositions is fully exhibited—then it, too, is a picture of the situation it describes. And even then, the non-elementary proposition depicts something only in virtue of the fact that its component elementary propositions do so.

First and foremost the elementary propositional form must portray; all portrayal takes place through it. [NB, entry for 31.10.14.]

As condition (1) (p. 78) demands, there must be a one-to-one correspondence between the components of a picture and those of the thing pictured; hence there must be exactly as many components of the picture as there are of the thing pictured. Since a proposition is a picture of the situation it describes, this must hold of it too (T 4.04[1]). But this requirement is met only by elementary propositions; they alone consist entirely of names, each of which directly denotes an object.

4.0311 One name stands for one thing, another for another thing, and they are combined with one another. In this way the whole group—like a *tableau vivant*—presents a state of affairs.

But there is a problem which still faces us, namely the one mentioned in the opening paragraph of this chapter. An elementary proposition is a series of names, and how can a series of names state a fact, how can it say anything true or false? To find an answer to this question, let us try to answer first the preliminary question: How can a series of names represent (picture) a state of affairs? It is difficult to see how a list of names can be a picture. Let us ask what the essence of an ordinary picture is. What is it about a picture that makes it a representation of a situation? Wittgenstein answers this question by saying:

2.14 What constitutes a picture is that its elements are related to one another in a determinate way.

2.141 A picture is a fact.

There seems to be a conflict here between Wittgenstein and common

³ Although Wittgenstein sometimes talks as if they were—for example, in T 4.011.

sense, connected with the earlier one over whether the world divides into facts or into objects (see pp. 18-19). Common sense would say that the things in a picture which do the representing are the blotches of paint or ink or whatever, and that what they represent are the several objects of the scene depicted. Wittgenstein, however, disagrees with this way of describing the matter; what represents the scene, he maintains, is certain facts. Suppose the scene depicted is a room with furniture. It is not simply the individual patches of paint in themselves that represent the arrangement of the furniture in the room; for if those same patches of paint were placed differently on the canvas, they would not represent the actual arrangement of furniture at all. No, what it is about the picture that represents the arrangement of furniture is the *fact* that the several patches of paint are placed in a certain way on the canvas. For example, the fact that the blue patch is next to the red one represents the fact that the blue chair is next to the red table in the room itself.

2.15(1) The fact that the elements of a picture are related to one another in a determinate way represents that things are related to one another in the same way.

A picture, then, is a fact; and it represents certain features of the reality depicted only because it is a fact. If, at the risk of a slight (and, I hope, harmless) inaccuracy, we assume that the picture is analogous to an elementary proposition in the sense of being composed of simple elements, then we see that it is only the structural features of reality (e.g., the arrangement of the furniture in the room) that the picture *qua* fact represents. The nonstructural features (e.g., the items of furniture) are represented by the patches of paint.

2.13 In a picture objects have the elements of the picture corresponding to them.

2.131 In a picture the elements of the picture are the representatives of objects.

We may say then that, for Wittgenstein, a picture is a fact composed of elements (patches of paint). The elements represent the objects, and the fact that the elements are arranged in the way they are represents the fact that the objects are so arranged in reality.

We are now in a better position to understand how an elementary proposition can represent or picture a state of affairs. I spoke of elementary propositions as mere series, or lists, of names. I did so because that is what, at first glance, they might seem to be. But in

fact Wittgenstein never speaks of an elementary proposition as being a mere series of names; on the contrary, he says it is a "nexus, a concatenation, of names" (T 4.22). He makes his meaning quite clear in the following passage.

3.141(1) A proposition is not a medley of words.—(Just as a theme in music is not a medley of notes.)

(He might have added: just as the picture is not a mere medley of patches of paint.) This way of putting the matter is meant to stress the fact that there is a definite relationship among the component names, that they are arranged in a certain way that is significant—just as the patches of paint in a picture are arranged in a certain way that is significant. Consider the proposition that aRb —that "object a has or bears a relation R to object b " or, more simply, " a bears R to b ." This proposition is expressed by the propositional sign ' aRb .' The propositional sign, unlike the proposition, is composed of actual ink marks and is thus much more like an ordinary picture than is the proposition itself. Let us, then, concentrate on the propositional sign for the moment. (The question of the relationship between the proposition and the propositional sign, and of the relationship between both of them and a picture, will be discussed later.)

A propositional sign, like a picture, is a fact.

3.14 What constitutes a propositional sign is that in it its elements (the words) stand in a determinate relation to one another.

A propositional sign is a fact.

It is only because it is a fact that a propositional sign can represent something, can be used to describe a state of affairs.

3.142 Only facts can express a sense, a set of names cannot.

In this passage, Wittgenstein once again denies that a mere list of names (or set of names, as he puts it here), can possibly say anything. He states the essence of his view of the matter in the following well-known passage.

3.1432 Instead of, "The complex sign ' aRb ' says that a stands to b in the relation R ," we ought to put, "That ' a ' stands to ' b ' in a certain relation says that aRb ."⁴

⁴ To make the passage conform to my own practice in this book, I have substituted single quotation marks for the translators' double ones around ' aRb ,' ' a ,' and ' b .' Hence I also changed their single quotation marks to double ones around the two propositions cited in this passage.

Although Wittgenstein is concerned in this passage with a propositional sign's *saying* something, the passage is, nevertheless, relevant to the mere *representing* or *depicting* of something. We can therefore adapt it to our present purposes by formulating the following variation.

(V) Instead of, "The complex sign '*aRb*' represents (pictures) the state of affairs of *a* standing to *b* in the relation *R*," we ought to put, "That '*a*' stands to '*b*' in a certain relation represents (pictures) the state of affairs that *aRb*."⁵

In reading *T* 3.1432 and (V), one must be careful to bear in mind a certain important convention, namely, that to form the name of a word, one places single quotation marks around the word itself. When we want to refer to the man Socrates, we write his name, as in "Socrates is ugly"; this is a statement about the man Socrates. On the other hand, when we want to refer to his name, we write his name inside single quotation marks, as in "'Socrates' contains eight letters"; this is a statement not about the man Socrates, but about his name. It would make no sense whatever to say "Socrates contains eight letters"; for Socrates is a man and a man cannot be said to contain any number of letters. It would make no sense either to say "'Socrates' was a Greek philosopher," for "Socrates" is a word and there are no words that can sensibly be said to be philosophers. A natural extension of this convention is that to form the name of a sentence, one writes the sentence inside single quotation marks. Thus, one can say "The sentence 'Socrates is ugly' contains three words."

Keeping these conventions in mind, we see that (V) can be paraphrased as follows: we ought not to assert that the sentence '*aRb*' represents the state of affairs that object *a* stands in relation *R* to object *b* (i.e., the state of affairs that *aRb*); rather, we should assert that the fact that the sign '*a*' stands in a certain relation to the sign '*b*' represents the state of affairs that *aRb*. Suppose that *R* is the relation of *being to the right of*. Then (V) says: do not assert that the sentence '*a* is to the right of *b*' represents the state of affairs that *a* stands in that relation to *b* (i.e., that *a* is to the right of *b*); rather,

⁵ In point of fact, Wittgenstein's real view is that it is not the propositional sign in itself that says something and is a picture of, or represents, something; the proposition is what says something and is a picture. But for the moment the inaccuracy involved in both *T* 3.1432 and our variation (V) on it can be ignored; it will be corrected later, p. 86ff.

assert that the fact that the sign '*a*' stands in a certain relation to the sign '*b*' represents that *a* is to the right of *b*. It would not be positively wrong to assert that the sentence '*a* is to the right of *b*' represents that *a* is to the right of *b*, but it would be misleading. It would be misleading because it would make it look as though the sentence *qua* string of words represents the situation, whereas Wittgenstein's point is that it is only the sentence *qua* fact that does so. The sentence, in so far as it can be used to represent a situation, *is* a fact (*T* 3.14[2]); the second way of putting the matter makes this point explicit, whereas the first way obscures it. That is one reason why the second way is superior to the first.

Wittgenstein's claim, in short, is this: it is not the sentence (propositional sign) *qua* mere string of words that represents a situation, any more than it is the patches of paint in an ordinary spatial picture, *qua* a mere set of patches, that represents the situation depicted; rather, just as it is the fact that the patches are arranged in the way they are that represents the situation, so it is the fact that the words of the propositional sign are related in the way they are that represents the situation described. According to our present conventions, in order to represent the state of affairs that *aRb*, the three signs must be arranged in the following special way: first, the '*a*' is written; then immediately following it on the same line comes the '*R*'; and immediately following it on the same line comes the '*b*'. To the left of the '*a*' and to the right of the '*b*' there are spaces. It is the fact that the three signs are written in this particular way that represents the state of affairs that *aRb*; not the mere set of signs itself.

There are several possible ways of characterizing the fact that the three signs are written in the way they are; Wittgenstein chooses to say that it is the fact that '*a*' stands in a certain relation to '*b*'.⁶ The relation he means is that of being written just before an '*R*' which is followed immediately by the '*b*,' all three being written on the same line and with spaces at either end. It is the fact that the two signs '*a*' and '*b*' are thus related that represents the state of affairs that *aRb*. There is nothing which absolutely requires that the relation be that particular one; it is a matter of convention. The convention

⁶ He might have said instead that it is the fact that '*a*' and '*b*' stand in a certain relation to '*R*,' or the fact that '*a*' stands in a certain relation to '*R*' and '*b*,' for example. I will discuss in the next chapter his reason for spurning these other possible ways of characterizing the relevant fact and for choosing the one he does.

might have arisen that if you want to represent that aRb , you write the separate signs one over the other, like this: $\begin{matrix} a \\ b \end{matrix}$. Or, it might all

have been done by colors: e.g., if you wanted to represent that aRb , you would write 'a' in black, followed by 'b' in red, whereas if you wanted to represent that aSb , you would write 'a' in black followed by 'b' in green. So the actual relation which relates the signs 'a' and 'b' is purely conventional; nevertheless, it is still the fact that 'a' stands in a certain relation—conventional though it may be—to 'b' that represents the state of affairs that aRb .

What does a propositional sign (*qua* fact) depict according to this view? As in the case of the picture, the fact that the elements of a propositional sign are related in the way they are represents only the structural feature of the situation represented.

3.21

The configuration of objects in a situation corresponds to the configuration of simple signs in the propositional sign.

Of course a state of affairs really is itself just a structure; but it is a structure of elements (*viz.*, objects). The elements of an elementary propositional sign stand for the elements of a state of affairs, and the fact that the sign elements stand in a certain relation to one another represents the fact that the objects stand in a certain relation to one another in the state of affairs (*T* 4.0311).

We have been speaking so far of propositional signs. We must now bring what we have said to bear on propositions themselves. Wittgenstein says that it is propositions—and primarily elementary propositional signs—that are pictures of reality. (See, e.g., *T* 4.01[1], 4.021, 4.03[3] and [4], 5.156[4].) He never speaks of propositional signs as being pictures. (But see *T* 4.012.) This seems at first glance to be incorrect. We normally think of a picture as consisting of marks or patches of paint arranged in some way on paper or canvas or whatever, and since a propositional sign also consists of marks arranged in a certain way on paper (or sound waves in air, or whatever), it would seem to be the propositional sign rather than the proposition which ought to be called a picture. This point can be made more specific. Consider the following possible objection to Wittgenstein's view.

"A proposition cannot be a picture, because it includes a reference to a perfectly definite situation (*viz.*, the situation it describes),

whereas a picture does not. This can be shown by considering this picture.⁷



Let us assume that this is a picture of Socrates (on the left) fencing with Plato (on the right). A picture does not, in itself, refer to the specific situation it depicts; it does not, because it does not in itself make any connection between its components and the things or persons that they are meant to represent. In Picture A, for example, the left-hand figure is supposed to represent Socrates, but the figure itself does not tell us so. The figure does not make any connection between itself and Socrates. On the contrary, it could represent any number of people other than Socrates; and even if it were an exact likeness of Socrates, the connection between it and Socrates would still not be made, because any number of other people, actual or nonactual, might look just like Socrates, and the figure might represent one of them. Something in addition to the figure itself is required, then, before it can represent Socrates and no one else. The same can be said of the right-hand figure, and of the picture as a whole. So Picture A, by itself, does not depict the situation of Socrates, and no one else, fencing with Plato, and no one else; and in this a picture is unlike a proposition, which describes a situation involving perfectly specific objects. Therefore it must be the propositional sign, if anything, that is a picture, and not the proposition that is so."

Wittgenstein would agree with one main point of this objection, but he would deny one of its assumptions and hence also the conclusion of the argument. He would agree that a group of marks on paper, such as those labeled 'Picture A' above, do not in themselves depict a specific situation; they do so only if the marks are correlated with certain things or persons. When the left-hand figure is correlated with Socrates, and the right-hand figure with Plato, then, and only then, may the marks become a picture of Socrates fencing with Plato, rather than of someone other than Socrates fencing with someone other than Plato. The complex mark is not a picture

⁷ This picture is borrowed from Wittgenstein (see *NB*, p. 7).

of a certain part of reality until the components making it up are correlated or coordinated with certain definite elements of reality—until they are “linked” with or “touch” reality.

- 2.1511 *That* is how a picture is attached to reality; it reaches right out to it.
- 2.1514 The pictorial relationship consists of the correlations of the picture's elements with things.
- 2.1515 These correlations are, as it were, the feelers of the picture's elements, with which the picture touches reality.

But how are the metaphorical notions of “reaching right out” and of “feelers” to be interpreted literally? That is, what is it for the picture's elements to be *correlated* with things? Wittgenstein says nothing explicit on this matter. At one point in the *Notebooks 1914-1916*, he speaks of the correlation as something that *I*—presumably the drawer of the picture—*do*.

By my correlating the components of the picture with objects, it comes to represent a situation and to be right or wrong. [N.B. entry for 26.11.14.]

And elsewhere in the *Notebooks*, he speaks of my—presumably the speaker, writer, or thinker of a proposition—correlating names with things (entries for 30.5.15 and 15.6.15, for example). The correlation is something that I do, then. But *how* do I do it? From what Wittgenstein says in T 3.11 (discussed below, p. 93ff.), I suspect he thought that correlating elements of a picture (or proposition) with elements of reality is a mental act—the mental act, namely, of meaning or intending the former to stand for the latter. For example, in Picture A, I mean (or intend) the left-hand figure to represent Socrates and the right-hand one to represent Plato, and this is how I correlate the elements of the picture with those of reality. (This mental act of meaning or intending apparently did not strike the early Wittgenstein as being in any way mysterious or puzzling, but the later Wittgenstein found it so and many pages of the *Philosophical Investigations* are devoted to a discussion of it.)

Wittgenstein thus agrees with, and even insists on, one main point of the objection. Nevertheless, the objection, he would say, is based on a false assumption which vitiates its conclusion that the propositional sign, and not the proposition, is a picture of reality. The relevant assumption is that the ink marks labeled ‘Picture A’ constitute

in themselves a *picture*. This assumption is false, he would say; the marks themselves cannot be a picture. Suppose they appeared on a piece of paper by complete chance; for example, suppose that a pen rolled around on the paper at random, pushed by the wind, and those marks just happened thereby to be produced. Or suppose that exactly similar marks were emblazoned on a rock by a bolt of lightning. Marks thus caused, though they be exactly like the marks labeled ‘Picture A,’ do not in themselves constitute a picture. If we were to see the lightning produce these marks on the rock, we would not cry out “Look at this picture,” much less “Look at this picture of two men fencing,” much less “Look at this picture of Socrates fencing with Plato.” Rather, we would say something like: “How extraordinary are these marks which the lightning has made. They look just like a picture of two men fencing.” Hence it is not certain ink marks in themselves which make something a picture; the marks must be made by some conscious agent. In addition, it must not be the case that the agent makes them wholly unintentionally or accidentally. If, in walking, a man happens to kick over and spill a bottle of ink, forming picture-like marks on the floor, he has not produced a picture. *Fall* intention is not, however, required; a man can absently draw some marks on paper, as in doodling, and what he draws may well be a picture.⁸

What, then, *does* constitute a picture? We must be careful in answering this question if we are to avoid confusion. There are really three points to be noted. The first point, just made, is this: a group of marks is never, in itself and no matter how produced, a picture of any sort. This being granted, it is important to distinguish further

⁸ There is an interesting exception to what I have just said. If certain marks *M* are the results of a direct causal process *P* involving an object *O*, then *M* may be a picture of *O* despite the fact that they were not made by any conscious agent. For example, if a camera drops on the floor and the shutter clicks, thus producing an image of a chair on the film, the developed print is without doubt a picture of that chair. The assistance of man-made objects (e.g. film and camera) is not even necessary; thus, if for several years at a certain time each day, sunlight streams past a tree and then through a narrow cave opening, and if marks resembling the tree are thereby etched on the opposite cave wall, they will, I think, constitute a picture of the tree. So I must say that in order for marks *M* to constitute a picture, they must either be produced (1) by a direct causal process like *P* or (2) not wholly unintentionally by a conscious agent. I shall henceforth ignore pictures of type (1) and talk as though all pictures were of type (2), since the point of my discussion is to develop the analogy between pictures and propositions, and there are no propositions, I take it, that are anything like pictures of type (1).

between a picture (or mere picture) and a *representational* picture, a picture which depicts—or is “of”—something. In order for a group of marks to be a picture of any sort, they must be made not wholly unintentionally by an agent, but a person can make a picture without making a representational picture. An abstract expressionist painter puts patches of paint on the canvas, and he does so intentionally; but although what he produces is a picture, it is not necessarily a picture of anything (nor, of course, is it meant to be). The second point to be noted, then, is this: in order for a group of marks to be not only a picture, but a representational picture, it is necessary that the agent make the marks not wholly unintentionally and, in addition, that the marks resemble, within certain unascertainable limits, the sort of thing depicted.

(The limits doubtless vary with at least [a] the ease or difficulty of making marks that resemble different kinds of thing, [b] the purpose of the picture, and [c] the ability of the drawer. To consider just [c]: the degree of resemblance we require in the case of a child's drawing is less than that required of an adult's. Notice, in this regard, that the kind of resemblance which any ordinary—i.e., spatial—representational picture has to what it depicts is richer and more familiar than the kind which, according to the picture theory of propositions, a proposition has to the situation it describes. To be sure, there must be a one-to-one correspondence between the elements of an elementary proposition [names] and those of the state of affairs it describes [objects], and the two must have the same “logical form”; but the proposition need not look very much like the state of affairs. And the names certainly do not look at all like the objects they mean; for example, in the elementary proposition *aRb*, ‘*a*’, since it is complex [i.e., made up of several lines], cannot look like the simple object *a*.)

There is yet a further, and for our purposes more important, distinction to be made; namely, that between a mere representational picture and a representational picture which depicts certain definite individuals. Let us call the latter type of picture a *definite* representational picture. Picture A, for example, would be a mere representational picture if it simply depicted two men fencing; it would be a definite representational picture if it depicted Socrates fencing with Plato, or Descartes fencing with Spinóza, or whatever. The third point, then, can be put as follows: in order for a group of marks to

be a definite representational picture, it is necessary that the agent make the marks not wholly unintentionally, that the marks more or less resemble certain kinds of thing in reality, and, in addition, that the agent correlate the component marks with definite elements of reality. Thus, for example, if the left-hand marks in Picture A are not correlated with Socrates and the right-hand ones with Plato, then we do not have a picture of Socrates fencing with Plato. A definite representational picture, in other words, includes a correlation of its elements with elements of reality.⁹ This explains why “the picture is attached to reality; it reaches right out to it” (*T* 2.1511). It also explains why the picture includes “the pictorial relationship”:

2.1513 So a picture, conceived in this way, also includes the pictorial relationship, which makes it into a picture.

It belongs to the definite representational picture because, without it, the marks do not constitute such a picture; without it, there is no such picture. A definite representational picture depicts definite objects only because someone correlates its elements with those objects, by intending the marks to stand for them.

A source of possible confusion and misunderstanding in reading the *Tractatus* is not remembering that whenever Wittgenstein uses the word ‘picture’—and especially when he claims that a proposition is a picture of a situation—he means not a mere picture, and not a mere representational picture; he means a definite representational picture. Every proposition, he maintains, is a definite representational pic-

⁹ The matter is actually more complicated than this. It is not true that a representational picture must simply be either a definite representational one or a mere representational one. There are degrees in between; a picture can be definitely representational in certain respects and merely representational in others. And a correlation between elements of the picture and elements of reality is required only for those aspects of the picture in which it is definitely representational. Consider Picture A, for example. The artist may have meant it to be definitely representational only with respect to the two figures as wholes, and not with respect to, say, their swords and shoes. That is, he may have meant it to depict Socrates and Plato (and no one else) but may not have meant it to depict two definite swords and four quite particular shoes. Therefore, a correlation is needed only between the left-hand figure, as a whole, and Socrates, and between the right-hand figure, as a whole, and Plato. Since the picture is *merely* representational with respect to, for example, the swords, no correlation is needed between those marks and certain definite swords. So, a picture is definitely representational with respect to *i* if, and only if, *i*, an element of the picture, is correlated with a definite element in reality. I shall ignore this complication in the text, as it is not relevant to our purposes.

ture of a certain determinate situation—although of course not an ordinary, or spatial, picture of that type, but rather a *logical* one.¹⁰ That he maintain that *all* propositions are such is required by his central doctrine that all propositions are truth-functions of elementary propositions. An elementary proposition, since it consists entirely of names of definite objects, must describe a perfectly unique state of affairs. Hence a truth-function of elementary propositions—i.e., any proposition—must describe a determinate situation,¹¹ provided that it is what I later call a descriptive proposition, and not a tautology or a contradiction. (These notions are explained in the next chapter.) If this point is kept in mind, the sense of the relevant passages in the *Tractatus* is, I think, reasonably clear.

If we look at the matter in this way, we must abandon the objection (pp. 86 and 87) and agree with Wittgenstein that it is a proposition, not a propositional sign, that is a definite representational picture of reality. A propositional sign does indeed correspond to the marks on paper or patches of paint on canvas of the picture analogy, as the objection says. But for that very reason the propositional sign is not in itself a (logical) definite representational picture, any more than those marks or patches are in themselves a (spatial) definite representational picture. The propositional sign is a (logical) definite representational picture only when its elements (simple signs) are correlated with elements of reality (objects)—that is to say, only when it is a proposition. "... a proposition is a propositional sign in its projective relation to the world" (*T* 3.12; see also *T* 3.5), just as a (spatial) definite representational picture is certain marks or patches of paint in their projective relation to the world. (I shall henceforth omit the qualification 'definite representational' in speaking of pictures, but it should be understood throughout what follows.) Professor Wisdom puts the point in this way:

Just as an arrangement of splotches of paint on earth might by chance be identical in structure with a scene in heaven without being a picture of it, so might an arrangement of marks happen to be identical

¹⁰ Notice that a proposition differs on the one hand from an ordinary—i.e., spatial—definite representational picture in not looking (very much) like the situation it describes, and on the other hand, from a musical score in being a *definite* representational picture, for a musical score is not a (logical) picture of any particular performance.

¹¹ Thus saying that every proposition is a definite representational picture is just another way of putting the point (discussed in chapter 2) that every proposition has a perfectly determinate sense.

tical in structure with a fact without picturing it. Just as we require someone to make the splotches with intent to paint the scene, so we require someone to make the marks with intent to express the fact.¹²

A note in passing: by saying that a proposition is a propositional sign in its projective relation to the world, Wittgenstein deliberately avoided the view that a proposition is a strange sort of shadowy entity. G. E. Moore, speaking of the Wittgenstein of the early 1930's, says:

One chief view about propositions to which he was opposed was a view which he expressed as the view that a proposition is a sort of 'shadow' intermediate between the expression which we use in order to assert it and the fact (if any) which 'verifies' it.¹³

There is just the propositional sign (or sentence-token) and the situation which the proposition describes; the proposition is not a third entity over and above the propositional sign and the situation; it is just the propositional sign in a projective relationship to the situation described.

The propositional sign is given its projective relation to the world by "thinking its sense."

3.11 We use the perceptible sign of a proposition (spoken or written, etc.) as a projection of a possible situation.
The method of projection is to think out the sense of the proposition.¹⁴

There are, to be sure, rules or laws of projection for language (*T* 4.0141) and it might be thought that it is these which make a propositional sign the projection of a particular possible situation. In a way, they do, but Wittgenstein would presumably claim that the statement of such a rule or law is just a shorthand way of saying that people habitually project one into the other by thinking the sense of the proposition.

In the previous chapter, it was noted that by 'the sense of a

¹² John Wisdom, "Logical Constructions," Part I, *Mind*, XL, No. 158 (April 1931), 207.

¹³ Moore, "Wittgenstein's Lectures in 1930-33," Part I, *Mind*, LXIII, No. 249 (January 1954), 13 (*Philosophical Papers*, p. 265).

¹⁴ I take exception to the translators' 'think out' and translate '*das Denken* *des Satz-Sinnes*' as 'thinking (or to think) the sense of the proposition.' This admittedly involves me in a Germanism with no obvious meaning in English, for we, in English, never speak of "thinking the sense of a proposition." But at least I presently give this phrase a sense, and, I think, a plausible one; whereas I am not sure what could be meant by "thinking *out* the sense of a proposition."

proposition,' Wittgenstein most often meant the situation which the proposition describes. On this primary use of the phrase, the act of thinking the sense of a proposition becomes the act of meaning the propositional sign to represent a determinate situation. Suppose the proposition is an elementary one and hence that the corresponding situation is an atomic one—i.e., a state of affairs. Thinking the sense of such a proposition involves two things: (a) meaning or intending each name of the propositional sign to denote one specific object and no other (that is, correlating the name with its object), and (b) meaning that those objects are arranged in such and such a manner, that the state of affairs has such and such a structure (*T* 2.032).¹⁵ So when I write down or utter an elementary propositional sign, and at the same time mean by it that certain definite objects are arranged in a certain definite way, I am thereby thinking the sense of the proposition, and using the propositional sign to express the proposition. It is only in this way that it is a picture of one specific state of affairs and no other.

Wittgenstein also uses the expressions 'sign' and 'symbol' to mark the distinction between the propositional sign and the proposition. A propositional sign is made up of signs, but a proposition is made up of symbols.

3.31(1) I call any part of a proposition that characterizes its sense an expression (or a symbol).

3.318 Like Frege and Russell I construe a proposition as a function of the expressions contained in it.

A symbol is a sign together with its relation to the object it denotes—i.e., a sign referring to the object which it means or, again, a sign in its projective relation to an element of reality. Thus an elementary proposition, for example, is made up of elementary symbols; in this case, the constituent symbols are *names*. So an elementary proposition consists of names (*T* 4.22), whereas an elementary propositional sign (sentence) consists of elementary signs (words) (*T* 3.14). And

¹⁵ Although *T* 2.1514 makes no mention of it, Wittgenstein would presumably want to claim that something analogous to act (b) is required in the case of ordinary pictures—such as Picture A—as well. In order for the marks comprising Picture A to represent Socrates fencing with Plato, it is not enough for the drawer to correlate the figures with Socrates and Plato (act [a]); he must also mean that they are *fencing* with one another. The same marks could, after all, be used to depict Socrates and Plato merely standing next to one another in those attitudes—or to depict any number of other situations involving Socrates and Plato. (See *Pf*, p. 54, remark [b].)

just as a proposition is a propositional sign in its projective relation to a situation, so a name may be called an elementary sign in its projective relation to an object—it is an elementary-sign-meaning (or standing-for)-an-object.¹⁶

A sign consists of ink marks on paper, or sound waves in the air, or something of the sort, i.e., something perceptible.

3.32 A sign is what can be perceived of a symbol.

We cannot, however, actually see a symbol; for although we can see the sign, we cannot see what it is about the sign that makes it a symbol. We cannot see its relation to its object, and that is an essential part of its being a symbol. It is possible that one sign may represent two different symbols.

3.321 So one and the same sign (written or spoken, etc.) can be common to two different symbols—in which case they will signify in different ways.

Thus, for example, the sign 'bank' can mean either a sloping mound or an institution for handling money. A picture, on this view, is a symbol, and the marks or patches of paint *by themselves* merely a sign, merely "what can be perceived of [the picture]."

At this point, the following objection might be raised: "The main reason Wittgenstein had for supposing that a proposition is a picture of a situation was that a person can immediately see from looking at (or hearing) the proposition what situation it describes. But now he says that a proposition is a complex *symbol*, and all we can actually see (hear) of a symbol is a sign—and it certainly is true that all we can see (or hear) of a proposition is a sentence, or propositional sign. But how can I immediately 'read off' what situation a proposition describes from looking at (or hearing) it, if it is impossible to look at (hear) it at all?"

Of course, one can see (or hear) only the propositional sign, and not the proposition. (At the beginning of this chapter, it is true, I spoke as if one *could* see [hear] the proposition itself, but that was an inaccurate way of speaking which I indulged in only for the sake of simplicity of exposition, before the nature of pictures was discussed.) But the proposition *is* the propositional sign in its projective relation to the world (*T* 3.12); therefore, since I know the rules of

¹⁶ But see *T* 3.202 and 3.26 where names and simple or elementary signs seem to be identified *tout court*.

projection for language, I can immediately tell, from seeing (or hearing) the propositional sign, which proposition is being expressed and, what comes to the same thing, which situation is being described, just as a person who knows the rules of projection for music can immediately tell, from seeing the musical signs (the written notes of the score), which sequence of sounds is represented thereby.

But now we must return to the question which perplexed us at the beginning of this chapter. We began by supposing that an elementary proposition is a mere set, a series, of names; and we wondered how a series of names could possibly *state*, or *say*, anything. We soon discovered, however, that according to Wittgenstein an elementary proposition is not a series of names at all, but rather a "nexus, a concatenation, of names" (T 4.22), and, what is more, a picture of a state of affairs. Wittgenstein now maintains that a proposition says something just because it *is* a picture.

4.03(4) A proposition states something only in so far as it is a picture.

But this contention merely plunges us into a new difficulty; for whereas a proposition does, indeed, say something, a picture, it would seem, does not. How, then, can a proposition say something just in virtue of *being* a picture? Let us express this latest difficulty in the form of the following objection.

"A proposition cannot be a picture, because a proposition says or asserts something, whereas a picture does not. Consider once again Picture A of Socrates fencing with Plato. The picture does not in itself say that Socrates is fencing with Plato. Suppose someone wanted to tell another person that Socrates is fencing with Plato; it would not be enough simply to hold up Picture A. In order to assert that Socrates is fencing with Plato, a person would have to hold up the picture and, in addition, nod or do something to indicate that this is the way things are. A person could assert that Socrates is not fencing with Plato by holding up the same picture and shaking his head or doing something to indicate that this is not the way things are. Something else, then, in addition to the picture itself, is needed before anything is actually *said*. Wittgenstein himself saw this during the period of the *Notebooks 1914-1916*:

Can one negate a picture? No. And in this lies the difference between picture and proposition. The picture can serve as a proposition. But in that case something gets added to it which brings it about that

now it *says* something. In short: I can only deny that the picture is right, but the *picture* I cannot deny. [NB, entry for 26.11.14.]

A picture can be used to assert something, but it does not of itself assert anything; in this, it is unlike a proposition."

This objection has a point, but there is not much force to it. It would be a matter of convention if a person's holding up of an ordinary picture (like Picture A), while nodding his head, should mean that he is asserting something (in the case of Picture A, that Socrates is fencing with Plato).¹⁷ The convention need not be even as complicated as that; the mere holding up of a picture could mean that the person asserts that this is the way things are (that *t*), and the mere holding up of a picture upside down could mean that the person asserts that this is the way things are not (that not-*t*). (So the objection is wrong in denying this possibility.) We can go still further, and make the analogy between ordinary pictures and propositions closer yet; there could easily be the convention that the very act of making a picture should mean that the artist asserts that *t*, and that the very act of making a picture with a large 'x' across it should mean that the artist asserts that not-*t*. I take it that something very like this sort of convention actually exists in the case of propositions. The very act of making the sounds '*aRb*' (\sim ['*aRb*']) or producing the written marks '*aRb*' (\sim ['*aRb*']) in a certain way does in fact mean that the person is asserting that *aRb* (that \sim ['*aRb*']). (In fact, it is just because there *is* such a convention that Russell's and Frege's assertion sign or "judgment stroke" is quite superfluous. See T 4.442[2].) And on Wittgenstein's thesis that a proposition is a kind of picture, this convention reads that the very act of making the sounds or producing the written marks '*aRb*' (\sim ['*aRb*']) means that the person is asserting that *this*, namely the way things are pictured by the proposition, is the way things are (are not). Given this convention, it makes little difference whether we say that it is the fact that the proposition is uttered (or written) which does the asserting or whether we say that the proposition itself does it. Wittgenstein usually speaks in the latter way.

4.022(2) A proposition *shows* how things stand *if* it is true. And it *says that* they do so stand.

¹⁷ Throughout this discussion, we must assume, of course, that the person who holds up the picture also performs acts analogous to the acts (a) and (b) discussed on p. 94. (See also note 15, p. 94.) This is tantamount to saying that we must assume the picture to be a definite representational one.

And so there is no real incompatibility between, on the one hand, the fact that according to our present conventions concerning ordinary pictures they are not in themselves deemed to say anything and, on the other hand, Wittgenstein's thesis that propositions, which do say something, are pictures.

Hence the following two doctrines of Wittgenstein are perfectly consistent:

- (a) a proposition is a picture of a situation, and
- (b) a proposition states, or says, something.

Wittgenstein, however, as we have seen, goes much further than merely defending the consistency of (a) and (b). He claims that (b) is true only because (a) is true.

4.03(4) A proposition states something only in so far as it is a picture.

But in urging this, Wittgenstein seems to go too far; in our mythical flag language (p. 76), each flag says something, but none is evidently a picture of anything. In *T* 4.03(4), the emphasis ought, perhaps, to be placed on the 'something' rather than the 'states'; it might be read "A proposition states *something definite* only in so far as it is a picture." Since Wittgenstein thought that a proposition can point beyond itself and describe a certain definite situation only by being its picture, he thought a proposition has a *content*, says *something definite*, only by being a picture. That this consideration lies behind *T* 4.03(4) is shown by the two remarks which immediately precede it.

4.03(2) A proposition communicates a situation to us, and so it must be *essentially* connected with the situation.

4.03(3) And the connexion is precisely that it is its logical picture.

But the flags point beyond themselves and "communicate a situation to us" without being pictures; and so there is no warrant, as far as I can see, for the extreme claim of *T* 4.03(4).

* * *

Wittgenstein thought it absolutely certain that a proposition is a picture of reality. All that can possibly be said, therefore, is that certain picturable situations exist or do not exist. If there is no pos-

sibility of picturing a given situation, then it cannot be asserted that that situation either exists or does not exist: no conceivable proposition can say anything about it. From this, together with Wittgenstein's doctrine that all propositions are analyzable into elementary propositions, it follows—or so he apparently thought—that all propositions must be *truth-functions* of elementary propositions. Why should this be thought to follow? Well, to say that a proposition is analyzable into a group of elementary propositions is to say that whatever the proposition asserts can be asserted by that group of component elementary propositions. In fact, what the proposition asserts *is* just what they assert, since they express what it really means. The elementary propositions are (logical) pictures of states of affairs, according to the picture theory of propositions. Hence what the original proposition asserts must be assertable by a group of (logical) pictures of states of affairs. But what can a group of pictures be made to assert? Suppose I had a group of three real pictures—i.e., ordinary spatial pictures, like Picture A—call them pictures A, B, and C. Let us say that they depict states of affairs A, B, and C respectively. What complex situations could possibly be depicted and asserted to exist or not to exist using these pictures and no others? There are lots of possibilities. For example, I could put picture A on a line next to picture B, and then put picture C with a large 'x' through it next to B. This might depict the situation in which state of affairs A and state of affairs B exist, and state of affairs C does not exist. Hence, putting a picture on a line signifies asserting that the state of affairs that it depicts exists; putting one picture down next to another signifies asserting that both states of affairs depicted exist; drawing an 'x' through a picture signifies "negating" the picture. Proceeding in this way, I can depict many other situations and assert their existence, as may easily be seen. Additional procedures could be introduced to deal with still more complicated situations. For example, if I wanted to depict a situation in which it is not the case that both states of affairs A and B exist, I could put picture A next to picture B and draw one large 'x' through both of them. In this way, more and more complicated situations could be depicted—especially if one is allowed to use a given picture more than once in constructing a single compound picture. Nevertheless, there might seem to be a definite limit to the sort of situation that can thus be depicted. For example, it might be thought that I cannot depict any such alleged situation as that if state of affairs A exists, then states of affairs B and C must

necessarily exist. Nothing I could do with pictures A, B, and C would evidently yield a picture of that supposed situation, or allow me to assert its existence. It would seem that all I can assert is that one or more of the basic states of affairs (A, B, and C) exist or do not exist, or that some compound situation which consists of some combination of the existence or nonexistence of these basic states of affairs exists or does not exist.

Since elementary propositions are pictures too, it would seem that the same must be said of them. Thus, if proposition M is analyzable into elementary propositions p , q , and r , then M must assert one of the following (symbolizing conjunction—i.e., 'and'—by \cdot): $p \cdot q \cdot r$; $\sim p \cdot q \cdot r$; $\sim (p \cdot q) \cdot r$; and so on through the many possibilities. In building molecular propositions out of elementary ones, negation and conjunction¹⁸ seem to be the only operations I can use. For what else can I do with the elementary propositions—the logical pictures—but assert one (put a picture down on a line), assert the negation of one (draw an 'x' through one and put it down on a line), or assert some conjunction of these (put pictures down next to one another on a line), or assert or deny some more complicated conjunction of combinations of these? If p , q , and r , then, can be formed into molecular propositions only by using the operations of negation and conjunction (or their equivalents), then proposition M must itself really be a molecular proposition so formed. What proposition M says must be sayable by p , q , and r , because it is analyzable into them. But since negation and conjunction are truth-functional operations, proposition M is a truth-function of the elementary propositions p , q , and r . And since all nonelementary propositions are analyzable into elementary propositions, all nonelementary propositions are truth-functions of elementary propositions. Finally, since an elementary proposition is a truth-function of itself (T 5[2]), all propositions are truth-functions of elementary propositions. That this be so is demanded by the picture theory of propositions, according to Wittgenstein.

If the above reconstruction of Wittgenstein's line of thought is correct, he argued from the premises that elementary propositions are pictures of reality and that all propositions can be analyzed into elementary propositions, to the conclusion that all propositions are

¹⁸ Or their equivalents. All the truth-functional operations can be defined in terms of negation and conjunction alone. And these two, in turn, can be defined in terms of Sheffer's one basic operation of simultaneous denial.

truth-functions of elementary propositions. I agree that the argument can look plausible, that those premises can make the conclusion seem inevitable; but I think the argument is not in fact valid. It may be plausible to suppose that, if you are given as materials to construct molecular propositions nothing but pictures (namely, the elementary propositions), the only operations that you could possibly perform on them would be the truth-functional ones described above. These may appear to be, if you like, the "natural" ones. But they appear to be the sole natural ones only if a certain kind of analogy guides our thinking about the matter. For example, if we conceive of the process of constructing molecular propositions on the analogy with building a jig-saw puzzle out of separate pieces, or on the analogy of constructing a comic strip out of individual pictures, then the operations of conjunction and negation may strike us as the only possible ones. But they are not. It may seem somehow natural and unavoidable that putting one picture down next to another signifies conjunction, and that putting a cross through a picture signifies "negating" the picture, but in fact it is purest convention. And there is no necessity whatever to limit ourselves to just these two conventions. For example, we could agree that rotating one picture 45 degrees clockwise and then putting another beside it signifies causal necessity; if the first state of affairs depicted exists, then it causally necessitates that the second one exists. It is no good objecting that we never observe any such connection and hence cannot know what the sign for it means, because we do not observe conjunction or negation either. In Wittgenstein's view, none of the logical constants denotes anything (T 4.0312[2]). Therefore, even if we grant to Wittgenstein that elementary propositions are pictures of the states of affairs they describe and that all propositions can be analyzed into elementary propositions, it by no means follows—as he evidently thought it did—that all propositions must be *truth-functions* of those elementary propositions. An extraordinary number of molecular propositions, it may be allowed, can be built up from elementary ones by using nothing but truth-functional operations. But there is no guarantee that all propositions can be so built up, because there may be other operations that are not reducible to (definable in terms of) truth-functional ones.

There is another line of thought, not involving the picture theory of propositions, which may have led Wittgenstein to the view that all propositions must be truth-functions of elementary ones. If we grant that there are elementary propositions and that they assert the

existence of states of affairs, then it might seem plausible to suppose that if we had all the elementary propositions and knew which were true and which were false, we would know all that there is to know. The point can be put in the following way. Suppose there are only three possible states of affairs and that they are described by the elementary propositions p , q , and r , respectively. Then the actual world must be one of eight possible worlds—one of those described by the following propositions: $p \cdot q \cdot r$; $\sim p \cdot q \cdot r$; $p \cdot \sim q \cdot r$; $\sim p \cdot \sim q \cdot r$; $p \cdot q \cdot \sim r$; $\sim p \cdot q \cdot \sim r$; $p \cdot \sim q \cdot \sim r$; $\sim p \cdot \sim q \cdot \sim r$. If there are only three possible states of affairs, then either all three exist, or only one of the three exists, or only two of the three exist, or none of the three exists. The above eight propositions represent all those possibilities and hence one of them must be a complete description of the actual world.

4.26 If all true elementary propositions are listed, the world is completely described. A complete description of the world is given by listing all elementary propositions, and then listing which of them are true and which false.

Suppose all three states of affairs exist, so that it is the first of the eight molecular propositions above that describes our world completely. Then $p \cdot q \cdot r$ is the most that can be truly said; it expresses the sum total of all knowledge and wisdom. All that can be truly said other than the utterance of this all-encompassing description is something short of it. For example, one could assert the elementary propositions singly or doubly, or one could assert a disjunction of them, such as "either p or q ." (Disjunction is another truth-functional connective, and can be defined in terms of negation and conjunction.) Thus, all that can be truly said in this admittedly meager world is some truth-function of the elementary propositions, and hence every true proposition must be such a truth-function (and so, therefore, must every false proposition, since any false proposition is the negation of a true one).

But the foregoing argument is invalid, for it rests on an assumption that begs the question. The argument asserts the following:

- (A) If one knows which elementary propositions are true and which are false (i.e., which states of affairs exist and which do not), one knows all that there is to know.

Thesis (A), however, rests on the assumption

- (B) There are no real connections whatever among states of affairs.

For suppose (B) were false, and that there were some real connections among states of affairs. Then there would be something else to be known besides which states of affairs exist and which do not—namely, what connections hold among which states of affairs and what connections do not hold among them. Thus, for example, suppose that a state of affairs k is causally related to another state of affairs l . If I knew only that k and l exist, I would not know everything there is to know. For that, I would have to know also that k and l are causally connected. The possibility of such connections cannot be ruled out a priori. So if (B) is false, (A) is also false; and (A) therefore rests on assumption (B). But since to assume (B) is tantamount to granting the conclusion that all propositions are truth-functions of elementary propositions (once it is admitted that all propositions are analyzable into elementary propositions), the argument rests on the question-begging assumption (B). At the very least, (B) stands in need of some sort of defense, some backing up, and this is not provided in the *Tractatus*. Without such independent support, there seems to be no reason for accepting it, and therefore no reason to accept any argument, like the one in the previous paragraph, which assumes it to be true.¹⁹

I conclude that Wittgenstein has not established that all propositions are truth-functions of elementary ones, nor do I see how that thesis could be established. He may have reasoned in one or both of the invalid ways just discussed, or he may have simply assumed the thesis uncritically; but in any case, he has not given us any good reason for thinking it true. I want to stress that my objections have no force against a view which says: let us assume that the truth-functional operations are the only ones there are and let us see how far we can get in constructing all molecular propositions out of elementary ones, using just those operations and no others. That is, my objections

¹⁹ Wittgenstein himself remarks in "Notes on Logic" (1913):

"It may be doubted whether, if we formed all possible atomic propositions, the world would be completely described if we declared the truth or falsehood of each' . . ." (NB, p. 98). But the doubt expressed here may only have been whether some such statement as "And these are all the atomic propositions" might not also be required, in addition to the atomic propositions themselves. This is, in fact, quite likely the case, for two pages later Wittgenstein says:

"Whatever corresponds in reality to compound propositions must not be more than what corresponds to their several atomic propositions. Molecular propositions contain nothing beyond what is contained in their atoms: they add no material information above that contained in their atoms." (NB, p. 100.)

would not in any way impugn Wittgenstein's view of truth-functions *conceived as a program*; they have force only against that view when it is conceived as being the only possible one there could be. But that is clearly the way Wittgenstein in fact thought of it. There is not the air of a program or any envisaging of possible alternatives in the flat statement:

5(1) A proposition is a truth-function of elementary propositions.

The consequences of Wittgenstein's doctrines that all propositions are analyzable into elementary propositions, and are in fact truth-functions of them, are of the highest importance. But before these consequences can be fully set forth, we must know more about elementary propositions. Since they consist entirely of names, and names denote objects, we must try to determine, if we can, what sorts of things Wittgenstein thought objects to be. In the next chapter, this attempt is made.

5 Objects

The main topic of this chapter will be the nature of Wittgenstein's objects. I wish to approach this topic by a consideration of his notion of a tautology, which I shall introduce by a brief discussion of some points of logic.

Logic

There are any number of different ways of classifying propositions; one of these ways results in the following classes:

- (1) Those propositions which cannot under any describable circumstances be false; i.e., those of which it is inconceivable that they should be false.
- (2) Those of which, although they may happen to be true (or false), it is conceivable that they should not be so; i.e., that they should be false (or true). Circumstances can be specified under which they would have to be called false (or true).
- (3) Those which can never under any describable circumstances be true; i.e., those of which it is inconceivable that they should be true.

The first is the class of necessarily true propositions or, for short, of necessary propositions or necessary truths; the (true) propositions of logic and mathematics are usually placed in this group. The second is the class of empirical propositions; and the third, the class of necessarily false propositions.